A HEADQUARTERS FOR THE WORLD HEALTH ORGANIZATION
IN GENEVA, SWITZERLAND

by

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Early in 1960 the World Health Organization, a specialized agency of the United Nations, invited twenty renowned architects from all over the world to participate in a restricted competition for the design of a new WHO Headquarters building to be erected in Geneva, Switzerland.

The program of the competition presented the customary requirement for a modern European administration building of a representative rather than commercial character: namely, the partition into small office cells, all of which must receive direct daylight. The height of the construction was limited to approximately ten stories (131.23 feet) above the ground level.

On April 15-18th the entries were judged. Three of the designs submitted were spotlighted and honored with prizes (See Appendix V). All of these three prize-winning design proposals attempted to meet the requirements only in the customary way, using the long, flat-box building form, 100 to 140 meters long (328.08 to 459.32 feet), ten stories high, and composed of individual cells, organized in a double-loaded corridor system.

We know that this type of designing is not based on consideration of three dimensional relationships, but upon
the system of mere mathematical sequence. The site is not a part of the composition nor blended in with the total design. The site is treated like a step-child; it becomes something left over once the ground plan of the building has been cut out.

Theoretically, this giant-type of administration design was developed to conserve valuable ground in badly congested areas of cities. But now these monsters are also appearing out in the green countryside. Apparently many people see nothing detrimental in bringing such buildings into the country, although they were originally developed to suit completely different circumstances. Now they are marring the free space outside the cities, standing there with no relation to their surroundings, shutting off the natural beauty of the landscape, in this case, the Swiss Alps, the beautiful mountain pastures, and Lake Geneva.

Is it either necessary or proper to design the new Headquarters of the WHO to be such a conventional box? Are there not social implications in technology that make questionable the universal use of such purely technical products as these office buildings? Are we not dealing here with a conformist pattern which fails to consider problems of city planning or of human nature?

It is the purpose of my Thesis to examine the content and value of this currently popular pattern of
architectural thinking as shown in the WHO competition, to indicate the possibilities of interpreting the administration building for the World Health Organization from a different point of view, and to support this interpretation by a counter proposal.
Dear Dean Belluschi:

In partial fulfillment of the requirements for the degree of Master in Architecture, I submit the following thesis entitled, "A Headquarters for the World Health Organization in Geneva, Switzerland.

Sincerely,

Johannes Philipp Holschneider
ACKNOWLEDGEMENTS

I wish to express my sincere gratitude to the members of the faculty of the Department of Architecture, especially to Professor Imre Halasz. They have given valuable assistance and stimulating criticism to the development of this thesis.

I thank Dr. Marcolino G. Candau, Director General of the World Health Organization and Monsieur A. Valot of the Chief Conference and Offices Services for their kind correspondence and generous supply of information about the WHO; Eero Saarinen and Hugh Stubbens for the competition material and plans, and Diplom Ingenieur Kurt Brändle for his structural suggestions.
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Because of its neutrality, Switzerland has become the permanent guardian of approximately ninety international organizations. The most important of these are located in the city of Geneva.

Geneva, a city of 150,000 inhabitants, is magnificently situated on the southwest tip of the Lake of Geneva. It is reknowned as a center of cultural and intellectual life in addition to its importance in spheres of politics and economics and is the home of the International Labor Office, the Headquarters of the Red Cross, the European Headquarters of the United Nations, and the ancient University of Geneva.

The Rhone River divides the city into two parts. On the steep slope of the left bank lies the old city, dominated by the Cathedral. On the right bank which rises gently to the Alps is one of the expanding residential areas. Overlooking the lake is the monumental white building, erected in 1929 as the Palace of the League of Nations, now the European Headquarters of the United Nations. Behind the Palace and unrelated to it, is an old hotel of five stories, housing the Headquarters of the International Red Cross.
THE SITE

The site of the proposed WHO building, on a slope above the city is one of outstanding beauty, commanding a panoramic view of city, lake, and the soaring Alps beyond. It is approximately 350 meters (1,148.28 feet) from the Headquarters of the International Committee of the Red Cross and the present location of WHO in the Palais des Nations is about 750 meters (2,460.54 feet) to the south-east.

Approaches to the site will consist of a system of one-way streets. Most of the traffic will pass along a road leading from l'Avenue de la Paix a little below the International Red Cross and another running into the Route de Pregny (a continuation of l'Avenue de la Paix). It is also planned to connect the site to a road to be built to the north within the next few years.

Weather conditions are comparable to those on the New England coast with some snow in winter and somewhat less heat and humidity in summer.
The program (See Appendix III) is based on the need of an office area which takes up more than 50% of the total space, 20,505 m² (220,633.80 sq. ft.). Small office cells are required, since most of the staff members work alone or in groups from two to eight people. This division into small private offices is justified because these members of the WHO staff are highly qualified scientific, technical, and administrative co-workers. Furthermore, as models of physical and psychological health standards, their offices must be illuminated by daylight. The rooms of the executive and advisory organs, the board and committee rooms, should be located in a block separate from the offices, because of their representative functions. The restaurant, 450 m² (4,842.00 sq. ft.) is relatively small considering the 600 employees. However, with two and one half hour lunch time, it is customary for many employees to return home for their mid-day meal or go to eat in the city. The remainder of the program is formed by the needs of the technical, information, general, and documenting services. Parking space for 600 cars must be provided for the WHO's own needs and for the public and visitors.
circulation diagram
Technology has come to dominate our way of life. It has changed everything, including our conception of truth and beauty in architecture. This fact has created a situation which, from the social point of view calls for de-funtionalizing this technical logic and rendering it more human. The Western tradition urges us not to forget the values of Humanism in this era when technology so strongly influences our imagination. For our very existence in the most humane sense is at stake.

Architects should work for the idea that architecture should concern itself with man's whole environment and by environment we now understand man's total surroundings with their past, present, and future in all the richness of their social, legal, technical, economic, artistic, and philosophical nature.

There are today good school buildings, good shopping centers, and good resorts which have been developed on this basis. But there are almost no administration buildings which are related to their total environment in this way.

The Green Landscape

An aerial photograph of today compared to one of fifty or even of fifteen years ago shows a completely different picture of settlements, parks, squares, and their interrelation-
ship. Where once open areas stretched out between farms, villages, and cities, today there is a continuous chain of settlements. The whole way from the foot of the Alps to Geneva, Basel, and Karlsruhe to Northern Germany is today interspersed by green areas which are no more than four or five miles long. The open country which once existed around the cities was populated especially quickly, for the movement was directed outward from the over-populated cities toward the unsettled areas between. This movement is still in process today, caused by a general density of population in the great cities of approximately 3,000 inhabitants per km² (10.76 sq. ft.). In 1959 the total density of population in the German Federal Republic was 214 inhabitants per km² (10.76 sq. ft.); Switzerland, 126, and the U.S.A. 22.

Meanwhile the many values of the green landscape in the growing giant city formed by the continuous chain of settlements is becoming recognized. The term "garden city" has been coined, providing flower gardens for old people and mothers, light and airy schools with open air classes, sunny factory cafeterias, landscaped swimming pools surrounded by parks, and underground streets and garages for the ever increasing

(1) Statistisches Jahrbuch für die Bundesrepublik Deutschland, Wiesbaden, 1959, pp. 29,16*,17*.
number of cars. However real estate "development" is still the guiding principle for the growing suburbs. To "develop" a community still seems to mean that the money which is invested for housing projects, whether by the state, or by private entrepreneurs should earn the highest possible return. For example, the new settlements based on social housing projects in Europe are conceived with a density of 250 to 360 persons per 'hektar' (two and one half acres) and this density of population is supported by the authorities in order not to use up the available open areas too quickly.

Naturally there are also schools, churches, recreation, and activity centers planned for these suburban communities. But in most cases the churches are built with money contributed by the congregation who pays taxes as are the schools together with some direct assistance from the Federal Government and the Länder (a political division comparable to a state in the United States). A small playground may be set up. But the construction of the rest of the community center and the building and maintaining of parks is, however, rarely carried out because these projects would not bring back enough income to those financing them.

Therefore it would seem to be a great civic benefaction if one could succeed in creating and maintaining a new park in an expanding suburb and so establish a natural center for the new community.

Practically all of the existing parks in Europe date
back to the time of the last emperors, kings, or dukes who planted them around their chateaux. There are none of these gardens in the new, growing suburbs.

Now the site for the construction of the WHO Headquarters in a constantly expanding suburb of Geneva would be the ideal place to create a modern suburban park which would at the same time reflect, in this place of recreation, the goals of the WHO, namely the general health. The execution of this park would be relatively inexpensive for Geneva at this time because the city has already donated the grounds to the WHO. And the WHO will carry the cost for the execution of their new Headquarters.

So I come back to my original question: Does the WHO Headquarters, soon to be built in this environment, have to be conceived as an administration building according to the existing stereotype? Or on what basis might we interpret anew the arrangement of office cells? Can a deeper social meaning be given to this new interpretation? Finally, can a valid contribution be made through this particular example to the general development of administration building design and theory?
I. The "American Type" (See Chart 1)

This type is based on the idea of combining individual office cells in large office pools and illuminating them with artificial light. A very great economy is achieved in regarding the relation of usable office space to floor space. One tries to achieve the proportion of 1:8 or 1:9. American architects were impelled to this solution in part by high prices of real estate, and the density of the commercial areas.

II. The "European Type" (See Chart 2)

This type is based on the linear addition of single rooms which are normally lighted directly by daylight perhaps because of a different psychological interpretation of working conditions, or perhaps because of habitual thrift in regard to electricity, the large artificially illuminated office pool has not yet been able to find acceptance in Europe.

The desired flexibility is a linear one. Several units on the corridor can be combined into a larger one, but the room depth will not exceed seven to nine meters (22.9 to 29.5 feet) as this measurement is the limit for illu-
The wish to have the maximum flexibility in the office space determines the floor plan. Rental office buildings - individual offices are ensured directly from inner office spaces eliminating the necessity of corridors.

17 stories, 956 m²/floor, 730 m² offices/floor

25 stories, 760 m²/floor, 440 m² offices/floor

All space is rental. The central core is placed in such a way that on one side there are office pools and on the other side individual offices.

23 stories, 1620 m²/floor, 1390 m² offices/floor

The core is located exactly in the middle around which one office space is created with 10 and 12.5 m depth.

11 stories, 1740 m²/floor, 1450 m² offices/floor (63%)

**chart 1**
simple arrangement with double loaded corridor for a small three stories office. **8 stories.** 2000 sq.ft., 1500 sq.ft. office/floor.

**EXECUTION DESIGN FOR THE PHOENIX RHEINHOF AG.** Dusseldorf, Germany. **Arch:** Reinhard, Steiner, and Peter Koehler 1955

an effort to combine the advantages of the two corridors with the more intimate atmosphere of the double loaded one. This arrangement has been adopted for a small three stories office. **25 stories.** 1275 sq.ft./floor. 825 sq.ft. office/floor.
mination by natural daylight. This principle is also maintained in the high-raised office building. The core moves from the outside walls of the traditional double-loaded corridor building to the middle since it takes up too much valuable naturally illuminated space. For these reasons we find in Europe a floor plan for high-raised office buildings which has become a proto-type (See Chart 2: Schwippert, Phoenix, Rheinrohr). It is a development beyond the double-loaded corridor system. For this type of an office building it is not possible to achieve a better proportion of useful office space to total floor space than 65% (in exceptional cases for low buildings, 76%) (See Chart 2: project Eiermann).

However, this type has been developed solely on the interchanging of formal, structural, and functional considerations (See Chart 2: Pirelli or UNESCO building) without close regard for social demands. As for working conditions, the corridor system with its dead ends has great disadvantages, especially when the two rows of offices are completely separated by a center core. There is no centrally located space with a social function in these buildings which are organized in a linear arrangement. In the same way that a continuous sequence is of a purely mathematical-technical nature, so is the character of its center purely technical and is only justifiable from the point of view of the economical operation of the elevators.
The administration building is divided by these elevators into linear, isolated stories, stacked one above the other. The connection from one story to the other is predominantly a mechanical one and is carried out by elevators, dumb-waiters, intercommunication systems, telephones, call and bell systems. Even though the working climate in such a building does not necessarily have to be dreary and impersonal, such a result is usually the case.

III. A New Type of Administration Building

A more ideal type of administration building should, first of all supplement the atmosphere of the simple, row arrangement by having a center with facilities for social contact. This center space could have various dimensions. It might be a lobby, a court, or a plaza. The idea of a large plaza must be eliminated because of the length and complication of the connection of one office to another. A court should be considered only when all offices or a circulation strip face it. In a system of small office cells with no dead-end corridors only a single-loaded system can surround the court. The impossibility of making the office zone deeper than seven to nine meters creates cheerless hallways here too. (22.9 to 29.5 feet) If the court is contracted to a lobby, this provides the best proportions between the central space and the offices.

The best use of the building area for offices occurs with a lobby eight meters wide (26.24 feet). If a ten story
building is considered, the office area thus developed ful-
fills only one third of the office space requirement as
stated in the program for the WHO. Therefore three towers
are proposed, which are connected at their bases with
each other. (See Chart 4,5 and plans) Such a subdivision
into three towers is, in my opinion, possible despite the
great flexibility needed for the administrative work. Even
if communication by elevator is faster in the one-building
type previously discussed, this cannot obscure the fact that
this type is also divided into units. In my proposal the
dull elevator connection could very well be replaced by a
more beautiful and more human environment for those who
circulate throughout the building, since the program describes
the working organization as a number of small independent
teams which do not need a direct connection to each other.

In the following charts 3,4,5, and 6 several
plans have been examined on the grounds of effectiveness and
design of a central space. All suggestions are based upon
the requirements of the program.

Type 1. With a height of only ten stories, this customary
proto-type would be twice the length shown in the scale draw-
ing, approximately 108 meters long (254.32 feet). This is
the type which won all of the prizes in the competition.

Type 2. The sequence of cells is carried out according to the
maximum length for corridors as specified by the fire department.
The double-loaded systems are pushed together in order to achieve the greatest possible effectiveness. There is no genuine center and the corridors are interminably long.

Type 3. This is the same system as the above mentioned, based on the idea of towers. It provides shorter corridors, but still has no center.

Type 4. The creation of units is not obtained in following the maximum length permitted by the fire department, but a very short ground plan was chosen which permits the use of one whole story for the lounge, toilets, waiting rooms, and a few offices. The working unit is composed of three stories. It is only necessary to go up or down one floor to reach the rest rooms.

Type 5. and Type 6. This working unit is based on the "walking connection," for the elevator does not stop at the balcony floor. Through the lounge one reaches the secondary staircase which leads to the balcony. The offices on the lounge and balcony floor are separated from the hall only by low dividers. In this way the lounge is naturally illuminated and the "home-like" atmosphere is emphasized at the same time, because everybody shares in the main space. A special floor contains offices which require complete separation. This floor also contains the rest rooms, which are not more than a floor away from any office in the building.
TYPE 3

Office floor

TYPE 4

Office floor  Lounge floor

chart 4
The following chart (No. 6) with comparative data of the floor plans shows that an arrangement of three towers (altogether 33, 24, or 21 stories high) can definitely compete with the conventional office building type in regard to the relation of office space to floor space. It has also been proven that a type with better working environment can compare favorably in efficiency with the two-dimensional stereotype.

But this is not all. An arrangement with individual towers offers, moreover, the following advantages:

1) Expansion of the office volume becomes possible because it is simpler to add a new tower to the whole project than to enlarge a building or to erect a second "giant."

2) Since the towers take up less ground floor area than the conventional one-building type to house a given office volume in a building of the same height, the beauty of the location between the Alps and the lake is not shut off, the view remains open between the towers, and space is saved for a park.
## Comparative Data

<table>
<thead>
<tr>
<th>TYPE</th>
<th>m² per floor</th>
<th>m² office space/floor</th>
<th>total m² offices/building</th>
<th>floor no</th>
<th>ext. wall per bldg m²</th>
<th>floor space to office % space</th>
<th>toilet space to bldg floorspace</th>
<th>stair no</th>
<th>elevator no</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1096.7 m²</td>
<td>694 m²</td>
<td>5472 m² building 57 m long</td>
<td>6</td>
<td>1050 x 3.5</td>
<td>100 : 60</td>
<td>6568 : 696 m² toilet on each floor</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>2</td>
<td>1500 m²</td>
<td>1235 m²</td>
<td>11088 m²</td>
<td>9</td>
<td>2647 x 3.5</td>
<td>100 : 81</td>
<td>13500 : 1236 m² toilet on each floor</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>614 m²</td>
<td>504 m² without comb. space</td>
<td>16584 m²</td>
<td>21</td>
<td>2793 x 3.5</td>
<td>100 : 81</td>
<td>14894 : 756 m² # and M altern. per floor</td>
<td>1 (4 not required)</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>1530 m² per unit</td>
<td>816 m² per unit</td>
<td>18716 m² per 13 units</td>
<td>33</td>
<td>3788 x 3.5</td>
<td>100 : 54</td>
<td>19890 : 975 m² toilet on every 3rd floor</td>
<td>1 (4 not required)</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>2350 m² per unit</td>
<td>1540 m² per unit</td>
<td>18836 m² per 7 units</td>
<td>21</td>
<td>2268 x 3.5</td>
<td>100 : 72</td>
<td>16464 : 408 m² toilet on every 3rd floor</td>
<td>1 (4 not required)</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>1966 m² per unit</td>
<td>1422 m² per unit</td>
<td>13776 m² per 8 units</td>
<td>24</td>
<td>2796 x 3.5</td>
<td>100 : 74</td>
<td>15728 : 640 m² (4 not required)</td>
<td>2 (4 not required)</td>
<td>2</td>
</tr>
</tbody>
</table>
The proposed design creates a connection between the administration offices and a public garden.

Three low towers are chosen for the administration section. They are grouped around a central space. Each of these towers, from the point of view of design, consists of "family" units.

Each office has a balcony and the windows can be opened completely like sliding doors, so that in the summer time, people can work in the open air looking out upon the beautiful landscape.

The offices are based on the modular of 1.875 m (1) (Neufert; Joedicke) and thus correspond to the standard measure of Swiss office desks.

The construction can be supplied in the customary fashion with a central warm water heating and ventilation system. This would mean that there is one unit in the top story of each tower, one unit under the library for the board room and other service sections. I propose to furnish each room with one or more small, independent air conditioners until air conditioners can be replaced one day by nuclear heating and cooling devices. Then each office has the

advantage of air conditioning, but windows can be opened if preferred. In addition, since the structural and mechanical systems will be completely separated, a mixture of these two basically different systems is avoided.

The garden will be preserved for the public to the highest possible degree. The various services and the board room are located in a flat building whose roof is planted with grass, shrubbery, and flowers. As walks and paths for visitors these areas blend in with the terraced form of the sloping ground.

A Total Concrete Construction

The Flat Building Complex:

It is based on a bay of eight meters (26.24 feet) due to the heavy earth load. The floor construction could be a waffle slab (minimum weight) or a flat plate (minimum cost).

Parking Structure:

The underground parking structure is differentiated from the building structure. It is based on a sixteen meter 59.05 feet) bay (waffle slab).

The Towers:

All of the floors are hung on cables in order to free the garden level from perimeter supports. The idea of a tower
is effected by a massive continuous core, which carries the suspending structure. This core gives rigidity to the tower. In order to reduce the weight of the structure, it is itself conceived as a vertical-horizontal two-way truss combination. These trusses are composed of prestressed concrete elements, which further help to reduce the weight. The cables themselves are fireproofed with non-inflammable, transparent, inorganic material (mica). By this fireproofing (which has the same effect as concrete) the construction is protected from excessive expansion and contraction due to the weather and at the same time the slimness of the cables is still retained, even after completion of the fireproofing.

. . . . . . .

The whole design of the World Health Organization has a special relationship to Geneva, because Geneva, like the WHO, reflects an international spirit. In my plan, this special relationship is made manifest by the view from the new World Health Organization's park downward towards the city and the Palais des Nations, the European Headquarters of the United Nations.
THE PLANS
APPENDICES
The very first steps toward international action in the prevention of the transmission of disease were the outgrowth of what might be termed a regional manifestation -- efforts of states in the Mediterranean region to protect themselves against the importation of pestilential diseases from southern Asia.

The first international, unified actions in the sphere of public health began about the middle of the 19th century, when severe outbreaks of pestilential diseases reoccurred throughout Europe. International health organizations were not founded until the 20th century. At the time of the United Nations Conference on International Organizations at San Francisco in 1945, four international inter-governmental health organizations were already functioning. These were: The Health Organization of the League of Nations, The Office International d'Hygiène Publique, The United Nation Relief and Rehabilitation Administration, and The Pan American Sanitary Bureau. The World Health Organization established in 1948 is the inheritor of all these efforts. (See Appendix II for the Chronological Development of International Health Programs.)
WHO is the health agency of the United Nations, and as such is a part of the United Nations Organization. It is one of ten organizations active in the economic and social sphere which are known as specialized agencies. A specialized agency is one which conducts a program of importance to the U.N., in a special field of competence, under the general review of the General Assembly and the Economic and Social Council, but with an important scope of autonomy in matters of membership, program, personnel, and finances.

The WHO, like the U.N., is a non-political organization. Governments who disagree politically can unite on the questions of health and work together effectively.

At the end of 1956 WHO comprised 88 states, of which 84 were full members and the remaining four were associate members. Of all the intergovernmental agencies, WHO is the largest in terms of membership and financial resources. The WHO regular budget for 1956 was slightly less than that of UNESCO and from 1957 exceeded that of UNESCO and all other specialized agencies of the United Nations.

The WHO maintains effective collaboration with specialized agencies, governmental health organizations, and professional

groups, and promotes co-operation among scientific and professional groups which contribute to the advancement of health.

WHO also extends its function of collaboration to non-governmental agencies. Their representatives do not have the right to vote but may address the WHO meetings upon a particular problem of interest. Especially active among these non-governmental organizations have been the Red Cross and the League of Red Cross Societies. At the end of 1957, forty non-governmental organizations were actively in relationship with WHO.

(1) The First Ten Years of the World Health Organization, Geneva, 1958, Ch. 10.
General Structure

The WHO Constitution states that the work of the organization will be carried out by three organs: The World Health Assembly, The Executive Board, and The Secretariat.

The World Health Assembly:

The World Health Assembly is the supreme legislative and policy making organ responsible for deciding the policies, the program, and the level of the expenditure of the Organization, and to appoint the Director General, the chief technical and administrative officer of the Organization.

It is the only organ composed of representatives of all the member states. This organ meets annually. The decision of the meeting place is determined by the Assembly itself.

The Executive Board:

The Executive Board consists of eighteen members designated by the member states, and confirmed by the Assembly. This body submits proposals to the Assembly on its own initiative, prepares general programs of work for approval by the Assembly, and authorizes the Director General to take any action required in a health emergency.

The Director General, elected every five years, is subject to its authority. The Board meets twice a year. All meetings but one have taken place at Geneva.
The Secretariat:

The Secretariat carries out the Organization's work. The work was found to divide naturally into two main groups: advisory services direct to governments; technical service activities of world-wide range. The Departments have been named accordingly: The Department of Advisory Services, and The Department of Technical Services.

The tasks of the Secretariat are varied and continually increasing. The structure of the Secretariat cannot be considered as fixed in regard to either the number of divisions or sub-divisions, or to the number of persons working in either of them. The structure is essentially a flexible one and must be periodically adapted to meet the tasks entrusted to the Organization, which may themselves vary.

The Secretariat was instituted by the Interim Commission to take to task epidemiological intelligence, field service, the "priority" diseases, and publications. The main operating responsibility rests with six regional offices, each including many subdivisions:

1. Africa - Brazzaville
2. The Americas - Washington
3. Europe - Copenhagen
4. Eastern Mediterranean - Alexandria

(1) See Appendix II, year 1946 and 1947.
5. South East Asia – New Delhi
6. Western Pacific – Manila

At Geneva, apart from certain fairly large and interdependent staff groups (e.g. the translation and editorial services, which total some seventy five members) the technical units at Headquarters tend, therefore, to be small (four to five persons), highly specialized and relatively independent of each other in their mode of operation. Theirs is principally desk work, since they are concerned mainly with planning and administrating world-wide programs in their respective fields, and not with the actual execution of the programs, nor with the laboratory, research, or clinical activities.

To support the technical units, Headquarters has a number of specialized services dealing either with the interests of the Organization as a whole (e.g. its external relations, public information, legal questions) or with the administration of staff matters, internal services, communications, supplies, the planning and control of expenditure, etc. The activities of these units, which may range in size from eight to thirty persons, are closely interrelated, while all are essential to the smooth functioning of the Organization's technical work. The basic conception of the WHO's structure is to maintain organizational flexibility and a proper balance between the central Headquarters and the regional offices.
In some regions this office is headed by the Deputy Regional Director.
The WHO's mandate from its member countries is to reduce sickness and raise health levels by encouraging and supporting preventative action as well as curative, protecting populations against communicable diseases and the ills due to unsanitary conditions, unsafe water, the wrong food, or lack of health care. It is concerned also with problems of highly-developed countries such as cancer, cardiovascular diseases, the effects of growing stress and strain on mental health, and the health danger of atomic radiation.

The ultimate purpose of the work done at WHO's Headquarters, much of it highly technical and almost all involving continuous relations with its member governments, is to make available to the peoples of the world certain essential services aimed directly or indirectly at improving overall levels of health. By helping to break the vicious circle "disease breeds poverty, poverty breeds disease," WHO assists countries in laying the foundation of their own prosperity and thus furthers the maintenance of world peace.

In developing its programs, WHO needs the best advice available as to methods and possibilities. It must also be able to provide its member governments with up-to-date information and counsel on a wide variety of health programs.
The Organization has therefore set up thirty-six advisory panels, composed of the world's leading experts in fields ranging from public health administration to health laboratory methods and from insecticides to health education. From these panels are selected persons to take part in each meeting of an expert committee called to discuss and report on a specific aspect of the subject. Expert Committees or study groups may meet anywhere in the world, but the majority of meetings are held in the Geneva Headquarters.

WHO has contacted medical services, institutions, universities, research laboratories, and individual workers in the various countries, and has established what may be called a laboratory network for reference and exchange of information.

For the training of the health personnel needed all around the world, WHO has not created its own institutions. Countries everywhere have offered services and institutions for instruction of the WHO fellowship students. It has been proved more satisfactory to use the existing local resources rather than to establish special international institutions.

International medical documentation, necessitating editorial and translation staff, library services, and international publications have been a most effective way of distributing and exchanging medical information throughout the world.

General public health must be met first on an admini-
strative level before its problems can be solved through direct action. The WHO itself is conceived as an administrative organ and carries out its programs accordingly. Many of the basic problems presented to the WHO are administrative in nature, as many countries lack comprehensive and efficient health services. In *The First Ten Years of the World Health Organization* is stated: "The application of medical knowledge to the health needs of a community is essentially a matter of administration." There are many communities in which the health problems cannot be attacked directly until there is a local and central administration that provides the machinery to utilize the progress of medical science. This deficiency in administration has determined both the structural organization of the WHO as well as the nature of much of its assistance to needy countries.

To assist a government, the WHO is recruiting an expert or a team. The WHO representatives work very closely with the local services so that when this staff is withdrawn, the local personnel, trained by the experts, can carry on the work.
Future Plans for the WHO

One general and sure prediction for the WHO is an increased amount of work. Statistics show that the budget and the number of staff has increased almost three times during the ten years of the WHO's work. (1) The steady expansion of the staff, which led to the World Health Assembly's decision to construct a new Headquarters, points toward an ever increasing program of work.

The trends predicted in 1958 are brought into sharper focus in the Director General's aims, as stated in the 1959 report. (2) Upon the completion of a decade of work, the WHO stated the general aims: to increase programs of action to meet emergency situations; to stress the importance of educational work which would bring long range benefits; and to furnish measures of control of communicable diseases rather than to stress the investigation of their fundamental causes. In the Director General's 1959 report the fundamental interconnection between the physical and mental health of man and his physical and pyschological environment is emphasized in the comprehensive programs to be put into effect, and

(1) The First Ten Years of the World Health Organization, p.171.
is encouraged by the apparent determination of world leaders to "help raise the living standards of nations still in early stages of technological development." (1)

Some of the particular targets at which to be aimed in the fields of research, education, and environmental sanitation are: research on communicable diseases particularly in tropical countries, research concerned with the possible risk of exposure to radiation, and the possible effects of radiation upon future generations; in education, the World Health Organization, through grants to medical schools and national and regional training centers, will provide possibilities for education and training of health personnel; to improve environmental conditions, the World Health Assembly has approved a program of community water supply, a research staff is making special studies in methods of insect control, and nutritional problems are and will remain a basic subject of investigation.

The physical plant of the WHO, the Headquarters in Geneva, is planning to expand in the next ten to twenty years about 60% to 70%. At present about 600 persons work at the Headquarters, including all grades of staff.

## Chronological Development of International Health Programs

<table>
<thead>
<tr>
<th>YR.</th>
<th>LOCATION</th>
<th>CAUSE</th>
<th>RESULT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1300</td>
<td>Genoa</td>
<td>contagious diseases</td>
<td>&quot;bullitones sanitatis&quot; for ships coming from Corsica to Sardina</td>
</tr>
<tr>
<td>1348</td>
<td>City State of Venice</td>
<td>plague</td>
<td>appointment of 3 officials as &quot;supervisors of health&quot;</td>
</tr>
<tr>
<td>1403</td>
<td>City State of Venice</td>
<td>&quot;</td>
<td>quarantine station for all arriving passengers</td>
</tr>
<tr>
<td>1467</td>
<td>Genoa</td>
<td>&quot;</td>
<td>quarantine stations</td>
</tr>
<tr>
<td>1557</td>
<td>Maritime city-states of southern Europe</td>
<td>&quot;</td>
<td>bills of health for general sea traffic are initiated</td>
</tr>
<tr>
<td>1665</td>
<td>&quot;</td>
<td>&quot;</td>
<td>bills of health come into general use</td>
</tr>
</tbody>
</table>

(All these defense measures failed to safeguard cities and states from disease originating elsewhere.)

19th century

Health problems acute, disease promoted by spread of railroads, development of steam navigation, opening of Suez Canal.

- Europe - cholera, 1826-1831
- Canada and U.S.A. - cholera, 1832
- various, severe epidemics, 1847-1897
<table>
<thead>
<tr>
<th>Year</th>
<th>Location</th>
<th>Cause</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1800's - Frontier areas in Europe</td>
<td>cholera in Europe and yellow fever</td>
<td>&quot;cordon sanitaire&quot; - very rigorous code (conflicts arise between sanitarians and commercial interests)</td>
<td></td>
</tr>
<tr>
<td>1851 Paris</td>
<td>cholera in Europe and yellow fever</td>
<td>First international Sanitary Conference - 12 nations located in Mediterranean basin participate --- starting point is set, but no agreement on international action</td>
<td></td>
</tr>
<tr>
<td>1859 Paris</td>
<td></td>
<td>No agreement on international action</td>
<td></td>
</tr>
<tr>
<td>1865 Paris</td>
<td></td>
<td>Health problems as acute, but no effective solutions</td>
<td></td>
</tr>
<tr>
<td>1892 Venice conference</td>
<td>Severe cholera brought into Egypt by Mecca Pilgrimage</td>
<td>Measures taken to forestall cholera epidemics in Middle East agency established to control sea-born infections --- Egyptian Sanitary and Quarantine Council</td>
<td></td>
</tr>
<tr>
<td>1892</td>
<td></td>
<td>Other organizations develop: Sanitary Councils in Egypt, Constantinople, Tangiers, Teheran --- at first they are local health boards --- Europe becomes a member --- contention between regional orgs.</td>
<td></td>
</tr>
<tr>
<td>YR.</td>
<td>LOCATION</td>
<td>CAUSE</td>
<td>RESULT</td>
</tr>
<tr>
<td>-----</td>
<td>----------</td>
<td>-------</td>
<td>--------</td>
</tr>
<tr>
<td>1893</td>
<td>Venice convention</td>
<td>cholera</td>
<td>efforts to deal with spread of cholera by land</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>notification of existence of cholera to other nations of the convention</td>
</tr>
<tr>
<td>1902</td>
<td>Pan American Sanitary Bureau</td>
<td></td>
<td>functioned well -- asserted the need for adopting program for regional needs within the Americas</td>
</tr>
<tr>
<td>1903</td>
<td>Paris conference</td>
<td>progress of medical science and sanitary procedure necessitate an international organization</td>
<td>proposal to create an international organization to organize epidemic information and control -- results in Rome Agreement of 1907</td>
</tr>
<tr>
<td>1907</td>
<td>Paris</td>
<td></td>
<td>creation of Office International d'Hygiène Publique</td>
</tr>
<tr>
<td>1920</td>
<td>Geneva League of Nations</td>
<td>fever and cholera spreading from Russia through Eastern Europe</td>
<td>League of Nations enters in health work with temporary epidemic commission</td>
</tr>
<tr>
<td>1922</td>
<td>Geneva League of Nations</td>
<td>health problems, epidemics, refugees in Poland and Baltic States</td>
<td>League of Nations Health Organization</td>
</tr>
<tr>
<td>1923</td>
<td>Geneva L.H.O.</td>
<td></td>
<td>emphasis to nations with specific health problems</td>
</tr>
<tr>
<td>YR.</td>
<td>LOCATION</td>
<td>CAUSE</td>
<td>RESULT</td>
</tr>
<tr>
<td>-----</td>
<td>----------</td>
<td>-------</td>
<td>--------</td>
</tr>
<tr>
<td>1923</td>
<td>Geneva L.H.O.</td>
<td></td>
<td>collaboration with other international health organizations: Int. Labor Office, Rockefeller Foundation</td>
</tr>
<tr>
<td>1925</td>
<td>Geneva L.H.O</td>
<td></td>
<td>established eastern bureau in Singapore, sub-bureau at Melbourne</td>
</tr>
<tr>
<td>1927</td>
<td>Americas Europe</td>
<td></td>
<td>set up network of telegraphic and radio communication with ports of the Far East</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>launch first program of assistance to individual countries -- aid to China -- train personnel to deal with epidemics, quarantines, etc. -- study of rural hygiene, housing, health of children</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>forming of committees of experts on biological standardization, nutrition, malaria, tuberculosis, syphilis, rabies, leprosy, cancer, sleeping sickness</td>
</tr>
<tr>
<td>World War II</td>
<td>disease, refugees, poverty</td>
<td></td>
<td>work of the League Health Organization curtailed but not abandoned</td>
</tr>
<tr>
<td>1940</td>
<td>Paris Of. Int. d'H Pub.</td>
<td></td>
<td>gives active help to Egyptian Council, PASB, and to L.H.O. - Int. co-operation</td>
</tr>
<tr>
<td>YEAR</td>
<td>LOCATION</td>
<td>CAUSE</td>
<td>RESULT</td>
</tr>
<tr>
<td>------</td>
<td>----------</td>
<td>-------</td>
<td>--------</td>
</tr>
<tr>
<td>1943</td>
<td>New York</td>
<td>World War II devastation</td>
<td>UNRRA furnished medicines and chemical products to war ravaged countries; missions sent to combat diseases; distribution of scientific publications; UNRRA became organization with greatest regional work and high degree of decentralization.</td>
</tr>
<tr>
<td>1945</td>
<td>San Francisco</td>
<td>conference about International Organizations</td>
<td>Charter drafted for creation of specialized agency of the U.N. having international responsibilities in all health matters -- U.N. assumes functions of League Health Org.</td>
</tr>
<tr>
<td>1948</td>
<td>New York, U.N.</td>
<td></td>
<td>World Health Organization formally established</td>
</tr>
</tbody>
</table>
Article 1

The World Health Organization, hereinafter referred to as WHO, in accordance with the decision of the World Health Assembly on 22 May 1959, hereby opens an architectural competition for the erection in Geneva (Switzerland) of a building to house the Secretariat services of WHO and to provide also conference rooms for its Executive Board and for the various committees which meet at WHO Headquarters.

Article 17

For the purposes of assisting the Director General in the choice of the designs, a jury of seven members shall be constituted as follows:

1. Mr. Sven Gottfrid MARKELIUS, Architect, Stockholm, Sweden
2. Mr. Gio PONTI, Architect, Milan, Italy
4. The Secretary-General of the International Union of Architects, Paris, France
5. The Chairman of WHO's Executive Board

6. The Conseiller d'Etat, Chief of the Public Works Department of the Canton of Geneva, Switzerland

7. The Director General of WHO

Article 26

The jury shall select the designs for which awards are to be made and shall determine the order of merit. The awards to be made shall be as follows:

the first prize consisting of the granting, in principle, of the execution of the design;

a second prize of Sw.fr. 25,000;

a third prize of Sw.fr. 15,000.

Article 28

The author of the design to which the first prize is awarded shall, in principle, be entrusted with the execution of the design. The execution of the chosen design, or any modification of it, shall be governed by the terms of a contract to be established between WHO and the author.

If WHO should not proceed with the execution of the design awarded the first prize or if, before the preparation of the work plans, WHO should consider it impossible to continue negotiations with the author of the said design, the latter shall receive a total sum of Sw.fr. 75,000 as sole compensation and shall have no further recourse.
33 places at the central table
36 places at the side tables
75 places for representatives of international organizations, members of the Secretariat, etc.
65 places for the press
100 places for the public
9 cabins for simultaneous interpretations, registration of speeches, television and film photographers, etc.

The glass-fronted cabins must be raised at least 50 cm from the floor of the chamber. Access to each cabin (measuring about 2 x 2 m) must be from a separate corridor outside the chamber.

(b) Committee rooms

(1) One room of about .................. 140 m²
(2) Three rooms of about 100 m² ............. 300 m²

The four committee rooms will each have an adjacent office measuring about 20 m² and a small cloakroom measuring about 10 m² .......................... 120 m²  560 m²

(c) Offices

The total surface for offices, excluding those mentioned under (d) to (g) below, is to be about ............ 10 900 m²

This area is to include about 220 m²

for the suites of the Director General and the Deputy Director (each suite comprising one large office, two standard offices, and one waiting room), and about ............... 320 m²

for the suites of the four Assistant Directors General (each suite comprising one large office, one standard office, and one waiting room)
making a total of about \ldots \ldots \quad 540 \, m^2
which leaves about \ldots \ldots \quad 10360 \, m^2

Movable partitions are to be provided to the maximum possible extent.

The conference rooms and offices must be lit by natural daylight.

(d) **Library**

(1) Three reading rooms of about: \quad 275 \, m^2
   60 \, m^2 \text{ and } 60 \, m^2 \text{ respectively} \ldots 395 \, m^2

(2) Offices for the library services \quad 480 \, m^2

(3) Museum room \quad 150 \, m^2

(4) Storeroom for books \quad 625 \, m^2 \quad 1650 \, m^2

(e) **General services**

(1) Stenographic services \quad 600 \, m^2

(2) Documents service:
   
   (i) reproduction \quad 370 \, m^2

   (ii) maintenance and distribution \quad 165 \, m^2 \quad 535 \, m^2

(3) Services for the registration and dispatch of mail and internal distribution \quad 440 \, m^2

(4) Archives service:

   (i) current archives \quad 75 \, m^2

   (ii) reserves \quad 125 \, m^2 \quad 200 \, m^2

(5) Storeroom for documents \quad 1100 \, m^2 \quad 2875 \, m^2
(f) **Information service**

1. Press room ........... 100 m²
2. Radio and television studio ........... 100 m²
3. Documents room ........... 60 m²

(g) **Other services and premises**

1. Bank ........... 40 m²
2. Post office ........... 80 m²
3. Telephone exchange (including accumulators) ........... 100 m²
4. Travel agency ........... 60 m²
5. Medical service ........... 100 m²
6. Two rest rooms for Secretariat personnel ........... 120 m²
7. Rooms for Staff Committee activities ........... 80 m²
8. Cafeteria-restaurant, reception hall, offices, kitchens, etc. ........... 450 m²
9. Workshops ........... 230 m²
10. Premises for photograph, photocopy services, etc. ........... 220 m²
11. Three special fire-proof rooms about 60 m², 40 m² and 20 m² respectively, for the storing of films, valuable documents, etc. ........... 120 m²
12. Quarters for cleaning services (one per floor) about 10 m² .. 100 m²
13. Dressing rooms and shower-baths for messengers, technical personnel, cleaners, etc. ........... 200 m² 1900 m²

(h) **Storage, etc.**

Various (for office material, etc.) 1100 m²
Distribution of offices and other accommodation throughout the building

(a) Offices

The suites of the Director General and the Deputy General should be side by side.

The suites of the Assistant Directors General should be distributed over various floors.

(b) Library

The reading rooms and offices should be preferably on the ground floor, and the book reserves above or below them, the two sectors being linked by a small staircase and a small book-lift.

(c) General services

The distribution should be as follows:

(1) Stenographic services: on one of the floors;

(2) Documents services: ground floor or basement;

(3) Service for the registration and dispatch of mail, and internal distribution: ground floor, next to Post Office;

(4) Archives service:
   current archives: ground or some other floor;
   reserves: basement;

(5) Storeroom for documents: basement, if possible underneath the documents service and communicating with it by a small staircase and small goods-lift.

(d) Information service

(1) Press room and telephone boxes: ground floor;

(2) Radio and television studio: ground floor or a higher floor;

(3) Documentation room: ground floor next to press room.
(e) **Other services and accommodation**

1. Bank  
   ground floor

2. Post Office  

3. Telephone exchange  

4. Travel agency  

5. Medical service  
   on one of the other floors

6. Rest rooms  
   "  "  "  "  "

7. Rooms for Staff Committee activities  
   "  "

8. Cafeteria-restaurant, etc.: top floor or terrace;

9. Workshops: basement or ground floor;

10. Photographic services, etc.; basement or ground floor, near library and documents service;

11. Special fire-proof rooms: basement;

12. Service rooms for cleaners: one per floor;


(f) **Storage:** basement

Heating and airconditioning installations, etc.: basement.
THE REQUIREMENTS OF THE BUILDING CODE OF GENEVA, SWITZERLAND AND THE WORLD HEALTH ORGANIZATION'S COMPETITION REGULATIONS.

1. The building must be erected at a certain distance from the limits of the site (road), this distance to be equal to at least $3/5$ of the height of the building.

(Building Code of Geneva)

2. Ancillary services such as toilets and showers can be situated inside the building without the benefit of daylight provided that they are equipped with an officious ventilation system.

(Building Code of Geneva)

3. The height limit for any building on this site is 490 m above sea level (1,607.59 feet).

(Building Code of Geneva)

4. A standard office should cover an area of about $18 \text{ m}^2$ (201.68 sq. ft.) sufficiently wide to permit two officials to sit face to face near the window, their respective desks being 85 cm (33.46 inches) deep. Competitors should propose a module which will make it possible to establish offices of various dimensions, the smallest having a surface of $10-12 \text{ m}^2$ (107.6 and 129 sq. ft.).

(WHO Competition Regulations)
5. The number of these offices and their size will be determined when the final plans are prepared; movable partitions are to be provided to the maximum possible extent so that the distribution of the offices can be changed at any time.

(WHO Competition Regulations)

6. The glass-fronted cabins for simultaneous interpretation must be raised at least 50 cm (19.68 inches) from the floor of the chamber. Access to each cabin (measuring about 2 x 2 m) (6.56 x 6.56 feet) must be from a separate corridor outside the chamber.

(WHO Competition Regulations)

7. The four committee rooms should be located, in so far as possible, in the middle of the office block, each on a different floor.

(WHO Competition Regulations)

8. The conference rooms and offices must be lit by natural daylight.

(WHO Competition Regulations)
APPENDIX V

COMPETITION RESULTS
L'Organisation Mondiale de la Santé avait organisé un concours international restreint pour l'édification de son siège à Genève. Quinze architectes, choisis dans divers pays par un groupe de cinq experts, avaient été invités à y participer : MM. G.A. Bernasconi, A. Fiocchi et M. Nizzoli, Milan ; Ir. J.M. Van den Broek et Bakema, Rotterdam ; J. Dubuisson, Paris ; Guergi, Gradoy, Moscou ; Haefeli, Moser et Steiger, Zurich ; Henrich et Petschnigg, Dusseldorf ; Arne Jacobsen, Klampenborg ; Raymond Lopez, Paris ; A.E. Reidy, Rio de Janeiro ; Viljo Revell, Helsinki ; Eero Saarinen, Bloomfield Hills, Etats-Unis ; Hugh Stubbins, Cambridge, Etats-Unis ; Kenzo Tange, Tokyo ; Jean Tschumi, Lausanne ; Yorke, Rosenberg et Mardall, Londres.


Mais l'édifice ne devait pas seulement s'intégrer dans le site ; les concurrents ne pouvaient pas ne pas se soucier de l'inscription du bâtiment projeté dans le « paysage » généré et, notamment de la vue que l'on en a de la rivière méridionale du lac. Outre la configuration du terrain, les implantations existantes, les vues, les accès, un facteur à ne pas négliger était l'existence de vents froids soufflant du Nord-Est.

Le programme indiquait avec une grande précision les locaux à prévoir, avec leurs surfaces approximatives, et demandait que des modifications dans la répartition des bureaux puissent être apportées à tout moment ; il signalait, en outre, que le bâtiment devait être conçu de manière à permettre son extension future. Enfin, un parc de stationnement pour 600 voitures et un garage couvert pour 150 bicyclettes étaient demandés.

(Suite p. XXIII.)
CONCOURS DE L'ORGANISATION MONDIALE DE LA SANTÉ (SUITE)

Cependant, en réponse à une « question », les organisateurs avaient précisé que le crédit global disponible, englobant les frais de construction et d'équipement du bâtiment, l'aménagement des abords, les honoraires, etc., ne devait excéder 40 millions de francs suisses.


Le jury a estimé qu'aucun des projets présentés ne pouvait être proposé pour exécution, sans que certaines modifications y soient apportées ; ces modifications paraissent, en effet, indispensables pour tenir compte de certaines considérations qui n'avaient pas été explicitément indiquées dans le programme, mais auxquelles les organisateurs attachaient une grande importance. D'un autre côté, les crédits disposables ayant été fixés, déterminaient un plafond impératif, alors que le programme ne demandait pas la production de devis estimatifs. Désireux de donner rapidement une suite effective au concours, les organisateurs, à juste raison, tenaient à ne pas s'engager sur un projet avant que son prix de revient ait pu être clairement établi.

En conséquence, le jury a recommandé au Directeur général de demander à l'auteur du projet classé premier d'étudier, en liaison avec ses services, la possibilité d'apporter à son projet les modifications permettant de répondre à toutes les objections et recommandations formulées par le jury dans son rapport technique, et de réaliser le projet ainsi remanié dans la limite des crédits disponibles.

Après plusieurs examens et délibérations et une visite du terrain, les prix suivants ont été décernés :

1. Premier prix : Jean Tschumi, Suisse.
3. Troisième prix : Jean Dubuisson, France.

En outre, une mention a été attribuée, à l'unanimité, au projet de M. Viljo Revell (Finlande).

2. Deuxième Prix : Eero Saarinen, États-Unis.
3. Mention : projet de Viljo Revell (Finlande).
4. Project de MM. Hunreich et Patschberg (Allemagne).

( Architecture d'aujourd'hui 5/1960 )


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