

# THE TRAINING OF BUILDING TECHNICIANS FOR HISTORIC PRESERVATION IN JAPAN

## I. FOREWORD

The training of technicians for the preservation of historic monuments in Japan has been national in character because of the particular problems involved resulting from special building styles and structures as well as unique social and economic conditions.

The first law related to historic preservation dates back to 1871, and a number of related laws were integrated in 1950 to establish a comprehensive Law for the Protection of Cultural Properties (*Bunkazai hogohō*) under which the Cultural Properties Protection Commission (*Bunkazai hogo-iinkai*) was organized as an independent bureau of the Ministry of Education. The Commission was responsible for the protection of cultural properties of national importance and recently (effective June 15, 1968) integrated the Cultural Agency (*Bunkachō*) in the same Ministry as its Cultural Properties Protection Bureau (*Bunkazai hogobu*).

The cultural properties of local importance, on the other hand, are under the ordinances and regulations of the local authorities: 42 out of 46 prefectural authorities, 290 out of 560 cities, 432 out of 2,005 towns, and 141 out of 827 villages have their own regulations for historic preservation by 1965. In most cases, the educational commissions of these local authorities are responsible for the task.

Among 2,186 buildings classified under the Law as Important National Cultural Properties, only 189 buildings are of stone. So that the remainder of 1,997 buildings is made of wood. Of 1,997 wooden buildings, 322 are secular. It can be said that most of the classified buildings in Japan are wooden and religious and built of the intricate structure in authentic styles and roofed with either tiles or cypress bark and shingles. None of these old building techniques are now used for the ordinary wooden structures in contemporary industrial Japan.

When the historic preservation law first extended its scope to buildings in 1897, programmes to preserve and restore historical buildings began and the work was carried out mostly by *Miyadaiku* or the master carpenters specialized in building religious structures who were trained under apprenticeship and even then decreasing in number. Architectural training, on the other hand, which started on a university level as early as 1873, aimed at introducing the building styles and

techniques of the West and paid little attention to traditional buildings. Courses on the history of Japanese architecture and of traditional building techniques were added to the curricula of universities later. A graduate architect, however, was seldom engaged in the work of preservation, partly because of many other profitable jobs available and because of the fact that a) the status of the technicians for historic preservation was not high enough; b) his post was usually remote from a city; and c) the work necessitated moving from one place to another.

## II. THE COMMISSION'S SPECIAL SEMINARS

In spite of these difficulties, the work of building preservation has progressed, and 1,235 out of 1,949 classified wooden buildings have been disassembled and restored, while 847 were reroofed by 1964. The preservation work carried out during the past five years, are shown in Table 1.

The preservation of a classified building is carried out in three ways: by the Commission itself with government funds; by the local authorities, or by the owner with the national and local government subventions. In the latter two cases, the Commission is responsible for the preliminary plans of repair as well as restoration and sends staff technicians to the site. Also, the Commission recommends the technicians for the work to ensure that it is carried out properly and correctly. At the site, the work is usually carried out by three groups of technicians: a supervisor, a chief technician and his assistant, and a team of artisans including carpenters, craftsmen, and workers. A supervisor who is commonly in part time service is a highly qualified technician with thorough knowledge and long experience and is responsible for several, usually about four buildings, at the same time. The chief technician aided by his young assistant plays the major role in the building work at the site.

Meanwhile, to control the quality of new buildings and the qualification of architects, the Building Standard Law (*Kenchiku Kijunhō*) and the Architects Law (*Kenchiku shihō*) were adopted in 1950. Both laws, however, are not applicable to classified buildings nor to technicians or architects who are engaged in preservation work due to its unique character.

To train young assistants working at sites, an annual

seminar with free tuition and with some scholarship aid was inaugurated by the Commission in 1955 through the good offices of Professor Masaru Sekino, then the Chief of the Building Section, Secretariats of the Commission. Each seminar covered 210 hours of lectures for 30 days and took place in Tokyo and Nara at intervals, for example, ten days in Summer in Tokyo, ten days in the Fall and another ten days in Winter in Nara. The trainees were chosen from the applicants who were either working on building restoration for more than three years or who was a graduate of a technical high school majoring in architecture and who were recommended by local authorities. Four seminars, each for about 20 trainees, have taken place between 1955 and 1964, and 76 trainees successfully completed the seminar and were presented with the certificates.

The curricula of each seminar varied slightly and are shown in Table 2. The instructor included university professors and the staff of the Tokyo National Research Institute of Cultural Properties (*Tokyo Bunkazai Kenkyujo*). Thus, the trainees were instructed in traditional building techniques as well as the modern scientific methods of preservation. In addition they became acquainted with each other and exchanged ideas and experience.

### III. QUALIFICATIONS OF ARCHITECTS AND ASSISTANT ARCHITECTS FOR HISTORIC PRESERVATION

Following the completion of a series of seminars, the Commission established a Rule for the qualifications of technicians for historic preservation in 1965. Two categories were established:

- a) Architect for Historic Preservation.
- b) Assistant Architect for Historic Preservation.

The criteria for the qualification of "Architect", for example, are (either A or B):

A. To fulfil the following two (1 and 2) requirements:

1. Experience requirements:

- a) In the case of a graduate of a technical high school majoring in either architecture or civil engineering having more than 10 years of field experience in repairing the buildings of cultural properties.
- b) In the case of a graduate of a technical senior high school majoring in either architecture or civil engineering, more than 8 years of field experience in repairing the buildings of cultural properties.
- c) In the case of a graduate of a university majoring in either architecture or civil engineering, more than 6 years of field experience in repairing the buildings of cultural properties.

2. Successful completion of the special seminar (mentioned above) and award of the certificate.

B. *The specialist whose knowledge and technical ability is recognized by the Commission to be superior to Category A.*

In 1964, there were 89 applicants for the grade of Architect and 23 for the grade of Assistant Architect. Among these candidates, 75 of the former and 15 of the latter were approved by the Commission. The age distribution of both Architects and Assistant Architects is indicated in Table 3.

It must be added that a qualified "Architect" is eligible for grade of chief technician and an "Assistant Architect" as an assistant. In other words, the Commission recommends qualified architects to local authorities as well as to owners to carry out preservation and restoration work of sites and monuments.

### IV THE COMMISSION'S ADVANCED SEMINAR AND CONFERENCE OF THE CHIEF TECHNICIANS

After the series of seminars and the establishment of the qualification of Architect and Assistant Architect were finished, the Commission planned to hold advanced seminars for all Architects and Assistant Architects. The emphasis in these seminars are to keep trainees up-to-date on modern building — and preservation — techniques. It started in 1965, annually for about 30 trainees, covering 30 hours of lectures. So far, three seminars have been taken place in Tokyo and the fourth is planned this year. The contents of each seminar are shown in Table 4.

Along with the special seminars, the conference of the chief technicians who are responsible for field work has taken place annually in Tokyo under the auspices of the Commission since 1955. In conferences which usually lasts for three days, chief technicians from working sites all over the country get together to discuss the problems they face and exchange ideas and opinions. They are also informed of the recent administrative procedures as well as new legislation. Usually guest speakers deliver lectures on the subjects of either national or international interest. The participants also talk with the officials of the Commission thus ensuring better cooperation between the Commission and the field technicians who work together towards the goal of preservation.

### V THE PRESENT MAJOR PROBLEMS

a) *The lack of regular courses for building technicians*

The special seminars mentioned above which took place under the auspices of the Commission were quite useful and necessary, although they are primarily ad hoc in-service training of technicians. It is always necessary to re-educate and instruct the field technicians from

time to time to bring their knowledge more familiar with new techniques and materials. The courses for preservation techniques of painting, sculpture, and other art objects have been offered on the graduate level at the Tokyo University of Arts (*Tokyo Geijitsu daigaku*), but no regular course in building techniques for historic preservation are offered at any institution in Japan. It is hoped and the need is urgent, that courses on the graduate level be established in a university to give students thorough and comprehensive training in preservation work together with an internship for a certain period of time at a site.

b) *Cooperation with other related fields*

It has been more and more necessary to have some other related fields of science included in the training of the architects and technicians responsible for historic preservation, such as geology, archaeology, regional planning, urban redevelopment, landscape design, chemical treatment for preservation, steel reinforcement of structure, museum science, etc... However, it has been difficult to have cooperation in these fields of sciences

Fig. 1. — Five storied Pagoda, Horyuji Buddhist Temple, VII century.

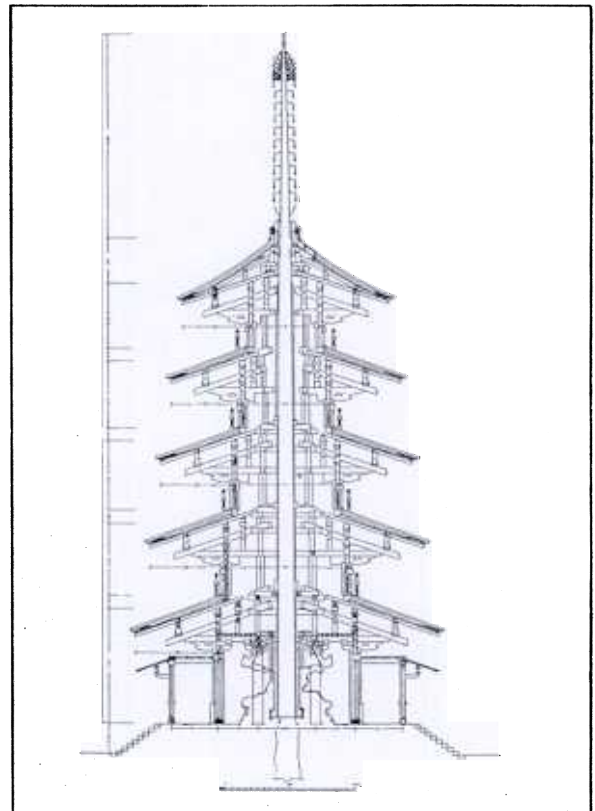


due to the long standing sectionalism of each discipline. It would be much more difficult if there is no center of teaching and training for historic preservation. For this reason also, we need to have a university or an institution to set up the graduate level courses for the architects and technicians for historic preservation where not only a sufficient number of technicians can be trained but also to ensure that the level of techniques is to be kept high enough.

c) *Social status of the building technicians*

One of the problems which would be solved sooner in relation to training, is the status of the technicians for preservation of sites and monuments. 25 out of 75 Architects for Historic Preservation mentioned above are local government officials whose status is stable, but the rest are free-lancers who have to work at the different sites under temporary contracts. Unless such discouraging situation is solved, a career in preservation cannot attract a university graduate qualified to become a future trainee, even though he may be aware of the importance of the task.

Fig. 2. — Section of Horyuji Buddhist Temple, VII century, from the Report of Restoration published in 1955 (Ht. 106 ft).



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TABLE 1  
*Number of designated buildings restored or repaired, 1960-64*

Year	Disassembled & repaired	Partly disassembled & repaired	Reroofed	Repainted	Misc. Repair	Total
1960	22	4	20	4	25	75
1961	19	8	26	11	62	126
1962	19	5	30	7	1	62
1963	17	6	28	7	7	65
1964	142	5	27	23	10	207
Total	219	28	131	52	105	535

TABLE 2  
*Subjects of the Commission's seminars, 1955-1964*

Subjects	1955	1956	1957	1963-64
1. <i>Kiku</i> or traditional field geometry to determine the dimensions and forms of wooden members	40	23	15	15
2. <i>Kiwari</i> or traditional proportions of each member	18	18	8	5
3. Various traditional techniques	—	20	15	25
4. History of Japanese architecture	20	15	24	35
5. Documentary study	—	—	—	5
6. Survey for repair	10	9	8	10
7. Traditional construction	40	45	45	30
8. Architectural drawing	—	7	7	7
9. Measuring buildings	—	8	12	14
10. Planning and execution	38	10	12	10
11. Accident prevention	4	4	2	3
12. Preservation science	3	3	3	3
13. Accounting	3	2	2	2
14. Administration of work	—	2	—	—
15. Preservation law	3	2	2	2
16. Architectural decorations	10	4	8	6
17. Reinforcement of structure	—	3	3	3
18. Archaeological excavation	—	—	4	7
19. Special lectures	—	7	12	14
20. Field studies	21	28	28	14
Total	210	210	210	210 (hours)
Number of trainees	20	19	20	17

TABLE 3  
*Age distribution of Architects and Assistant Architects  
 for Historic Preservation in 1964*

	Birth date	Number		Birth date	Number
Architects	1886-1895	10	Assistant Architects	1926-1930	2
	1896-1905	9		1931-1935	6
	1906-1915	18		1936-1940	6
	1916-1925	6		1941-1945	1
	1926-1935	32			
	Total	75		Total	

TABLE 4  
*Subjects of the Commission's advanced seminars, since 1965*

Subjects	1965	1966	1967
1. Building materials	10	10	8
2. Techniques for repair	3	3	4
3. Prevention of decay, mildew and insects	4.5	4.5	4.5
4. Drying timbers	1.5	1.5	1.5
5. Hardening and fixing with plastic	1.5	1.5	2
6. Water and rust-proof techniques	1.5	1.5	1
7. Building machines	1.5	1.5	2
8. Supervising work	1.5	1.5	1.5
9. Labor accident prevention and management	3	3	1.5
10. Preservation of buildings of cultural properties	—	—	—
11. Special lectures	2	2	3
	30	30	30 (hours)

## RESUME

*Au Japon, en dépit de la multiplicité des ordonnances régionales et locales, la restauration est concentrée aux mains d'une Commission principale fondée sur la loi de 1950 et qui dépend, surtout depuis 1968, du Ministère de l'Education. La dite Commission doit s'occuper plus spécialement des 2.186 monuments classés, parmi lesquels seulement 9 % environ sont des édifices en pierre (Tableau 1).*

*La Commission prend des initiatives, assure un contrôle et supervise en général les chantiers de restauration du pays. Elle a défini deux catégories de techniciens : architectes (A ou B) et assistants, qui ont leurs normes propres. Elle désigne les gradués et les recommande aux instances intéressées.*

*Depuis 1955, elle organise chaque année un stage théorique et pratique d'un mois (Tableau 2). Parallèlement, elle a mis sur pied en 1965 un séminaire de haute qualification (Tableau 4). En outre, elle réunit conjointement les architectes en chef qui débattent entre eux des problèmes majeurs de leurs chantiers et qui sont informés des adaptations de la doctrine, des règlements et des techniques.*

*Tout ceci n'empêche qu'on regrette l'absence d'un cours de conservation régulièrement professé dans une université et qu'on souhaite aussi nouer des contacts fréquents avec les autres disciplines scientifiques. Enfin, le statut professionnel de l'architecte-restaurateur n'est pas encore fixé.*

*Fig. 1. — Pagode à 5 étages, temple bouddhiste Horyuji du VII<sup>e</sup> siècle.*

*Fig. 2. — Coupe du même temple. Extrait du rapport de 1955 sur la restauration (hauteur : environ 35 m).*