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A STUDY ON THE PECULIARITIES OF UNIVERSITY CAMPUSES IN POSTWAR JAPAN

Space Configuration and Community Responding to the University Massification

August 2023

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SUMMARY

Chapter 1. INTRODUCTION

1.1. Context

After World War II, in several countries, social strata which were until then *de facto* excluded from higher education suddenly became able to have access to it. This phenomenon is known today as the "massification" of universities: the elitist communities of scholars were transformed into enormous institutes with thousands of students to educate.

In terms of architectural space, the massification was a shock. It put into crisis the traditional university space, often composed by delicate historical buildings interconnected with the urban environment, now overpopulated and crowded. University planners and architects reacted according to the Modernist teachings, trying functional solutions which comprehended the delocalization in peripherical areas or the realization of optimistic (or "utopianist", according to a definition of Muthesius[1]) megastructures. However, many of these examples resulted in uncontrolled sprawl or unlivable spaces. Famous examples of modernist university plans as the University of Illinois at Chicago Circle, the Freie Universität Berlin, the Université de Nanterre in the suburbs of Paris, the Università della Calabria met several planning problems[2]. In general, the postwar tentative to face the massification has been criticized for creating inhuman, alienating environments.

Japan's relative short history of western-style higher education, its Asian nature, its multiple influences are already enough peculiar to awaken the curiosity of a foreign observer. Moreover, when Japanese universities faced massification, despite the war disaster, despite the limited resources of the small and numerous institutions and despite the lack of large and flat sites in the mountainous and narrow archipelago, not only did they continue faithfully to configurate their space according to the highly demanding *Campus* typology (i.e., enclosed urban settlements dedicated only to the purposes of the university), but also produced spaces of high quality, under the viewpoint of environment for learning and socialization, harmonious relationship with the site's nature, community-centered planning.

It is therefore worth studying on the basis of what characteristics, not found in other countries, Japan has been able to cope with such difficulties, for the reason that in a world where developing Countries are now facing higher education massification in lack of resources, the baggage of experience of Japan could be a precious source of inspiration[3].

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[1] See Muthesius (2000), pp. 5-8.

[2] See § 3.2. for further detail on the postwar university architecture in the world.

[3] In facts, after World War II Japan was indeed a developing Country, and many of the ideas which were born during that period were proved to be suitable to other developing Countries many years later,

1.2. Purpose of the research

For the above reasons, the purpose of the present research is to identify the peculiarities of the Japanese university space after World War II.

Within the broad theme of "peculiarity," we will especially focus on the comprehension of those positive elements of architectural planning and design which have been able to meet the educational and sociocultural needs despite the limitations and difficulties caused by university massification. The focus is therefore on the most challenging contexts and on those architectural solutions addressing such contexts.

In particular, for any kind of university space, there can be individuated two large themes: spatial configuration and its influence on the life of the university community (here defined as the social group composed by teachers, personnel and students, for the shared aim of education and free research). Therefore, the response of Japanese campuses to the massification challenge needs to be analyzed both in terms of spatial configuration (position, site planning, architectural design) and of university community life (its environment and its relationship with the surrounding society realized by spatial configuration).

1.3. Method of the research

In order to achieve the above-described purpose, this thesis is organized into the following sections.

Chapter 2: *The peculiarities of prewar Japanese campuses from the perspective of the historical evolution of universities around the world.* Starting from a classification of university models and university spaces typologies existing in the world at the time of Meiji Era (end of XIX century), the reasons of the early choice of *Campus* typology and its relationship with Japanese educational system are investigated. Then, it has been proposed a definition of the common features which distinguish prewar Japanese campuses, in the following categories:

a) relationship with the city,

b) outdoor space,

c) students' residence,

d) faculty organization and

e) extracurricular activities.

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much more than other systems of war-winner Countries: for example, the maternity handbook collecting both mother and child's clinical records was introduced also in Indonesia and Africa, and the Civil Law system inspired those of Laos, Cambodia and Vietnam. See Matsumoto (2023), pp. 65-80.

The method used in this chapter is the analysis of existing literature regarding history of universities, history of university spaces abroad and in early-Modern Japan. The target are those university spaces regarded as the most influential or representative of the concretization of educational ideals in their historical and cultural context.

Chapter 3: *The response to the postwar university massification*. Firstly, as a wide scenario, it is addressed the question on how historical university space models in the world were pushed to evolve after World War II in order to respond to the phenomenon of massification. Then, the events which characterized specifically the Japanese postwar universities are summarized. Therefore, through the study of postwar laws and Ministry of Education's strategies for the university development, the research of this chapter focuses on whether and how each of the pre-war categories studied in Chapter 2 were maintained or changed. Particularly, for what concerns the theme a) relationship with the city, through the analysis of campus' construction trend, it has been overviewed the quantity, scale and geographical conditions of campuses settled from 1946 on. This last part of the chapter is based on analysis of the settlement year and positional information of the 536 postwar campuses of the present research's database (§ 1.3.2.).

The peculiarities proposed here, according to the above categories a), b), c), d) and e), are the basis for the further research of the following chapters.

Chapter 4: *The peculiarities of Japanese campuses' planning approaches to hillside terrains*. Massification caused the exit of universities from urban centers; in Japan, because of its mountainous conformation, this meant scarceness of large flat areas. However, Japanese universities continued to adopt the *Campus* typology, which is characterized by the presence of own open spaces. According to the purpose of the research, the focus of this chapter is on the most difficult planning condition in terms of topography, i.e., hilly or mountainous terrains. In particular, it has been proposed a categorization of campus planning methods which allowed campus construction with minimum changes to the site's topography. This chapter is based on the analysis of the physical properties of all 681 campuses of the database.

Chapter 5: *The peculiarities of architectural environment for learning and extracurricular activities in the "massification era" of Japanese campuses*. Massification brought the necessity of giving lectures for masses of students in campuses which incorporate several faculties and that of providing space for students' extracurricular activities. For this reason, notable architectural designs of lecture room buildings and students' halls (*gakusei kaikan*) have been analyzed in this chapter. The target facilities have been chosen among those built since 1946 until the apex of massification, 1966 (the peak of the 18-years-olds population growth) which were published in architectural

reviews and other sources.

Chapter 6: *The peculiarities of Japanese university community between the campus and the surrounding society*. All the a) to e) categories influence the same main 'content' of campus planning, which is the university community and its relationship with the surrounding society. Hence, in the final chapter it has been tried to understand the campus social life of students in each era after the massification. Then, taking into account the changes caused by the new millennium's liberalization and inter-university competition, some campus plans which, at the same time, face the new issues and maintain the positive communitarian peculiarities of the postwar period were selected and analyzed. This chapter is based on "narrative" research: questionnaires to campus users, comprehension of various scholars' opinions and interviews with campus designers. The target campuses are therefore those where it has been possible to collect narrative information.

Conclusions of what deducted by each chapter are summarized in Chapter 7.

At the end of the present thesis, we also decided to include a Supplement: *About the feasibility and necessity of postwar campus architectural conservation: the case of Nanzan University*. Here, we discuss whether architectural conservation of old Modernist campuses is a feasible alternative to "scrap and build", analyzing the case of Nanzan University campus' "Raymond Renovation Project" through interviews to planners.

1.3.1. Methods of the investigations

Tab. 1 Investigation methods for each theme

Chapter 章	Theme 項目	Investigation method 調査方法
All 全	History of universities, typologies of university spaces, history of university spaces 世界大学史・大学空間類型・キャンパス成立史	Investigation of existing literature in Japan and abroad (2020-23) 海外・日本での既往文献の調査 (2020~23)
3, 4	Information about the settlement year of campuses 対象キャンパスの設立年情報	Survey of universities web pages and publications (2020-22) 大学ホームページ（沿革）・大学出版物の調査 (2020~22)
3, 4	Development, area, typology of surroundings and difference of altitude of campuses 対象キャンパスの開発・面積・周辺類型・標高差	On-site visits, exploitation of the online system of the Geospatial Authority of Japan maps and Google Earth maps (2020-21) 現地訪問、国土地理院地図（GSI）閲覧システム、Google Earth の調査 (2020~22)
5	Information about construction and plan drawings of university facilities 施設設計図・建設情報	Surveys of architectural magazines and university archives (2020) 建築雑誌、大学アーカイブでの調査 (2020)
6	Use of the place for social interactions in campuses コミュニティーの場の利用実態	Questionnaire targeting university alumni (2022.09) Questionnaire targeting enrolled students (2022.12) 大学卒業生へのアンケート調査 (2022.9) 在学生へのアンケート調査 (2022.12)
	State of university masterplans in northern Italy 北イタリアでのキャンパスマスタープラン実態	Interviews with designers and masterplan supervisors (2020.09-10) 計画者・大学関係者へのインタビュー調査 (2020.9~10)
	Case studies of campuses as "dialoguing enclaves" 「対話するエンクレイブ」キャンパス	Interviews with designers (2021.04) 設計者へのインタビュー調査 (2021.4)
Supplement 補章	Conservation of Nanzan University campus 南山大学キャンパス保存	Interview with designers (2021.12) 設計者へのインタビュー調査 (2021.12)

In order to investigate each chapter's specific aims, it has been necessary to use the most

suitable standpoint and research field for each aim. Therefore, the present research does not belong totally neither to the field of architectural history, nor to the field of architectural planning, neither to the field of design theory, but it deals with each of them.

All the chapter are sustained by the analysis of existing literature. The research has been conducted through the previous realization of a database of Japanese campuses, with information regarding geographic conditions, settlement year, surroundings, area, etc. (described more in detail in the following paragraph), and then through the analysis of architectural magazines, university archives, publications and websites, questionnaires targeting alumni and students, and interviews with designers and experts. See Tab. 1 for further details.

1.3.2. Database outline

Starting from the *Reiwa 2 nendo zenkoku daigaku ichiran* («nationwide list of universities 2020-2021»)[4], we proceeded with the choice and cataloguing of target campuses, based on the following criteria:

a. Campuses of 4 years universities or graduate schools located in Japan (not *tanki daigaku*, i.e., two-years junior colleges) as of March 31st, 2021;

b. The target must be a *Campus* (see definition in § 2.3.2.), therefore not a single building, unless it is located within a site that is larger than the building area;

c. When a single university possesses more than one campus, each campus counts as one;

d. Campuses consisting mainly of hospital facilities are not considered;

e. Campuses consisting mainly of sport facilities are not considered;

f. Campuses consisting mainly of agricultural terrain are not considered;

g. Campuses not in use as educational facilities as of March 31st, 2021 are not considered.

Presumably, the collected data does not contain all the eligible target campuses because university information sources are heterogeneous and discontinuous. A numeral overview of the data can be seen in Tab. 2; their distribution in each Prefecture in Fig. 1. The total number of considered campuses is 681.

The 681 considered campuses were visualized on Geospatial Information Authority of Japan (hereinafter: GSI) maps[5] and Google Earth Pro® maps; other information was collected from their respective universities web pages, and databases as Miyamoto

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[4] MEXT (2020).

[5] Geospatial Information Authority of Japan, "Chizu, kūchū shashin, chiri chōsa" (menu page) [accessed 2022.2.24.] (In Japanese). 国土地理院：地図、空中写真、地理調査（メニュー）（参照 2022.02.24）. https://www.gsi.go.jp/tizu-kutyu.html

(1999)[6]. Data categories are:

1) typology of the site's surroundings;

2) settlement year: the year when the site started being used for higher education purposes[7];

3) campus site area[8];

4) campus site difference of altitude[9];

5) prefecture (address);

6) university governance type (national, local public or private).

Unfortunately, for the majority of the target it was impossible to collect data regarding the number of students using a single campus and its subsequential density of population.

1.4. Literature review and originality of the present research

University campuses are one of the most studied fields within architecture and city planning in Japan. The quantity of published papers and theses is too much to be introduced exhaustively; therefore, studies which are directly linked to the topics of the present research are introduced and summarized in each chapter. Here, we mention those studies which are cited the most and which contributed to understand more

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[6] "Daigaku kyanpasu no kensetsu ni kan suru nenpyō" (timeline regarding the construction of university campuses), Miyamoto (1999), pp. 19-20.

[7] The campus foundation year refers to the starting year of educational activities in the considered site. In some cases, the site was initially used for a different university or school, and then evolved into, or passed to, the present university: in such case, we considered the foundation year of the oldest institution. This information was gathered from university web pages and verified through historical maps and photographs available in GSI. «年代別の写真» (aerial photographs by decade), «陰影起伏図» (shaded undulation map), «図歴（旧版地図）» (maps edited in the past) services are all available at the GSI menu.

[8] Site area data was collected only for hillside campuses. This information was available for around 90% of cases on universities websites or in other online documents. When not available, we made reference to the illustrative "campus map" (a not-in-scale map provided by the university, which we found out to be available for all the considered cases) and manually copied its perimeter on GSI maps, measuring an approximate area of the site which is still useful for data comparison. In the case of campuses confining with natural environment, this approximation necessarily increased.

[9] With regard to elevation difference data, after verifying the presence of elevation difference higher than 5m in GSI's "standard map" in all target campuses, the difference between the highest and lowest point of the site has been measured through the Google Earth Pro® «elevation» function.

University Governance	Total n. of «counted» campuses
National	107
Local public	79
Private	495
Total	**681**

34 Hokkaidō
5 Okinawa
7 Aomori
4 Akita
4 Iwate
17 Miyagi
6 Tochigi
7 Ibaraki
28 Saitama
26 Chiba
117 Tōkyō
37 Kanagawa
7 Yamanashi
12 Shizuoka
5 Fukui
7 Ishikawa
5 Toyama
26 Kyōto
8 Shiga
41 Ōsaka
35 Hyōgo
2 Shimane
2 Tottori
9 Yamaguchi
8 Yamagata
15 Niigata
7 Fukushima
12 Nagano
7 Gunma
8 Gifu
14 Okayama
17 Hiroshima
44 Aichi
4 Mie
11 Nara
4 Wakayama

Shikoku

5 Tokushima	5 Kagawa
4 Ehime	3 Kōchi

Kyūshū

26 Fukuoka	10 Nagasaki	4 Ōita	
2 Saga	6 Kumamoto	8 Miyazaki	6 Kagoshima

Legend:
X —— number of «counted» campuses
Prefecture name

Fig. 1 Database target campuses by Prefecture

Tab. 2 Survey's target campuses by university governance type

Univ. governance 大学種別	Total n. of considered univ. 研究対象とする大学の全体数	Total n. of considered campuses 研究対象とするキャンパスの全体数
National 国立	82	107
Local public 公立	67	79
Private 私立	451	459
TOTAL 計	600	681

generally the characteristics of Japanese campuses.

1.4.1. Studies about the architectural history of Japanese university campuses

Miyamoto M. (1989) and Kikata (2004 and 2010) investigated the initial stages of the planning of high schools and university campuses, from the Meiji Era until World War II. Miyamoto especially made clear the contribute of the architects of the Ministry of Education in the Meiji Era, while Kikata traced a description of the formation of *gakuen* (学園, literally "shool garden") in correlation with urban planning, especially in the first

half of the XX century. For what concerns the second half of the XX century, Ikuta and Aizawa (2008) researched about the national policies regarding the spatial reorganization of the national universities after World War II from their pre-war "parents", concluding that the government only defined the quantitative requirements, while the qualitative decisions were left to each university's judgement. Many other studies concentrate on the architectural history of single campuses or university facilities[10]. However, the majority of these researches concentrate on the period anterior to World War II. There has not been a general study in the field of architectural history concerning the postwar campuses in Japan. Overseas, it is important to mention the vast study of Muthesius (2000) and the monography Compain Gajac (2014), which concerns postwar campus architecture in many countries, with short references to some Japanese cases[11].

1.4.2. Studies about the movement of campuses after the "Massification era"

Marumo (1987) analyzed the decentralization of national university campuses in the 1970s and 1980s decades, and Saio et al. (2014) the subsequent inverse trend, that of the return of campuses to city centers. Their research is been a useful basis on which our thesis has been structured.

1.4.3. Studies about the spatial characteristics and typologies of Japanese campuses

An important theorical study of the postwar architect Maki Fumihiko, regarding the "collective form"[12], has inspired several studies, as Kitao and Munemoto (1999), about the collective project development of a collective campus. Other studies focalized on the formation and design of group of buildings and their annexed open spaces within campuses: for example, Taniguchi and Miyamoto (1987), Yamaguchi and Taniguchi (2003), Matsuura et al. (2016). However, these studies only consider national university campuses and their purpose is to provide design instruments for the specific case of existing national university campus renewal.

Kobayashi (1978) was the first study to propose a general and complete classification of

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[10] See, for example, Yokote, Y., Study on Ralph Adams Cram's Tsuda College campus project, *Journal of Architecture and Planning (Transactions of AIJ)*, 2012, vol. 77, no. 671, Pages 143-148 (in Japanese); Sugiyama, K. and Itoh, H., A study on restoration of spatial composition of the Mejiro campus of Gakushuin in the Meiji era, *Journal of Architecture and Planning (Transactions of AIJ)*, vol. 76, no. 668, pp. 1971-1979, 2011 (in Japanese).

[11] Compain Gajac (2014) contains an essay by Kikata Junne, cited in the Supplement of the present thesis. Muthesius (2000) concentrates on USA, UK and Germany, with only one reference to a Japanese example of campus planning, and besides, a non-built one (p. 257).

[12] Maki (1964).

campus spaces. It starts from the examples of campus planning on foreign countries at that time and proposes the following subdivision of typologies: 1. Plans derived from the exterior view (1.a. "frontal main building", 1.b. "frontal plaza", 1.c. "central tower", 1.d. "adjacent to body of water", 1.e. "hillside campuses"; 2. Plans with high density promoting a communitarian conscience (2.a. "central library", 2.b. "central plaza", 2.c. "inner circular street", 2.d. "outer circular street", 2.e. "central axis", 2.f. "lateral axis", 2.h. "parallel disposition", 2. i. "radial disposition", 2.j. "symmetrical disposition"); 3. Plans with reduced coherence (3.a. "multipolar structure", 3.b. "near but separate aggregations", 3.c. "dispersion without campus") [13] . However, the purpose of this classification is to provide a series of options and examples for campus planners, and, as the author explicitly wrote, a single campus could be included in several categories[14].

Seo (1991), is another important study on the formal typologies of Japanese campuses, according whether they have a main axis or not, whether the buildings are related to each other or not, and whether the plan prioritizes streets or facilities[15]. However, this study focuses on the formal characteristics of campus plans and on their differences; instead, the present research aims at finding those common characteristics which make Japanese examples distinct from foreign ones, and, also, at linking formal aspects to the peculiarity of the educational system.

Another study which is close to a part of the present research (§ 3.5.) is Izawa (1976 a-d), which analyzed campuses planning approaches to hilly areas and hillside campuses typologies. However, after the year of publication of the study several other hillside campuses have been built, and it was felt the necessity to update the research in this field.

1.4.4. Studies about the use of university spaces

There are several studies in the field of architectural planning of university single facilities, open spaces, transportation etc., based on the analysis of users' behavior. The quantity of such papers and theses is too vast to make an enough detailed list; however, we will report here some meaningful examples. Kusukawa (2021) analyzed exhaustively the users' place choices in university libraries and "learning commons" and proposes a scheme for their design; Yata et al. (2007) studied students' evaluation of the interior design of university lecture rooms through questionnaires; Kim et al. (1995) studied the facilities for students' assembly and extracurricular activities in national universities, from a typological, quantitative and users' evaluation point of view; Hattori and

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[13] Kobayashi (1978) pp. 97-216 (typology nomenclature translated by the author).

[14] *Ibid.*, p. 215.

[15] Seo (1991), pp. 66-72.

Wakisaka (2016) investigated the evaluation of open spaces in national university campuses; Hiraga et al. (2007) surveyed the evaluation of campus' users regarding bicycle parking.

The keyword *ibasho* (居場所, whereabout, place where one belongs or feel at home) is the subject of several studies aimed at finding out the relationship between space and behavior, and campuses are often analyzed. For example, Yamazaki, Uemura and Hata (2018) crossed the psychological profiles of students with their favorite *ibasho*, in a way which is deepen in further detail in § 6.2.

1.4.5. Studies about the "openness" of university campuses

In the recent years, there have been several publications concerning the "contribute to society" role of universities and the consequent necessity of opening campus environment to the urban society. These are collected in the monographies Kobayashi et al. (2008), AIJ (2011), AIJ (2015) and AIJ (2020), and comprehend theoretical proposals, case studies from abroad, and various research concerning the connection between the campus and its surroundings. Other studies, as Fujimura et al. (2013) and Otani and Mishima (2004) conducted questionnaires in order to grasp the consensus by university users and citizens regarding the opening of campuses. All of these studies and others, too, constituted the basis on which the thesis of § 6 is built.

1.4.6. The originality of the present research

The existing research regarding Japanese university space history is concentrated on the prewar period; instead, the present research is focused on the period posterior to the postwar "massification". Studies which aimed at finding spatial typologies focused on formal aspects, and have as a reference point mainly American campuses; instead, this research aims at finding and revaluating specifically those characteristics which are peculiar to Japan and allowed its campuses to overpass the massification challenges. Also, a large part of the existing studies only considers national university campuses, while this research must comprehend private universities, which educate 2/3 of the total students in the country. Other researches regarding the use of spaces and the "openness" are directed at upgrading the status of campus design in order to better respond to the contemporary issues of Japan; instead, the present research looks back at the recent history in order to reevaluate its achievements.

Chapter 2. THE PECULIARITIES OF PREWAR JAPANESE CAMPUSES FROM THE PERSPECTIVE OF THE HISTORICAL EVOLUTION OF UNIVERSITIES AROUND THE WORLD

2.1. Introduction

2.1.1. Purpose of the research

The present chapter addresses several questions. The main question is: "Why did Japanese universities adopt the *Campus* spatial typology?"[1]. In order to respond to it, a chain of questions emerged: "What is a university?", "Which educational university models existed and exist?", "How these models are linked to space?". As a tentative of response to these questions, it is firstly proposed a classification of university space typologies which became the basis of several of the present research's considerations. Subsequent questions are: "How (by which paths and with which modifications) the concept of university spread around the world?", and "Were spatial and educational models adopted coherently in other countries?". Once made clear these points, we had a basis to address the initial one. The following question, directly derived from this research's purpose, is: "Which are the distinctive characteristics of the Japanese campuses compared to other typologies?".

2.1.1. Method of the research

The investigation of these questions is based on the study of existing literature produced by scholars of several countries on the topic of history of universities and its architecture, and of Japanese existing literature on the topic of the birth of Japan-style universities and their first architectures in early-Modern era. The references studied for this chapter are well known either in Europe or in Japan; however, we aimed at visualizing a new linear narration comprehensive of the collected information regarding both. Such comprehensive narration is thought to be valuable because of the mutual linguistic and cultural barriers in accessing to the other's sources.

2.2. Influential university models during the history

Before being an institution, since its birth in the 11-12th Century, university has been a community of teacher and students who gather for the purpose of higher education and study. In facts, the term *universitas* (Latin, meaning "all", "wholeness") was, as Jacques Verger pointed out, «a general term used to designate all kinds of community or corporation»[2]. Specifically, *universitas* as in its contemporary usage is an abbreviation for *universitas magistrorum et scholarium* (university – community – of masters and

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[1] Because the term "campus" has become ambiguous and it is lately used to describe a variety of spatial configurations of universities, companies, industries etc., often different from its original meaning, it is necessary to specify that not all university spaces are campuses; however, the majority of Japanese spaces are indeed campuses.

[2] Verger (1992), p. 37.

students).

Institutional and juridical asset, and recognition by the Pope or the Emperor was posterior to the presence of this community. Only later, when the oldest universities as Bologna, Paris and Montpellier began to define their own statutes in the 13th Century, the other name for this new reality, *studium generale* (general study) appeared. However,

> «the interest of formulae such as *universitas magistrorum et scholarium* lies in the fact that it places the emphasis upon the human reality of the medieval universities, which was all the more fundamental given that for a long time these universities scarcely knew any other reality, remaining content with the strict minimum, as we shall see, in building and finances»[3].

Thus, before addressing the physical asset of this community for higher education, it is important to at least summarily know in which range of 'communality' and with which kind of 'educational idea' this medieval creation developed and reached nearly any country in the world.

Shortening at its maximum degree, it can be said that the spread of universities in the world happened mainly in the 19th and 20th centuries. At that time, three European university models were dominant[4].

2.2.1. The British model

The first one was the British model, which contemporarily pursued two different 'ways'. One is the Oxford and Cambridge way: that of a university constituted by several colleges, i.e., institutions that were responsible for not only the academical learning of students (which was traditionally based on recitations and debates, without research activities), but also for their allocation, in an enclosed, protected and physical community, based on religious affiliation. This model was extremely influential in the United States, but not in the rest of the world.

The other British 'way' was that of the Scottish universities and of the University of London, the last one being based on the German model; they did not provide residential services for students, were unrelated to religious groups and were open to scientific tuition and research. The model of London, where the institution called 'university' had only the role to examine students and conferring degrees, while actual teaching and research were conducted in some affiliated 'colleges', the biggest two of them being non-

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[3] *Id.*, p. 38.

[4] For this section, we largely made profit of the study of H. De Ridder-Symoens (ed.), *A History of the University in Europe*, vol. 2 *Universities in the Early Modern Europe (1500-1800)*, Cambridge University Press, 1996 and W. Rüegg (ed.), *A History of the University in Europe*, vol. 3 *Universities in the Nineteenth and Early Twentieth Centuries (1800-1945)*, Cambridge University Press, 2004. Especially, of Shils and Roberts (2004), contained in the further.

residential institutions[5], was copied or exported in many British colonies and other countries, as in Canada, South Africa, Australia, India, Sri Lanka, Malesia, Myanmar, Hong Kong and China[6].

In summary, the British model is that of plural 'colleges' (residential or non-residential students and teachers' communities of limited scale where the actual transmission of knowledge is carried on) affiliated to a degree-conferring institution, the university. Thus, students belong first of all to a college, where several subjects are taught, and only indirectly to the university. In the United States, this model evolved differently: single colleges, often residential, grew in scale until calling themselves, or becoming effectively, 'universities'; therefore, they are not fractionated as in the British islands.

2.2.2. The French model

The second influential model was the French one, starting by the years antecedent to the 1789 Revolution. Its fundamental characteristic, derived by many ancient continental Europe's universities, was the division in semi-autonomous faculties, where professors only carried out their teaching role. University did not provide residential, extracurricular or community-based students' services. Also, research was not carried out in universities; however, with the Napoleon's reforms (1808), researching activities were entrusted to new appositely instituted residential colleges, made by and serving the purposes of the State: the *Grandes Écoles*. The French model had a great influence on several nations around the world: Italy, Spain, French Canada, Latin America, Northern Africa, Vietnam, China.

In summary, the French model is that of plural faculties, i.e., sub-institutions based on one subject, to which students belong. Students only use university services for what concerns the learning activities; instead, they depend on the city's services for their everyday living. Therefore, their community is looser than in the British model, but the link between university and surrounding context is stronger.

2.2.3. The German model

The German model is based on the new idea of university thought by Wilhelm von Humboldt and Friedrich Schleiermacher, admittedly made to contrast the Napoleonic French model: that of all-containing institutions «where students see every individual thing not in isolation, but in its closest scholarly connections, relating it constantly to the unity and entirety of knowledge»[7]. The most important innovation was the "unity of

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[5] University College, London, and King's College.

[6] See Shils and Roberts (2004).

[7] Schleiermacher, F.: *Gelengentliche Gedanken über die Universitäten im deutschen Sinn. Nebst einem Anhang über eine neu zu errichtende.* Berlin, 1808, pp.22-23. Cited in Charle, C.: "Patterns". In W.

teaching and research" through the *zeminar*: professors became the center of a more scientific-based community and gained authority. Scholars could pursue 'learning for its own sake' in freedom and, at the same time, the nation beneficiated from the scientific impulse. The German model became extremely influential in the world, even in England (the University of London was greatly influenced) and in the late 19th century's American universities, which introduced it in their 'Graduate Schools'.

In summary, the German model was that of a whole 'universal' and interconnected system of faculties, where teaching and research were carried on in unity. As in France, there wasn't provision of living or extracurricular services for students; however, students' curricula were free and one could explore into different subjects, therefore belonging to the university itself rather than to the faculty.

2.2.4. Schematization of university models vicissitudes and spreading in history

Shils and Roberts[8] compiled a study of the spread of European university models in the world which is useful in visualizing the origins of each country's university system.

As schematized in Fig. 2, besides Britain, France and Germany, also the United States had some influence in the 20th century, especially with regard of agricultural and technical colleges. Also, some Countries were colonies of the above ones, while some other chose on purpose to base their own universities on one of the main models. Interestingly, the British model was adopted only as a result of direct colonization; instead, some of the Countries which adopted French model and the totality of those which were influenced by the German model were free in their choice.

Japan is among those countries where a free choice was possible and, at the same time, received several 'private' influences, similarly to China, Thailand, Palestine and Lebanon. As in China, the statal universities were conceived after various comparations with German and French universities, while the private ones were founded especially by American and French missionaries. The annotations of Fig. 2 also summarize the links between educational models and university architectures or spaces, which are explored deeply in the following paragraphs. The bottom part showing the ramification in the world of the four main models is reprised in § 2.5. for what concerns spatial issues.

2.3. Classification of university spaces

After analyzing university models in history, in this paragraph, some existing classifications of university spaces are compared. Then, a new classification is proposed.

Rüegg (ed.): *A History of the University in Europe*, vol. 3 *Universities in the Nineteenth and Early Twentieth Centuries (1800-1945)*, Cambridge University Press, pp. 101-121, 2004, p.48.

[8] Shils and Roberts (2004).

Middle Ages (11-14ᵗʰ century): moving community
中世期（11～14世紀）：移動するコミュニティ

Disciplines: Liberal Arts (common course), Law, Theology, Medicine
科目：教養（共通科目）・法・神・医

"Masters' Universities"
「教師中心型大学」

Oxford University   Cambridge University   Université de Paris

Classes and debates in streets, houses and other spaces rented or owned by masters. Many 'collegia' for students' residences.
街路、住宅、教師が借りるか、所有する内部空間で講義とディベート。コレジウムという学生寮は数多い。

"Students' universities"
「学生中心型大学」

Università di Bologna   Università di Padova

Classes and debates in streets, houses and other spaces rented by students. Only few 'collegia' for students' residences.
街路、住宅、学生が借りる内部空間で講義とディベート。コレジウムという学生寮は数少ない。

Early Modern Era (14-18ᵗʰ century): stabilization and teaching colleges
早期近代（14～18世紀）：安定化と教育カレッジ

Disciplines: Liberal Arts (common course), Law, Theology, Medicine
科目：教養（共通科目）・法・神・医

Britain
英国

Oxford

Cambridge

'Collegia' start taking care of the education and become 'teaching colleges' (cloistered complexes forming the city, beginning of College typology). The university is a confederation of colleges with the role of examining, conferring titles and providing central services.
それぞれのコレジウムは教育を担うカレッジ（都市を形成する中庭中心の建築群。「カレッジ型」の起源）になる。大学は多数のカレッジの総合体制となり、試験・学位の授与・中央サービスの提供の役割を持つ。

British colonies in N. America
北米での英国の植民地

Harvard College   Yale College
College of New Jersey (Princeton)

Single colleges based on Oxford and Cambridge, in rural areas and with large sites.
オックスフォード大学とケンブリッジ大学に基づいた単一の教育カレッジ。地方立地、広い敷地。

Paris
パリ

Paris

Teaching colleges, but more dispersed in the city.
街中に分布する教育カレッジからなる。

Continental Europe and its colonies
ヨーロッパ大陸諸国とその植民地

Bologna   Universidad de Salamanca   Uppsala Universitet

Colegio de Santo Tomás (Philippines)

Teaching colleges. 'Palazzo della Sapienza' or other general buildings, with specifical equipments, open and correlated to the city. Beginning of Diffuse university and Palace typology. The university is organized mainly by subjects, and students belong to the 'nationes' (communities based on the provenience).
専門的な設備や機能で備えられ、街路に開かれた「教育カレッジ」、「パラッツォ・デッラ・サピエンツァ」や他の総合建物。「分散大学型」と「宮殿型」の起源。大学体制は各科目に基づいている。学生は「ナツィオネス」（出身地を共有する人のコミュニティ）に属する。

Modern Era (1800~1945): academic research and globalization
早期近代（1800～1945年）：学術研究とグローバル化

Disciplines: Sciences, Eng., Comm., Phil., technical education
科目：科・工・商・哲・技術的教育

British Model
英モデル

University of Edinburgh

University of London

Introduction of scientific subjects; several non-residential 'colleges' architecturally established as Palaces, where teaching and research are accomplished, are affiliated to the 'university' which only examines students and confers degrees. U. of London model is influential on British colonies.
科学科目の投入。建築的に「宮殿型」に近く、学生寮の機能を有しない複数の「カレッジ」が試験・学位の授与の機能を果たす「大学」に属するモデル。ロンドン大学のモデルは英国の植民地に影響を及ぼす。

United States
米国

University of Virginia

Princeton University

University of California, Berkeley

Columbia University

Universities as big scale colleges, with students living in. Birth of Campus typology. With German influence, research carried on in 'graduate schools'.
学生が住み込む大規模カレッジとしての大学。「キャンパス型」の起源。独モデルの影響により、研究が行われる「大学院」の設置。

French model
仏モデル

Paris (Université de France)

Grandes Écoles

From the 18ᵗʰ century, university divided in several semi-autonomous 'faculties' only for teaching; decline of colleges. A modern Diffuse university.
From the 19ᵗʰ century, foundation of Grandes Écoles, national colleges for teaching and research (technically different from universities).
18世紀以降、大学は教育のみを目的とする独立中の「学部」に分割され、カレッジは衰退した。近代的な「分散大学型」。19世紀以降、教育と研究のための国立カレッジである「グランドゼコール」が設立される（法的な定義では大学とは異なる）。

German model
独モデル

Universität zu Berlin

Universität Straßburg

In the new universities reformed by the State, unity of teaching and research through professor-centered 'seminars', and unity between different subjects through flexible curricula. Students do not live in. Architecturally, representative and open Palaces.
国家により改革された新しい大学において、教員中心の「ゼミナール」を通じて「教育と研究の一致」、また柔軟なカリキュラムを通じて諸学部門の一致が目指される。学生が通う。建築として、代表的でオープンな「宮殿型」。

World regions where universities were directly founded by the colonial government
大学が植民地政府により設立された世界地域

British colonial colleges in Sudan
スーダンでの英植民地カレッジ

South Africa   Australia
南アフリカ   オーストラリア
University of Cape Town   University of Sydney

Univ. in India, Sri Lanka, Myanmar, Singapore based on Univ. of London model
ロンドン大学モデルに基づいたインド・スリランカ・ミャンマー・シンガポールの大学
University of Calcutta
Ceylon University College
University of Rangoon

Canada   Hong Kong
カナダ   香港
University of Toronto   University of Hong Kong

Philippines
フィリピン

University of the Philippines

World regions where universities were purposely based on various models, or with a mixed presence of 'mission schools'
現地の設立者の意志により、または多様な「ミッション・スクール」により大学が複数のモデルに基づかされている世界地域

N. African French colonies
北アフリカでの仏植民地
Université d'Alger

Indochina French colonies
東南アジア仏植民地
Université Indochinoise (Hanoi)

Italy
イタリア

Latin American national universities
中南米の国立大学
Universidad de Buenos Aires
Universidad de Chile
Universidade do Rio de Janeiro

'Faculty' schools in Iraq, Syria, Egypt
イラク・シリア・エジプトでの「学部学校」
Jāmi'a al-Qāhira (Egyptian University)

Russia
ロシア

Moskovskij Gosudarstvennyj Universitet

Late 19ᵗʰ and early 20ᵗʰ century Spain, Britain, United States
19世紀後期と20世紀前期のスペイン・英国・米国

Universidad Complutense de Madrid
Johns Hopkins University

World regions where universities were purposely based mainly on one of the main models
現地の設立者の意志により、大学が主に上述の中の1つのモデルに基づかせられた世界地域

Thailand
タイ
Chulalongkorn University
Thammasat University

Palestine and Lebanon
パレスティナ・レバノン
Hebrew University of Jerusalem
American University in Beirut

China
中国
北京大学 (University of Beijing)   輔仁大學 (Fu Jen University)
震旦大學 (Université l'Aurora)   燕京大學 (Yenching U.)

JAPAN
日本

Fig. 2. Schematization of the influence of university models in the world

2.3.1. Classification of university spaces according to the existing literature

Typologies of university spaces have been classified in different ways by several scholars. Jonathan Coulson, Paul Roberts and Isabelle Taylor[9] made a precious (but British-model-centered) historical classification which put emphasis on architectural styles. They organized the evolution of university space in a) 12th-17th Century in Europe (from the early informal spaces to the Christopher Wren's transformation of Oxford and Cambridge colleges), b) America's first colleges, c) the Academical Village, d) Picturesque (natural environment), e) Beaux-Arts Movement, f) 19th Century Europe, g) Gothic Revival (in UK, North America and Australia), h) Postwar period and i) Postmodernism. Points regarding the American Campus are closely based on the famous Paul Venable Turner's *Campus: An American Planning Tradition*[10].

The classification made by Kishida Shōgo in the introduction to the special issue of *Space Design* about university space published in 1996[11] possesses a more reflecting balance between Anglo-Saxon university model and other models. Kishida found two fundamental principles or tensions which guided the spatial formation of universities through history, which are «the force which aims to create units of open spaces» and «the force which aims to open up those units»[12]. These two tensions formed, in chronological order, a) the space of the origins of the university, b) the *quadrangle*, c) the *palace* typology and *proto-campus*, d) the *campus*, and e) the *modern system*. This classification is one of the most comprehensive.

However, the above ways to organize spatial conformations concern historical evolution: how about the actual existing range of university spaces? Giancarlo De Carlo, architect of the famous University of Urbino, restricted the classification to only three fundamental assets which could be adopted or interpreted at his times (in 1973)[13]. Those are: a) the *campus*, b) the *college* and c) the *centro universitario*. *Centro universitario* means distinct buildings mixed with the urban public space. It is not mentioned by other classification, but it represents the reality of many historical universities in Europe, India, Latin America, and it is getting attention especially in Japan[14], because of the

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[9] See Coulson et al. (2015), pp. 2-47.

[10] See Turner (1984).

[11] See Kishida (1996).

[12] *Ibid.*, p. 14 (translation of the author).

[13] See De Carlo (1973).

[14] Studies about Bologna's *centro universitario* are appearing with great frequency in Japan. See, for example, Yamasaki, A., Kitahara, H., Korenaga, M. and Yagi, K.: "Characteristics of the university areas composed by the dispersed campus of the university of Bologna and the public open space",

actual dominance of the second tension described by Kishida, that of opening up the enclosed university space.

However, probably because in Italy most of the universities are enormous and urban-scaled, De Carlo did not consider the possibility of a single building containing all the functions except for the residential ones, as the 19th century European palaces or, similarly, as some of the 21th century constructions all over the world (Japan included).

2.3.2. Classifications of university spaces used in this study

After considering the exiting classifications, in this study it has been chosen to consider 4 essential typologies of university spaces, regardless of the architectural style, and based rather on the functional aspects:

a) *College*; b) *Palace* (*General* or *Single faculty*); c) *Diffuse University*; d) *Campus* (*College-derived* or *Palace-derived*).

Those are defined as follows:

a) *College*: a building or complex of buildings integrating open spaces, serving both as students' residence and as educational facility, physically or functionally semi-independent from the surroundings.

b) *Palace*: a single building or megastructure integrating university's proper open spaces and physically or functionally connected to the urban surroundings, which hosts the administrative, educational, research functions, but not the residential ones[15]. It can be further distinguished between *General Palace* (where plural subjects are taught and services as library or dining halls are comprehended) and *Single faculty Palace* (where a main subject is taught, or a single function as the library is hosted).

c) *Diffuse University*: plural facilities separately sited within the public urban environment, in autonomous buildings or in parts of existing buildings, but functionally interdependent through the use of public open spaces (the typology De Carlo called *centro universitario*).

d) *Campus*: plural facilities and open spaces all under the university management, sited within defined and somehow recognizable boundaries. It can be further distinguished between *College-derived Campus* (often with students living

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[15] The term "palace" is here used for the meaning of non-fortified, large-scaled and representative building, in contrast with the enclosed "college", and it is not linked to any specific historical period or architectural style.

*OS：ケートン・スペース

Legend 凡例：

Not university 大学でない

University bldg. 大学建物

University site limit 大学用地境界線

Commuting students 通う学生

Resident students 寮生

Faculties/departments 学部学科

Students' services 学生厚生

Extra-curricular activities 放課後活動

A. College カレッジ型：OSが一体となった建物または建物群であり、学生の住居と教育施設として機能し、物理的または機能的に周辺環境から独立したもの。

B.1. Single-faculty Palace 単科宮殿型
B.2. General Palace 総合宮殿型
B. Palace 宮殿型：物理的または機能的に都市周囲に接続された単一の構造物または巨大構造物で、居住機能はないもの。B.1.は1つの学部や機能を主に収容する。B.2.は総合的に複数の科目が教えられ、サービスを含むこともある。

C. Diffuse university 分散大学型：複数の施設が公共の都市環境の中で、独立した建物に個別に設置されているが、公共的にOSを利用することで機能的に相互に依存しているもの。

D.1. College-derived Campus カレッジ由来キャンパス型
D.2. Palace-derived Campus 宮殿由来キャンパス型
D. Campus キャンパス型：大学の管理下にある複数の施設と、多目的の「ホール」によって管理され、各分野のOSが認識できる各時間経線内に配置されている。D.1.は都市から独立したもの。D.2.は学生が通い、学部棟または単一機能で整理されている。

Fig. 3 Schematization of university space models used in this research, with captions in Japanese.

within the grounds, organized by multifunctional and generic "halls" derived from the *College* rooms) and *Palace-derived Campus* (often with students living outside the grounds, organized by faculty buildings or single functions derived from the *Palace* rooms).

Campus and *Diffuse University* describe systems of plural university spaces, while

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College and *Palace* define single units of built environment and open spaces.

Several subcategories are possible; however, if composed of plural structures, they could be grouped either in *Campus* or in *Diffuse University*: for example, Oxford and Cambridge are *Diffuse universities* composed almost entirely by *Colleges*; some *Campuses* might also contain *Colleges* (as East Anglia University campus or University of California at Santa Cruz campus). Therefore, the definition depends on the scale of the university space to be analyzed (e.g., whether analyzing a single Oxford college or the college system as a whole).

Note that this categorization can be meaningful only when considering an equal or lower scale than *Campus* and *Diffuse University*. In other words, the combination in one university of several *Campuses*, or the combination of *Campus* and *Palace*, etc., are possible and common (in Japan those are called "university with octopus' feet"), but in order to maintain the coherence, in this study we choose to consider singularly each space.

2.4. Historical backgrounds of *College*, *Palace*, *Diffuse University*, *Campus* in the world

How did the above described typologies evolve around the globe? And what is the lineage of Japanese campuses?

As it can be summarily grasped from the annotations of Fig. 2, the course of history has seen the rise and fall of the prototypical space of the university, namely the *College*. In some parts of the world its influence remained; in other parts it shifted into an urban, public, non-residential facility, namely the *Palace*, sometimes so public that its position is fragmented and inextricable from the surroundings (*Diffuse University*). The *Campus* typology evolved from another interpretation of the same *College*. Then, in many countries, it has been extrapolated only for its exterior appearance and adapted to different contexts. This is analyzed in deeper detail in the following paragraphs.

Fig. 4 Miniature representing a lecture in an Italian University, Bibliothèque Municipale in Cambrai.

Source: Wikimedia Commons.

2.4.1. Evolution of university space in the early years in Europe

The early *universitas magistrorum et scholarium* were not strongly rooted in specific places. On one hand, the universality of the titles which could be obtained and the use of Latin as international language favored the peregrination of the students (*clerici vagantes*, "wandering clergy") across Europe; on the other hand, being fundamentally communities based on the academic freedom, not related to existing schools, universities often migrated in other cities or divided themselves to create new communities, such as in Cambridge and Padua.

This emphasis on the human reality and this variability of people and places reflected in university space, as it is renown. In the initial centuries after university's birth, lectures were held in houses rented by the students (in Bologna and Padua model, the so-called "students' universities") or by the teachers (in Paris and Oxford model, "masters' universities"), and disputations or examinations were held in churches and convents[16]. The "class" environment was also quite provisional: for example, it is reported that students in Paris used to sit on straw on the street floor in front of the masters' halls concentrated in the *vicus straminis* (nowadays Rue du Fouarre, meaning "street of straw")[17]. Various paintings suggest that open spaces were used in other cities, too (Fig. 4).

2.4.2. Historical backgrounds of *College* typology

Collegia (colleges) for housing young and needy students were the first buildings to appear in university cities; however, at first, they were not built nor owned by the

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[16] See Gieysztor (1992), p. 137.

[17] See *id.*, p. 138, and Kishida (1996), p. 8.
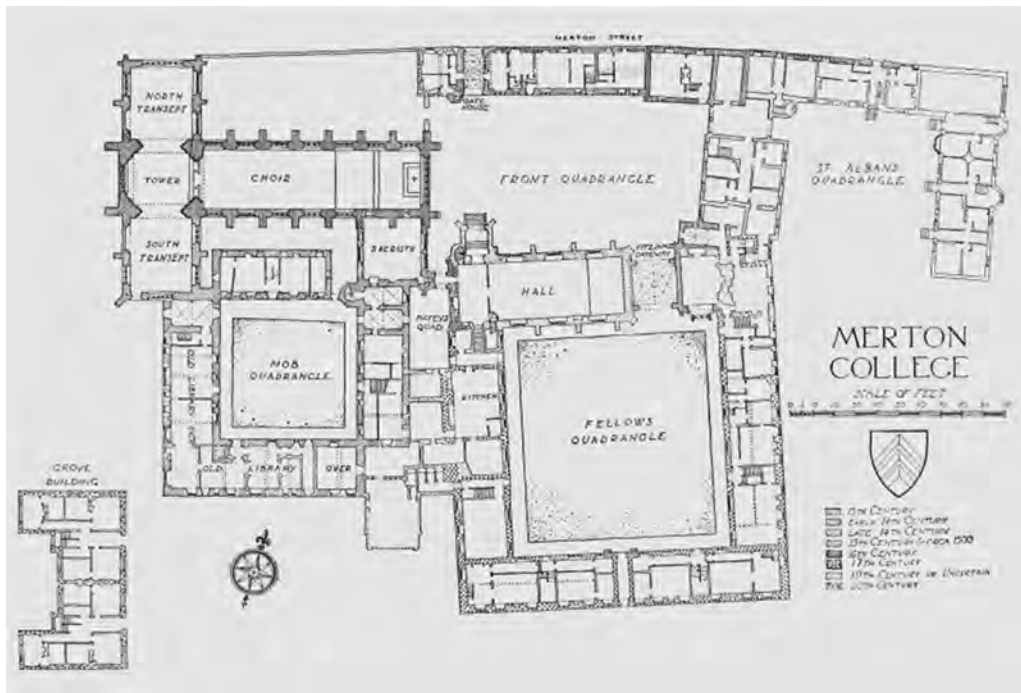
Fig. 5 Merton College or "House of the Scholars of Merton" plan. The chapel, hall and "Mob Quadrangle" were built in 13th and 14th centuries.

British History Online, http://www.british-history.ac.uk/vch/oxon/vol3/pp95-106 [accessed 4.11.2022].

universities, but were instead realized by pious institutions (convents or privates) to lodge poor students, or by nations or external corporations to house students who belonged to them. «In the years before 1300, a total of nineteen colleges were founded in Paris, six at Oxford, and one at Cambridge»[18]. The most ancient still existing college building is a part of the Merton College in Oxford, built in the 1260s (Fig. 5)[19].

The Collegio di Spagna in Bologna, built in 1365-67 to host Spanish students, shows the same courtyard and two-storey structure, with a chapel as its focal point.

It was in the late Middle Ages, when university migration ceased, that the first spaces specific for academic purposes (not only residential) appeared. Especially, British colleges began to develop their own curriculum, so that by the mid-16th century the university became fundamentally a complex of colleges, and, in terms of space, a composition of *quadrangles* or *quads*. Colleges began also to being furnished, apart from rooms and chapels, with discussion halls, lecture rooms, graduation room. Divinity School in Oxford, built in 1427 and 1483, is the oldest surviving building for non-residential university use, specifically for lectures, oral exams and discussions on

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[18] Verger (1992), p. 60.

[19] Coulson et al. (2015), p. 7.

Fig. 6 Aerial view of the École Normale Supérieure building in Rue d'Ulm, Paris (1847, design by Alphonse de Gisors). Image: © Google Earth Pro, © Landsat/Copernicus [accessed 24.11.2022].

theology. The new stability acquired by colleges favored also the birth of the first university libraries and archives[20]. This is, in brief, the origin of the *College* typology of university space, according to the classification used in this study: a built and defined complex where learning activities and everyday living are accomplished in unity between the community of students and teachers.

In France and Italy too, some colleges gained the status of "teaching colleges", which means that lectures were held in them: however, the vast majority of continental Europe's university did not consider as an own matter of concern the lodging of students; so, «it was only in England [and later, in all the Anglo-Saxon sphere] that academic colleges, comprising a body of scholars living under the teaching and guidance of masters, gathered real momentum»[21]. Only at the end of the 19th century, the *College* reappeared in higher institutions of continental Europe, with the establishment of French *Grandes Écoles* (see § 2.2.2.).

The *Grandes Écoles* re-established a collegial approach to higher education, students being housed within the building, with uniforms and corporative living. Some of their buildings, as the Hôtel Salé which housed the École Centrale des Arts et Manifactures (1829-1884), reused existing noblemen's residences; others, as the building of the École Normale Supérieure were newly built. In both cases they contained all the functions and featured *Palace*-like looking; however, these buildings were comprised within an enclosed and gated boundary. École Normale Supérieure building in Rue d'Ulm (Fig. 6) is basically a *College* typology, with an inner quadrangular court, but it features a

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[20] Gieyzstor (1992), p. 138-139.

[21] Coulson et al. (2015), p. 7.

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'palatial' façade, set back from the street. It is a type of space at once urban and separate from the city. Yet, these new French schools were not universities, but rather elitist institutes directly generated by the government.

In some British colonies, especially in the American ones, Oxford and Cambridge were the main source of inspiration for the higher education system. Nonetheless, American universities developed their own space typology, the *Campus*, for the same collegiate system (see § 2.4.4.) The only American higher education institutions which preferred single general college buildings, even if immersed in large and natural sites, were Women's Colleges, as Elmira College, built in 1853-55[22].

2.4.3. Historical backgrounds of *Diffuse University* and *Palace* typology

In the 15th century a new kind of building, the *palazzo della sapienza* (palace of wisdom), flourished in Italy, specifically in Florence, Pisa, Padua, Siena, Perugia and Rome. *Palazzo della sapienza* were fundamentally *Colleges*. Their architectural asset was based on that of the Collegio di Spagna, therefore by a two-storey rectangular *portico*, featuring students' room with a dominant function (*aula magna* or chapel) in the axial main position; the novity consisted in the presence of classrooms at the ground floor, while students' rooms were upstairs, and in the marked representativeness of the university public face towards the city[23]. This Italian model had similarities with new colleges that were being built in the same period in many continental European countries, characterized by *porticos*, semi-public nature and concentration of all the university

Fig. 7 The *palazzo della Sapienza* in Rome (now State Archive; the portico is designed by Giacomo della Porta, 1578-1602, and the chapel by Francesco Borromini, 1643-1663). Image by Paris Orlando, Wikimedia Commons.

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[22] See Turner (1984), pp. 133-140.

[23] See Kiene (1988) for a close study on Italian Renaissance period *sapienza* buildings.

functions «in one building or in a united complex of buildings»[24]. The most famous examples of these "urban colleges" are: the Sorbonne in Paris, the Colegios in Salamanca, the Sapienza in Rome (Fig. 7), the Collegium Maius in Cracow.

However, in continental Europe, besides a main "urban college" which mainly housed the representative and academic functions, university was still fractioned between several buildings, often donated and remodeled and only rarely built on purpose[25].

Students' unity in these universities was not based on collegiate life, but on traditions (as the "nations") and shared aims. Therefore, university's governors only worried for places where the activities for learning and academic rituals could be accomplished, and the university itself depended on the city spatial resources for all the non-academic necessities of the students. Translated in space, this model became what in this study is called *Diffuse University* typology, in which buildings are scattered within the city, in a more or less close mutual distance. The present-day Bologna is the clearest example of *Diffuse University*, even if most of the facilities used today were acquired in the 19th and 20th century, with the renewal of the northern part of the historical center following the City Plan of 1881[26]. Privately rented apartments, restaurants and shops survive because of students, and vice versa university survives because of the rooted private initiative. City streets and squares are the shared open space of universities, while faculty
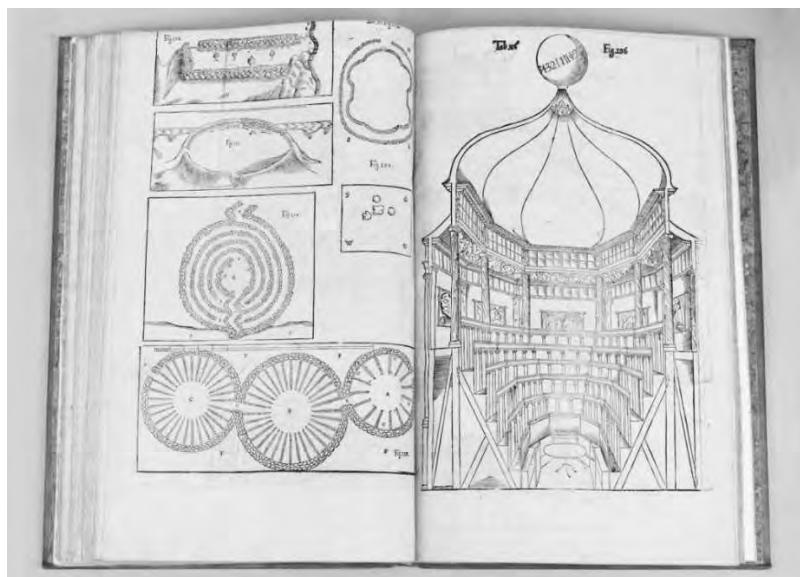
Fig. 8 On the right, section of the anatomical theater added under the dome of the Gustavianum Palace in the Uppsala University (1660 circa). Rudbeck, O.: Atlantica/Atland eller Manheim, Atlas, vol. 5, 1698, fig. 136. https://www.bukowskis.com/sv/auctions/E711/lots/1323313-rudbecks-atlantica-5-vol [accessed 17.11.2022].

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[24] De Ridder-Symoens (1996), p. 191.

[25] See *Ibid.*, pp. 190-195.

[26] See Predari et al. (2020), pp. 161-167.

buildings only house lecture rooms, libraries, offices and research functions. Students and common citizens share the same space, in a "cultural contamination" which is admittedly purchased and defended as a characteristic of Bologna's style[27].

On the other hand, also the "urban colleges" soon or later gained new specialized facilities for educational purposes. Universities featuring a faculty of medicine, for example, from the 16th century started to create the first botanical gardens, anatomical theaters (Fig. 8), museums of "curiosities" from the natural world. As in British colleges, libraries and archives too became fundamental parts of the university space. In some cases, the *Diffuse University* model, which was often hosted in obsolescent and dispersed buildings, began being concentrated in poles. In the 16-17th centuries this reorganization shaped a new kind of "urban college" in which, rather than the collegial, residential function, emphasis was put on the social role of the university, i.e., in its dialogue with the urban space through facades, porticos, open access. Examples of this are the Palazzo dell'Archiginnasio in Bologna, the Patios de las Escuelas in Salamanca, the Paços das Escolas in Coimbra. Meanwhile, in the Spanish colonies, the university space model was still based on medieval colleges, but with a single complex located in the most central position, as the cloisters of the Colegio de Santo Tomás built in the 17th century in Manila[28], and that of the Universidad San Carlos in Antigua Guatemala, built in the 18th century.

Finally, as Kishida summarizes,

> «From the 19th century, in a context of establishment of the modern nation, industrial development, rise of the scientific study fields, the university had to respond not only to the demand of educating a handful of people from the privileged class, but also to the larger needs of the society. Universities, together with academies, represented "palaces of wisdom" embodying the authority of the State and of the scholarship, and started to become, as a key institution of the State, one of the public facilities decorating the city»[29].

As a consequence, the university building, ideally a prosecutor of the *palazzo della sapienza* (palace of wisdom) shifted from *College* to *Palace* typology, especially in Central-Northern Europe countries.

At the beginning, various *Palaces* formed a *Diffused university*. Uppsala University in

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[27] From an interview by the authors with the vice rector Riccardo Gulli, 24 September 2020.

[28] Colegio de Santo Tomás was the first university established in Asia, by catholic missionaries, in 1611.

[29] Kishida (1996), p. 10 (translation by the author).

Fig. 9 Aerial view of rue de l'École de Médecine, in the 'Quartier Latin' of Paris. At the center, the building of

the School of Surgery (1774-86, design by Jacques Gondouin). Image: © Google Earth Pro, ©

Landsat/Copernicus [accessed 24.11.2022].

Fig. 10 Aerial view of the Palais Universitaire in Strasbourg (1879-84, design by Otto Warth). Image: © Google

Earth Pro, © Landsat/Copernicus [accessed 24.11.2022].

Sweden is well representative of this typology. The Gustavianum (Fig. 8), built in the
1620s, the Carolina Redivivia library building (1819), the Main Building (1879-1887) are
all non-cloistered palaces sited in the central city zone, furnished with public parks[30].
In a similar way, from the years previous to the 1789 Revolution, French higher
education institutions started to build specialized and magnificent *Single faculty Palaces*
in order to upgrade their obsolescent facilities, but still maintaining their character of
Diffuse University. For example, famous architects designed the new faculty buildings of
the Paris University, each one equipped (also symbolically) with the necessary for a
specific scholastic field, and, significantly for a since then collegial culture as Paris' one,

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[30] See Coulson, Roberts and Taylor (2015), pp. 70-75.

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not featuring students' lodging[31] (Fig. 9). Such spatial configuration reflects the 18-19th century French university model (see § 2.2.2.).

In other cases, especially in the universities of the German Empire, the new non-collegial *Palace* served as the only general building of the university, as in Halle, Heidelberg, Göttingen, Leipzig, Munich, Karlsruhe, Strasbourg (Fig. 10), and it was shaped as any government building, with large and majestic façades[32]. The urbanity and openness of these new buildings are ideally linked to the Humboldtian idea of university described in § 2.2.3. The most determinant difference from France is that in the German *General Palaces* the various departments find place under the same roof.

Thus, finally, *College* typology was gradually abandoned in continental Europe's university spaces.

In the United Kingdom, colleges were resisting. However, since the 18th century, despite their historical prominence, Oxford and Cambridge started gathering criticism for their bond with the Anglican Church and their antiquate mentality, which only insisted on the teaching role of the colleges. A greater scientific freedom was realized in the Scottish colleges as those of the university of Edinburgh, which renounced to the residential system. In the 19th century, the merging of University College London and King's College gave birth to the University of London, based on the German model (see § 2.2.1.). The gothic style of the old colleges had already seen the inception of classicist buildings due to Christopher Wren's designs in Oxford and Cambridge in the 17th century; however, the new building of University College London was a completely new neoclassical, urban and symbolic *General Palace*, to better mark the distance from the religious "obscurantism" (Fig. 11).

Fig. 11 University College, London: the main building (1827, design by William Wilkins).

Coloured engraving by T. Higham after W. Wilkins. Source: Wikimedia Commons.

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[31] See Baudez (2018), pp. 33-34.

[32] See Gerbod (2004), pp. 102-107.

American higher education was similarly attracted by the German model; few institutions adopted its system and that reflected on architecture, too. For example, the Johns Hopkins University initially (1884) used separated structures along the Baltimora streets, an unheard solution for the strong *College-Campus* culture of the United States; however, these structures were soon replaced by a *Campus* in 1904[33].

2.4.4. Historical backgrounds of *College-derived Campus* typology

In this study, we chose to call the original American university space typology *College-derived Campus*. This is not only because most universities in the USA are the evolution of former 'colleges', but also because its partial spaces and buildings can be read as the urban-scale expression of the smaller *College* spaces. In facts, the field or mall is the expression of the courtyard, and, in many plans, it tended to return to such shape; the university buildings are called 'Hall', which originally means 'room', and have not-well specified functions; students' collegiate life and in-site living are always pursued; the segregation of *College* walls is substituted by the positional segregation from the chaotic urban environment.

Let's see summarily this evolution. The first American colonial colleges followed the educational model of Oxford and Cambridge (Harvard College was founded by Cambridge alumni; College of William and Mary was supported by Oxford alumni): i.e., residential and teaching colleges. However, the *quad* composition has never been used there, in favor, at first, of single non-cloistered buildings of 3-5 floors containing a lecture hall, a library, students' rooms and other living spaces, and subsequently of a more open and wide composition made by distinct buildings arranged within a field. "Field", or *campus* in Latin, was the nomenclature used at first in the College of New Jersey in Princeton (now Princeton University) to indicate the wide green area in which the Nassau Hall and other minor facilities were immersed[34]; in other cases, it had the meaning of the green common area to which facilities were placed around. The American settlers since the beginning admittedly preferred rural position for their colleges, in order to separate students «from the distraction of civilization»; this preference continued over the centuries and still survives[35].

After the Independence, a great number of new colleges were founded by the states and by religious institutions. For the first time, entire university complexes were designed unitarily to form what Thomas Jefferson called «the academical village»[36]. The first state

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[33] Turner (1984), pp. 163-164.

[34] See *Ibid.*, p.47.

[35] *Ibid.*, p. 18.

[36] *Ibid.*, p. 79.

Fig. 12 Princeton College (now Princeton University) in 1875, designed by W.M. Radcliff; lith. by T. Hunter.

Library of Congress, https://lccn.loc.gov/2006677673 [accessed 1.12.2022].

Fig. 13 Picture showing Columbia University campus (1895, design by Charles F. McKim) in 1903. The frontal

square is visible on the left. Library of Congress, https://lccn.loc.gov/2016803365 [accessed 2.12.2022].

institution to wholly conceive a campus design was the University of North Carolina, from 1793, in which the courtyard enclosed by the main three buildings was planned to be extended with a *mall* [37]. Although this project was not completed, the *mall* configuration gained popularity. Another important idea was that of professors' lodging and students' residences forming units of collegiate space, visible also in the project for

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[37] *Ibid.*, pp. 55-56. A *mall* is a wide axis sided with buildings and terminating with a front main structure; in many cases, the word *campus* was used with the meaning of *mall*.

Union College (1813, design by Joseph-Jacques Ramées). The *mall* configuration and the units of professors and students' residences were merged in an original and unheard way in what is perhaps the most celebrated campus design, that of Virginia University, compiled by the former U.S. president Thomas Jefferson in 1817. A large *mall* called "the lawn" terminates on the axial side with a rotunda containing the library. On the long sides, pavilions containing classrooms on the ground floor and professors' residences on the top floor, each one with a different design, are alternated with students' rooms; behind these two sides are gardens, and extra dormitories and dining halls enclose them on the external side[38].

Since this first fully designed 'academical village', campus planning became an established discipline in the United States. It saw different periods and fashions, which can be summarized as follows.

With the Land Grant College Act of 1862, American states were helped in building Agricultural Colleges, for which the landscape architect Frederick Law Olmsted effortlessly worked as campus planning consultant. His ideas of scattered buildings not overlapping the nature of the site but making it stand out had a great influence, but resulted in only superficially 'picturesque' appearances, often in pre-existing campuses, as in Princeton, where «one of the buildings framing Nassau Hall» was demolished and «new structures of picturesque form that adhered to no pattern of siting»[39] were added (Fig. 12).

This informality and anti-monumentality had, however, a short life. With the building *ex novo* of Stanford University (1887-1903, design by Olmsted and Charles A. Coolidge, but heavily modified by the client, Leland Stanford himself), of the University of Chicago (1893, Henry Ives Cobb) and with the competition held for the new Berkeley Campus of the University of California, (1896, won by Emile Bénard but executed by John Galen Howard, the fourth-prize winner) the French classical and symmetrical method of planning called 'Beaux Arts' was imposed on campus design. Many existing campuses were 'regularized' according to the new aesthetic ideal, and even the already mentioned Princeton, which had been made picturesque just few decades before, was again reordered with axial views at the beginning of the 20th century. One of the most influential Beaux Arts planning was Columbia University's new campus (1895, design

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[38] See Wilson (2013).

[39] *Ibid.*, p.158.

Fig. 14. Aerial view of Chulalongkorn University "university city" (uncertain date). Picture from Chulalongkorn University History Hall, https://www.silpa-mag.com/history/article_46029 [accessed 16.12.2022]

by Charles McKim). The vast majority of Beaux Arts campuses still were sited in the countryside or in peripherical areas; instead, Columbia University was in central New York and its plan featured a frontal square open to the city, with the monumental library in a quasi-public position (Fig. 13). Together with the shift to this urban character, also in the United States, non-collegiate university spaces appeared. However, the collegiate origin of American universities remained deeply rooted in their *Campuses*. This connection to the *College* is also demonstrated by the similarity of *Campuses* in Canada, Hong Kong and Australia (colonies of the college's cultural homeland, the UK) with American *Campuses* (see Fig. 15).

2.4.5. The *Palace-derived Campus* as 'university city'.

However, when confronting these Anglo-Saxon spaces with Campuses in other countries, a remarkable difference can be noticed. When the American *Campus* acquired an urban character as in Columbia University, this spatial expression began to exert fascination on countries with different educational traditions, back in the French or German-influenced Europe and in the modernizing nations around the globe. Thus, the new universities founded centrally by the governments in the first half of 20th century in Madrid and Rome established themselves not anymore as *Diffuse universities*, but within the same large site, in a Beaux-Arts composition (Sapienza University, Rome, built from 1936, masterplan by Marcello Piacentini) or in a multipolar composition of malls and

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semi-courts (Universidad Complutense de Madrid, built from 1929). Outside Europe, we may mention two notable examples of *Campuses*, which evolved from *Single Faculty Palaces* or *Diffuse University*, and which even preceded the two European countries: that of Chulalongkorn University in Thailand (built from 1921, Fig. 14), and that of Fu'ād al-Awwal University in Egypt (built from 1929). A common feature of these spatial arrays is that they are called in their respective languages with the expression 'university city'[40]. This reflects the French and German cultural linkage between city and university: the dispersed faculties were just grouped into a new quarter, conceived in harmony with the city plan. Indeed, all of these *Campuses* were organized not by 'halls', but by faculty zones, inheriting the former organization.

The boundary between what we define as *College-derived Campuses* and *Palace-derived Campuses* is vague and of difficult recognition. Even in Anglo-Saxon countries there are some *Palace-derived Campuses*[41], and, especially in the so-called 'Mission Schools' in Asia, *Campuses* with 'halls' structure but without students' residences exist. Despite this ambiguity, difference between *Campuses* in the USA and in other Countries exists, and a proof of that is that other authors report it with various nomenclatures. For example, Kishida called the configurations of Rome and Madrid «proto-campus»[42]; however, being temporarily posterior, and even admittedly designed after researches on[43] the American campuses, the prefix appears as unprecise.

In summary, the above distinction exists, but it is not always totally appliable. Therefore, in the analysis of the early *Campuses*, the more verifiable classification between 'residential' (often *College-derived*) and 'non-residential' (often *Palace-derived* or, however, with an urban character) *Campuses* has been preferred.

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[40] *Città universitaria* in Italian, *Ciudad universitaria* in Spanish, *Meụ̄xng mhāwithyālạy* in Thai. The meaning is that of "city or quarter used as university"; not to be confused with the *daigaku machi* (city characterized by a university) as intended by Kikata (2010).

[41] For example, the campus of the University of Cape Town is organized by faculties.

[42] See Kishida (1996), p. 11.

[43] Madrid's new *Ciudad Universitaria* was to be built «in the style of those of North America». Palomera Parra, A. And Flores Varela, C.: "El Archivo General de la Universidad Complutense, memoria de una larga historia universitaria en Madrid". *CIAN-Revista de Historia de las Universidades*, 16/2, pp. 163-193, 2013, p. 172. Marcello Piacentini and his design team for the Rome's *Città Universitaria* were influenced by American colleges and Madrid. Baratelli, G.: *La città universitaria di Roma: costruzione di un testo architettonico*. Silvana Editoriale, 2018, p.43.

University spaces in the world, 1800~1945
世界各地域の大学空間 1800~1945 年

Legend 凡例
- ⁚ Diffused University 分散大学型
- ● College カレッジ型
- つ "containing" 「含む」
- ○ Single faculty Palace 単科宮殿型
- ◐ General Palace 総合宮殿型
- → "then evolved in" 「後に…になった」
- ◉ Residential Campus 学生が校地内に住むキャンパス型
- ◎ Non-residential Campus 学生が通うキャンパス型

British Model
英モデル
Oxford University, 13th century ⁚つ●
University of London, 1836 ⁚つ◐

United States
米国
Princeton University, 1746 ◉
Columbia University, 1895 ◎

French model
仏モデル
Université de Paris, 19th century ⁚つ○
Grandes Écoles, 19th century ●

German model
独モデル
Universität zu Berlin ◐
Universität Straßburg ◐

World regions where universities were directly founded by the colonial government
大学が植民地政府により設立された世界地域

British colonial colleges in Sudan
スーダンでの英植民地カレッジ
Gordon Memorial College, 1903 ◐

Philippines
フィリピン
Manila Campus, University of the Philippines, 1909 ◎

N. African French colonies
北アフリカでの仏植民地
École des lettres d'Alger, 1832 ○
→ Université d'Alger, 1909 ⁚つ○

Russia
ロシア
Moskovskij Gosudarstvennyj Universitet, 1755 ◐

Australia
オーストラリア
University of Sydney, 1860 ● → ◉

Indochina French colonies
東南アジア仏植民地
Université Indochinoise (Hanoi), 1926 ○⁚つ○

Late 19th and early 20th century Spain, Britain, United States
19 世紀後期と 20 世紀前期のの
スペイン・英国・米国
Universidad Complutense de Madrid, 1929 ◎

Univ. in India, Sri Lanka, Myanmar, Singapore based on Univ. of London model
ロンドン大学モデルに基づいたインド・スリランカ・ミャンマー・シンガポールの大学
Presidency College, Sanskrit College, early 19th century ◐ → University of Calcutta, 1873 ⁚つ◐

South Africa
南アフリカ
South African College, 1829 ● → University of Cape Town, 1919 ◎

Italy
イタリア
Università di Bologna, 19th century development ⁚つ○

'Faculty' schools in Iraq, Syria, Egypt
イラク・シリア・エジプトでの「学部学校」
Jāmi'a al-Qāhira (Egyptian University), 1908 ⁚つ○
→ Fu'ad al-Awwal University, 1929 ◎

Canada
カナダ
University College Toronto, 1856 ● → University of Toronto ◉

Hong Kong
香港
University of Hong Kong, 1914 ◎

Latin American national universities
中南米の国立大学
Universidad de Buenos Aires, 19th century ⁚つ○

World regions where universities were purposingly based mainly on one of the main models
現地の設立者の意志により、大学が主に上述の中の１つのモデルに基づかせられた世界地域

World regions where universities were purposingly based on various models, or with a mixed presence of "mission schools"
現地の設立者の意志により、または多様な「ミッション・スクール」により大学が複数のモデルに基づかされている世界地域

Thailand
タイ
Civil Service College of King Chulalongkorn, 1911 ◐
→ Chulalongkorn University, 1917 ◎

Palestine and Lebanon
パレスティナ・レバノン
Hebrew University of Jerusalem 1919 ◎

China
中国
震旦大學 (Université l'Aurora), 1908 ◉
北京大学 (Peking University), 1916 ◐ → 1930s ⁚つ○
→ †in 1952 transferred on the campus of 燕京大學 (Yenching U.), 1921 ◎

JAPAN
日本

Fig. 15 Schematization of some university spaces in the world (1860-1930). See, for reference, Fig. 2.

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2.5. Japanese initial university space model within the world scenario

In this paragraph, we will finally compare the formation of Japanese first university spaces and the global context of the late 19th-early 20th century.

2.5.1. The global context of university spaces at the time of the birth of Japanese universities

We already reported in § 2.2., and schematized in Fig. 2, that the British, French, German and American models of higher education were the most influential during 19th and 20th centuries; we also summarized the links between several Countries in the world, in the bottom part of the scheme, which is based on the precious overview on the influence of European models in several world's regions during the early Modern Era made by Shils and Roberts (2004). In this paragraph, it has been chosen to select one or more representative universities named in that study for each world region and to analyze its spatial asset, in order to figure out a rough idea of the links between university models and space typologies.

The results are shown in Fig. 15.

Between the universities founded in countries influenced by the British model (all of which were British colonies), it can be found India, where the University of Calcutta began in 1873 as a merging of several non-residential 'colleges', similarly to the University of London. Its spatial asset comprehends three main *General Palaces*, placed quite near to each other but immersed in the urban texture, forming therefore a *Diffuse University*. Sudan's Gordon Memorial College is a single *General Palace*. In both University of Toronto (Canada) and University of Sydney (Australia) a more literal *College* typology was founded within a large ground, soon surrounded by other buildings until becoming a *Campus*, in the same way as the American examples. The case of the University of Cape Town (South Africa) is slightly different, because the former South African College, housed in an urban *Palace* typology, achieved university status in 1919 and transferred to a newly built residential but faculty-zoned *Campus*, designed after a world-wide study tour of its architect, Joseph Solomon. University of Hong Kong grew up since 1914 in the harsh slopes of Hong Kong Island as a residential *College-derived Campus*.

Between the universities founded in countries influenced by the American model, the University of the Philippines' Manila Campus (now College of Arts and Science, University of the Philippines) is very interesting: its initial *College-derived Campus* asset has been absorbed in the urban tissue, and nowadays its grounds are filled with a variety of unrelated buildings.

Between the countries influenced by the French model, some were direct French Colonies. For example, the Université d'Alger (Algeria) is a *Diffuse University* comprehending

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several *Single-faculty Palaces*, similarly to the Paris' faculties; the Université Indochinoise (Hanoi, Vietnam), one of the first universities in Asia, had a main building formed as a *General Palace*, although it had an inner court and an enclosed nature (it was built in 1923-26, design by Ernest Hébrard). Some other countries freely decided to base their own university system on the French combination of semi-independent faculties and *Grandes Écoles*. Great part of the Latin American universities did so. The Universidad de Buenos Aires (Argentina) was conceived as a *Diffuse University* comprehending several *Single-faculty Palaces*. Brazilian, Mexican, Colombian, Venezuelan universities were also inspired by France; from the 1930s on, some magnificent examples of *Palace-derived Campuses* were built there. We already mentioned the Fu'ād al-Awwal University in Egypt, which built a "university city" (*Palace-derived Campus*) and was deeply influenced by the French educational method. The German model influenced greatly Russian universities, which even in the Soviet period were fascinated by the idea of *General Palace*. However, the German model was difficult to faithfully reproduce; any other country only borrowed some of its educational ideals and incorporated them inside different systems.

Regions where the choice on which to base the university model was plural (several influences from different existing models) and free (not imposed by colonizing countries) include Palestine, Lebanon, Thailand, China and Japan. The Hebrew University of Jerusalem, influenced by the German and British models, realized a non-residential *Campus* on a hill near to Jerusalem in 1919. In Thailand, the Civil Service College of King Chulalongkorn, hosted from 1911 in the ex-residence of the prince, evolved into the overmentioned Chulalongkorn University in 1917, for which a "university city", one of the firsts *Palace-derived Campus*, was built (Fig. 14). In China, the national Peking University, after a difficult birth, was reformed from 1917 in the German model spirit: in 1918 the famous "Red Building" placed near the Forbidden City became a *General Palace* very similar to German examples. Other private universities founded by European missionaries imported the French and British models. For example, Université l'Aurore, French in character, had a simple *Campus* made of parallel buildings, built from 1908. These last cases, especially the Hebrew University of Jerusalem and Chulalongkorn University, also show a strong influence from the nation's regional architectural style, which emphasizes their freedom from colonial influence.

As a first conclusion, it can be noticed that, independently from the university model adopted, from the 1910s on the *Campus* was preferred above the other spatial typologies almost in any country, whether it evolved from *College*, *Diffuse university* or *Palace*.

2.5.2. The western influences of the first Japanese universities

Japan was among those countries where the influence of foreign university models was

plural and free. As Amano (2004) stated:

> If [Japan] had been colonized by the European nations like other Asian countries, between the existing university/ higher education models which had just began to diversify, it would have probably been imposed the model of the colonizing nation, whether wished or not, and it could not help but accept such transplant. However, for Japan, which started late its modernization process as an independent nation, this meant the existence of a variety of options for the creation of a new university/higher education system. (…) The *Gakusei* [学制, school system initial law] of 1872, which was the first proper conception of the modern institution of school education and showed the image of the western-like image of educational system to be built thereinafter, despite having its basis on the French school system was, so to speak, eclectic and complementary in character, being formulated making reference to the German, Dutch, and also American systems[44].

Universities did not make exception. The founder and only actor to have the right to found a university was the State. At the beginning, the only *daigaku* (大学, university, formed by the characters of "big, grand" and "learning, study") was Tokyo University (Tōkyō Daigaku), which soon had its name changed into Imperial University (Teikoku Daigaku). In addition, as in the French Model, there were a quantity of «Japan-style Grandes Écoles»[45], in which all the students were at the State's expenses, and everybody lived in dormitories. These had initially the status of professional schools, and were later incorporated in the Imperial University as faculties. Then, national high schools were established, attendance at which was compulsory to enter the Imperial University: however, they not only carried on the preparatory task, but also that of the formation of professionals. These were located in 5 districts (later 8) across the country, and became known as the *Number Schools*.

In 1886, the Imperial University Act (帝国大学令) launched the idea of 8 Imperial Universities, which were established along 50 years in different districts, as the *Number Schools*. In this occasion, the debate on the university model to follow arose again, resulting in the decision to follow more closely the German model, through the inauguration of the Graduate School (大学院, *daigakuin*), but, actually, except for this, the situation was still similar to the faculty-fractioned, education-oriented and rigid French model[46].

The private higher education institutions made their appearance rather soon. Some of them derived from ancient pre-Meiji *juku* schools; later, schools founded by Christian

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[44] Amano (2004), pp. 17-18 (translation by the author).

[45] The definition is from *ibid.*, p. 32.

[46] See Amano (2005), pp. 30-33.
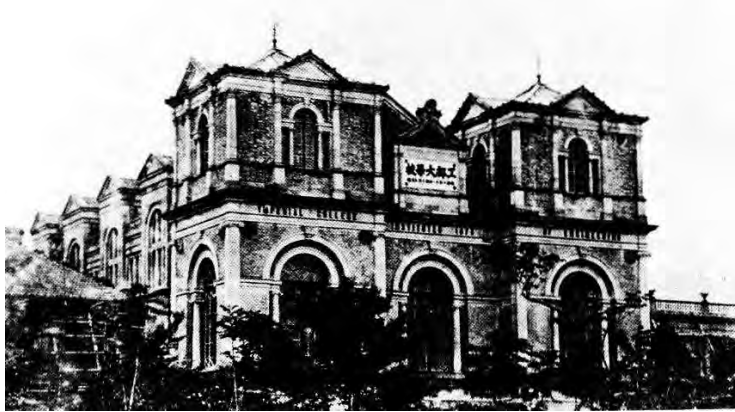
Fig. 16 Imperial College of Engineering, main building, built in 1876-77,

design by Charles Alfred Chastel de Boinville. Source: Wikimedia Commons.

Fig. 17 Fifth High School main building, now Kumamoto University Museum, built in 1889,

design by Yamaguchi Hanroku and Kuru Masamichi. Source: Wikimedia Commons.

missionaries, noblemen, Buddhist sects appeared, too. All these institutions aspired to the promotion to the status of university, and provided therefore a level of education appropriate to such aspiration. From 1919, with the University Act (大学令, *Daigakurei*), the possibility of acquiring recognition as (non-Imperial) universities was finally granted. How were conceived the spaces of such a variety of universities, high schools and professional schools?

2.5.3. The first Japanese high school spaces as *Grandes-Écoles-derived Campuses*

The faculties forming Tokyo Imperial University evolved from several schools and were initially placed in separate sites, as many universities of the French model. However, they were far from the European *Diffuse universities*, because, instead of being placed in accessible and public *Palaces*, each faculty often reutilized old samurai's villas grounds, enclosed by walls and accessible through a main gate, inside which a single, pseudo-western-style *Palace*, featuring students' residences, was placed centrally. For this, it seems that the definition of "Japan-style *Grandes Écoles*" did not refer only to the

educational side, but was also quite precise also with regards to the architectural asset (see §2.4.2.).

The presence of a large site allowed then the addition of other structures, laying the foundation of the first *Campuses*. Miyamoto (1989) declares that the Imperial College of Engineering (工部大学校, Kōbu Daigakkō) buildings, designed by the French-English architect Charles Alfred Chastel de Boinville in the 1870s, represented «the birth of the nation's first full-fledged campus»[47] (Fig. 16). Then, the Number Schools were built under the design supervision of the Organization for Repair of the Monbushō (文部省営繕組織), especially of Yamaguchi Hanroku and Kuru Masamichi, an organization which was central in the development of Japan's higher education space as a peculiar interpretation of the *Campus* typology.

While American campuses can be called *College-derived Campuses* and early 20th century "university cities" can be called *Palace-derived Campuses*, these first Japanese national higher education spaces could be called *Grandes-Écoles-derived Campuses*: residential, but for a community serving the State's purposes, almost military; *Palace-*like, but enclosed and separated from the surroundings; *Campus*, but strongly urban.

No direct documentation explains the influence of the *Grandes Écoles* on the Japanese higher schools' architecture: however, it is known that the first main architect of the Monbushō Yamaguchi Hanroku was educated in the École Centrale des Arts et Manifactures, in France[48]. Kikata (2020) argued:

> The École Centrale des Arts et Manifactures building did not face directly the street, but was a typology erected between a front yard and a back yard, with the mediation of a gate from the street (…). The German universities, (…) too, are said to have a Palace typology, but are placed in a form open to the city with a pronounced emphasis on the façade, and tend towards the unity with the urban environment through their axial asset. Rather than that, the shape of the modern institutions of higher education of our Country, born with the shift in use of the old samurai's residences sites, was nearer to the Paris' old town style which was familiar to Yamaguchi.[49]

Also, the similarity of the main building of the Fifth High School in Kumamoto (Fig. 17) with the École Normale Supérieure in Paris (Fig. 6) is noteworthy.

Regarding the planning of the campuses of the five *Number Schools* designed by Yamamoto and Kuru, a first attempt of *quad* asset was soon abandoned in favor of the parallel disposition of buildings. Miyamoto (1989) comments that these were several trials in order to form a typical national planning system for campuses, which had to

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[47] Miyamoto (1989), pp. 19-20 (translation by the author).

[48] See *Ibid.*, p. 46, Fig. 2-3.

[49] Kikata (2020), p. 24 (translation by the author).
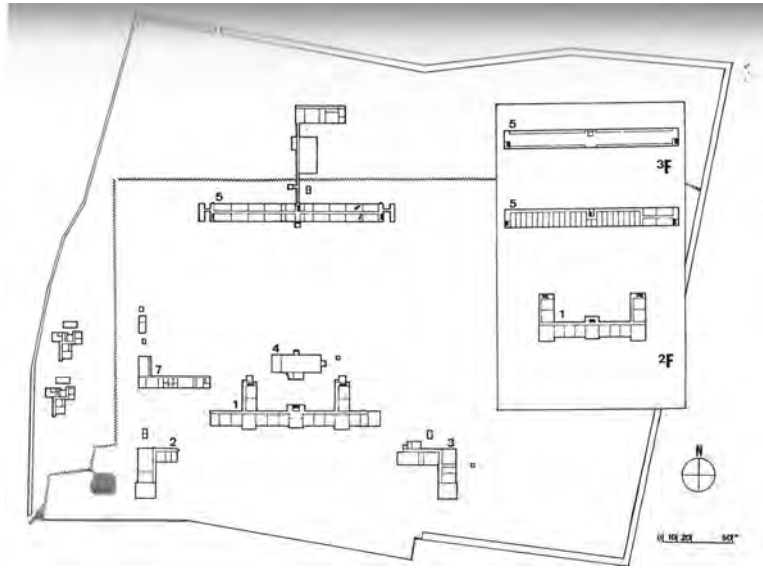
Fig. 18 Third High School (Kyoto) planimetry, design by Yamaguchi Hanroku and Kuru Masamichi, 1889.

Source: Miyamoto (1989).
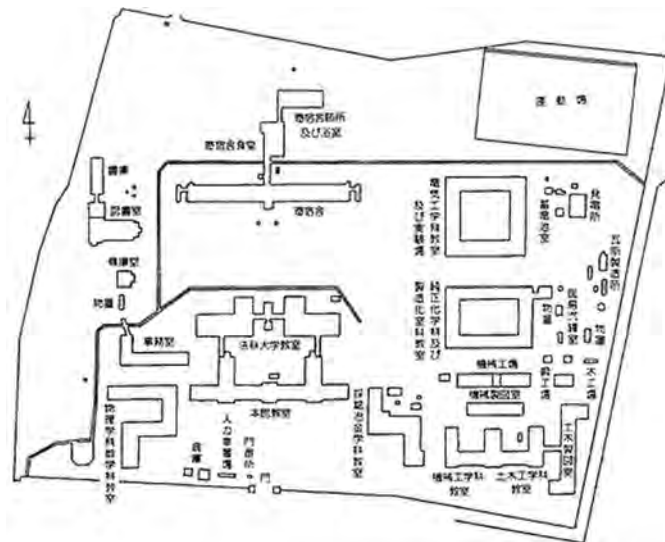
Fig. 19 Kyoto Imperial University planimetry in 1907. The dormitories (north side) are still present, but they will

be moved in 1912. Source: https://www.keikikai.jp/dai2seiki/100nen_keizu/100keizu_enkaku.html

face two main problems: to show rational and functional solutions and to get over the strict economic limits through the architectural design[50]. These problems were present along the whole history of Japanese campus planning, as the present research will show. Other high schools and professional schools were still designed by the Monbushō around the shift of the century, with the parallel asset becoming classical. In order, they were formed by a gate, a spacious front garden, a two or three-story main building, in some cases an auditorium, and, according to the solar exposure, the office, experiment

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[50] See Miyamoto (1989), pp. 128-129.

buildings, library, *seito hikaejo* (生徒控所, place for students' free time) placed parallel or perpendicular to the main building. In a separate position, the complex of the dormitories was always present. Thus, the first Japanese high schools were residential, without the collegiate ideal proper of the British and American model.

2.5.4. The Imperial university *Campuses*

The Imperial University (then Tokyo Imperial University), became to group all its dispersed faculties in one site, the Hongō campus, from the 1880s. There were already some wooden buildings from the previous School of Medicine, as the main building completed in 1876 and transferred to the Koishiwa Botanical Garden in 1969, where it is still visitable. In absence of a real plan, many buildings were added, contemporarily with the incorporation of other faculties, under the guide of the university's own Repair Organization, separate from the Monbushō. Some of these the structures were designed by the 'progenitor' of Japanese architects, the British professor Josiah Conder.

Kyoto Imperial University, founded in 1897, at first reused the structures of the existing Third High School, designed by the mentioned Monbushō's chief architects, Yamaguchi and Kuru; Yamamoto Jihee was the construction supervisor (Fig. 18). He later became the head of the Repair Organization for Kyoto Imperial University, designing the necessary faculty buildings in order to evolve the "general" high school *Campus* into a four-faculty university able to compete with Tokyo and foreign universities (Fig. 19). Interestingly, short after the birth of the new university, the old dormitory of the Third High School placed on the north edge of the campus site was demolished and partially rebuilt in a distant position, near but not adjacent to the university campus[51]: it is the still existing Yoshida Dormitory, one of the symbols of the students' self-government and political struggle.

Another important step was made by the redesign, under the lead of Uchida Yoshikazu, of Tokyo Imperial University campus, destroyed by the 1923 Great Kantō Earthquake. From the gate, a tree-lined avenue leads to the centerpiece, the Yasuda Hall, culminating in a clock tower (Fig. 20). This symmetrical arrangement is not the generator of the whole campus plan, but only its entrance; probably Uchida was eager to design a campus similar to the United States' Beaux Arts examples, but the similarity is only partial. In facts, the rest of the campus was organized by faculty districts, the hospital on the opposite side, with the presence of the pond as a natural void respected by the building development. Dormitories were not part of the university proper structure.

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[51] See Kondo (2012).

Fig. 20 Tokyo University, Hongō Campus view towards Yasuda Hall, 2023.02.05.

Hence, with the evolution of "Japan-style *Grandes Écoles*" into French and German model universities, Japanese national university *Campuses* lost their residential nature and became an early example of *Palace-derived Campus*. Organized by faculties, with most of the buildings hosting educational functions and not students' services, they were intrinsically urban spaces made for a non-resident community of students. However, they conserved aspects of their origin from the *Grandes Écoles*. Especially, opposed to the German and French universities' *Palaces*, the gate and walls surrounding the campus' site shaped from the beginning their nature of "cultural *enclave*", or "ivory tower" inaccessible to the normal citizens.

2.5.5. The American *Campus* influence in Japan

However, not all Japanese universities were *Palace-derived Campuses*. First, the Sapporo Agricultural College, the present Hokkaido University, was conceived totally as an American Technical & Agricultural College, under the guidance of the ex-president of the Massachusetts Agricultural College, William S. Clark. Its campus, too, based on the proposal of the professors David P. Penhallow and William Wheeler, was an example of mall-centered, picturesque and *College-derived Campus*.

Fig. 21 Saint Paul College (then Rikkyō University), planning proposal of 1914,

design by Murphy & Dona Architects.

Then, Christian Protestant missionaries founded the "*Mission Schools*", often with the design of American architects, as the New York firm Murphy & Dona, or the missionary William Merrell Vories, which became one of the most active campus designers in Japan, until the second postwar period. Here, the influences of the Beaux Arts principles and the planning tradition of Anglo-Saxon universities shaped an important part of Japanese university space, but always with the direct intervention of foreign designers and educators, as in many contemporary Chinese universities[52].

The segregation from the city and preference for rural environment typical of the American university model (sometimes emphasized visually, as showed in Fig. 21, where the Rikkyō University Campus is showed in a natural environment, although its surroundings were already well urbanized [53]) had its influence on other kind of universities, which began to move in peripherical areas.

2.5.6. The private universities' *Campuses* and the exit from urban centers

Kikata (2012) investigated the early 20th century birth in Japan of the *daigakumachi* (大

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[52] For example, Peking University's present main campus was originally the Yenching University (燕京大學) campus, designed by Murphy & Dona in 1921. See Coulson et al. (2015), pp. 156-161.

[53] The aerial picture of the area is visible on the past aerial photography section of the GSI online service (see §1.3.2, note 5).

Fig. 22 Kwansei Gakuin University aerial view.

Image: © Google Earth Pro, © Landsat/Copernicus [accessed 10.03.2023].

Fig. 23 Kansai University aerial view.

Image: © Google Earth Pro, © Landsat/Copernicus [accessed 10.03.2023].

学町), a term meaning the coordinated planning of new urban settlement together with new university campuses[54]. For example, Kunitachi Daigakumachi started as the settlement of a new residential quarter in the capital's surroundings: its promoters invited Tokyo University of Commerce (now Hitotsubashi University) to build there its new campus in order to make the area more attractive to house-buyers[55]. Other examples of *daigakumachi* were encouraged by private railroad enterprises, which were eager to exploit peripherical areas in order to provide passengers flow to their trains[56].

Of these new extra-urban campuses, some were *Mission Schools*, as the Kwansei Gakuin

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[54] The term is not to be confused with 'university city' (§ 2.4.5.). See Kikata (2012), pp. 9-10.

[55] See *Ibid.*, pp. 22-59.

[56] See *Ibid.*, pp. 60-95.

University designed by Vories in a plaza-centered style, with the front open to Kōbe suburbs and the back protected by mountains – the typical Japanese campus position called "edge" in this study (Fig. 22). Some others derived from the 19th century private high schools, which until the University Act of 1919 developed their campuses in urban surroundings, amid a confused series of moves, acquisitions and shifts. Because of their uncertainty of being able to survive and to attract a sufficient number of students, most of these institutions could not compile a proper campus plan. One example is Kansai University, which transferred in 1922 in the Senriyama campus, developing confusingly in a difficult hillside terrain (Fig. 23). The same difficulties were seen in Tokyo Institute of Technology Ōokayama campus and Keio University Hiyoshi campus, which, inside the coordinated plan of the *daigakumachi* made by railroad companies, occupied the part of terrain with the harshest topography. Kikata evidenced the solutions utilized in these last two examples: the main gate near to the train station opens towards a tree-lined axial street, traced in the narrowest part of the site, leading to the most relatively flat area in which the core of the campus is placed, with a clocktower to mark the position of the main Hall from far apart[57]. According to him, these solutions became classic, and

> «The "Japan-style Campus" was born by developing originally these elements, while receiving the influence of the campuses of the United States. This conformation was realized in a context of neo-liberal economics, within the mutual relationship with the development of residential settlements»[58].

2.6. Conclusions of Chapter 2

In this chapter, indirectly, we tried to answer the question: why are Japanese university spaces almost entirely *Campuses*?

We understood that the *Campus* typology was initially a feature only of the United States, and were derived from the British *College* typology. Countries influenced by the French and German university model, instead, almost entirely opted for a non-residential *Palace* typology, often multiple, forming a *Diffuse university*. Starting from around 1920, however, a non-residential, *Palace-derived Campus* typology appeared in these countries too. Japanese universities are born before that, in the late 20th century, without the heavy burden of history of European ones, and had the rare possibility of developing their own model freely, welcoming a diverse range of educational models. Among these, the British model was never as strongly influential as the French and German models. As seen in § 2.5.2., Japanese university system was initially based on the French model,

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[57] See Ibid., pp. 118-119.

[58] Kikata (2020), p. 27 (translation by the author).

with a combination of faculty-fractioned statal universities and of "Japan-style *Grandes Écoles*". This reflected on the architecture of the first spaces for statal higher education, placed in urban, large and enclosed sites, and therefore naturally predisposed to the growth of plural buildings, forming what can be defined as *Grandes-Écoles-derived Campus* type. High schools' students were all lodged in dormitories placed within the grounds. When the statal high schools evolved into universities, which now looked with admiration to the German model, dormitories were demolished and a faculty-zoned disposition was adapted inside the same old sites. Therefore, Imperial Universities changed to a peculiar type of *Palace-derived Campuses*, urban but segregated by walls, with a community inserted in the city, non-residential, but still protected and with a strong identity.

On the other side, the influence of the American model and *Campus* permeated private and public universities, opening the way for extra-urban positioning. However, Japanese universities were far from the Anglo-Saxon *College* culture; even most of the *Mission Schools* which started as residential colleges soon expelled dormitories from the university grounds. Instead, most part of the campuses of the non-missionary private universities were developed amid uncertainty and lacked of a general plan. The organization by faculties or by multipurpose buildings varies greatly in each example, and it is nearly impossible to define an architectural typology capable of containing all the variety of Japanese private university *Campuses*.

Still, pre-war Japanese private universities share with the Imperial Universities the same urban origin. They were attracted for convenience outside the cities, but *daigakumachi* developed around them; the absence of the *College* culture means that their communities must commute from and towards the city; the most ancient of them maintained their urban headquarter. For this reason, one could define their typology as a sort of *Palace-derived Campus* with more marked thresholds and alienated from their original urban environment.

Also, in both Imperial and private universities, squares, tree-lined streets, ponds, woods and green areas were valorized as part of the educational environment. These were communitarian open spaces almost absent in the traditional (but also in the modern)

大学空間 類型 Typology of university space	▮ Separation from city / ▮ Union with city	Own OS / Public OS	Resident students / Commuting students	Grouped faculties / Divided faculties	Presence of space for extra-curricular activities
A. *College*	Separation from city	Own OS	Resident students	Grouped faculties	Presence of extracurricular activities
B.1. *Single-faculty Palace*	Union with city	Public OS	Commuting students	Single faculty	
B.2. *General Palace*	Union with city	Public OS	Commuting students	Grouped faculties	
C. *Diffuse university*	Union with city	Public OS	Commuting students	Divided faculties	
D.1. *College-derived Campus*	Separation from city	Own OS	Resident students	Grouped faculties	Presence of extracurricular activities
D.2. *Palace-derived Campus*	Union with city	Own OS / Public OS	Commuting students	Divided faculties	
Prewar Japan 戦前日本	Union with city	Own OS	Commuting students	Divided faculties	

Fig. 24 Schematization of the peculiarities of prewar Japanese campuses compared to other typologies.

Japanese public urban environment: campuses are cultural and spatial *enclaves*, in the same way of temples and shrines.

2.6.1. The peculiarities of Prewar Japanese campuses compared to other typologies

In this final paragraph, some fundamental characteristics of each university space typology defined in §2.3.2. are organized and compared to those of prewar Japanese campuses. Fig. 24 (for reference, see also Fig. 3) shows a schematization of the conclusions, according to the following 5 categories:

Relation with urban environment: originally hosted in former *samurai* residences, Japanese campuses were initially more united with the city, as *Palace*, *Palace-derived Campus* and *Diffuse University*; however, the exit from metropolis led to a separation from the city as in *Colleges* and *College-derived Campuses*.

Outdoor space: Japanese campuses had invariantly their own private plazas and green zones, as in the *College* and *Campus* typologies.

Students' residence: with the passage from Number Schools to universities, the vast majority of university did not house students within the school grounds, as in *Palace*, *Palace-derived Campus* and *Diffuse University*.

Faculty organization: since many prewar Japanese universities were the result of the merging of two or more specialistic high schools, as natural consequence faculties were hosted in different buildings or different campuses, as in *Single-faculty Palace* and *Diffuse University*.

Extracurricular activities: because of the communitarian character of Japanese schools, students did accomplish several club or sport activities, but there was not a

space dedicated to functions other than educational[59]; in the same way such space was neither in *Palace*, *Palace-derived Campus* nor *Diffuse University*, where the "collegiate life" was not a purpose of university.

It is therefore clear that prewar Japanese campuses were, for the majority of these decisive characteristics, greatly similar to *Palace-derived Campuses*, which in European Countries appeared only after 1930. The influence of French and German models had a bigger weight on Japanese universities' spatial and functional configuration than American and British models. Only the separation from urban centers through encloseness or far position marks a difference from continental Europe; furthermore, it appears to have been caused by the intrinsic context of Japan (*samurai* villas' existing walls and gates, railroad companies invitation) rather than by Anglo-Saxon influence. However, when a university complex is conceived as a *Campus*, the inevitable reference are the USA examples, and Japan wasn't an exception.

The prewar Japanese spaces were therefore *Campuses* in the form and *Palaces* in the content. However, the postwar massification of universities and general historical context caused several changes in the above described characteristics, emphasizing the peculiarity of Japan. This topic is analyzed in the following chapter.

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[59] Except for the *seito hikaejo* (生徒控所), a small room or building for waiting between classes. This is more deeply analyzed in §5.

Chapter 3. THE RESPONSE TO THE POSTWAR UNIVERSITY MASSIFICATION

3.1. Introduction

In the previous chapter, we identified some fundamental characteristics of Japanese campuses, and draw as a conclusion that the *Campus* formal configuration had few correspondences with the university cultural model which gave birth to the *Campus* typology in the USA and other British-influenced countries; it was, instead, significantly similar to French and German universities' asset and uses. However, nowadays, the foreign visitor of a present Japanese university will notice several (but not total) similitudes with the USA. A change must have occurred in the postwar period.

3.1.1. Purpose of the research

In this chapter we address the main question of the thesis: "What are the peculiarities of university campuses in Postwar Japan?"; or, more specifically: "Compared to other countries, by modifying which original spatial/architectural characteristics did Japanese universities coped with the challenges given by the university massification?". The categories identified in this chapter will serve as a basis for the deepening of the two important macro-themes of spatial configuration and university community, further addressed in later chapters.

3.1.2. Method of the research

First, the research has been directed in trying to grasp how university spaces in other countries responded to the massification, then the notable events which influenced the postwar development of universities in Japan are summarized (particularly, the significance on campuses' spatial asset and functions of the 1956 University Establishment Standards). Finally, a quantitative analysis of the campuses' construction and position trends is made. This chapter's research method is based on the study of existing literature regarding postwar university spaces in the world and in Japan, and on the data analysis of especially the 536 campuses comprehended in the database (§1.3.2.) which were founded after World War II.

3.2. In the world: how the explosion of students' attendance modified the traditional university spaces and communities

The years following World War II coincided with the new possibility for many social strata to attend higher levels of education. Universities hitherto dedicated to the elite saw the number of students suddenly increase, and not only that: private and public entities became interdependent with universities, and the number of faculties, departments, research and testing centers became so much that many universities in the world grew until becoming enormous conglomerates of *Campuses*, *Palaces*, *Diffuse university* and *Colleges*, overpassing the scale of the city and spreading on other regions. The president of the University of California, Clark Kerr, coined the famous term

Fig. 25 Left: East Anglia University campus (1963, design of Denys Lasdun and Partners; photo source: Muthesius (2000), p.147). Right above: Harvard University campus aerial view, 2015 (photo by Nick Allen, Wikimedia Commons). Right below: Freie Universität Berlin's megastructure (design by Candilis, Josic, Woods and Schiedhelm, 1963; Wikimedia Commons, 2005).

Fig. 26 Paris Université de Nanterre in 1967 (design by Edouard Albert, 1963), https://www.timetoast.com/timelines/histoire-de-nanterre-universite [access 2023.5.24]

multiversity, as opposed to "university", and stated that «the multiversity is a confusing place for the student. He has problems of establishing his identity and sense of security

within it»[1]. Muthesius (2000) explains exhaustively the "utopianist" effort of postwar campus designers in order to recreate a distinguishable space for the now gigantic university community.

In the *College* typology mainland, the United Kingdom, new campuses as Sussex University and University of West Anglia (Fig. 25, left) were centered around new "students' centers" (see § 4.3.3.1.), and incorporated modernist revisitations of the *College* and its dormitories.

In the *Campus* typology mainland, the United States, university planners experimented the redesign of centralized human movement paths as in University of Illinois campus at Chicago Circle, and new communitarian, village-like campuses as in University of California Santa Clara. However, many old campuses, as that of Harvard University, grew until becoming larger than actual cities, losing a clearly identifiable boundary (Fig. 25, right-above).

The *General Palace* typology mainland, Germany, experimented interconnected megastructures as the Freie Universität Berlin (Fig. 25, right below; this project was later thought to have failed its aim), Universität Konstanz and Universität Bielefeld.

The *Single-faculty Palace* and *Diffuse University* mainland, France, emphasized the fragmentation, for example dividing the Université de Paris into 13 distinct universities, hosted in new peripherical *Campuses* which were although criticized as inhuman and uncomfortable[2]. For example, the campus of Nanterre (Fig. 26), placed in a former bidonville far away from the Quartier Latin, was the target of students' dissatisfaction and it is said to have triggered the protest of 1968[3]. Italian universities, too, characterized by the *Diffuse university*, were more and more overwhelmed by the number of students. A virtuous exception is the plan for the Università di Urbino made by Giancarlo De Carlo through the insertion of university facilities in historical buildings, the addition of some discrete new buildings, and the beautiful complex of dormitories (interestingly called *collegi*) which gave a new life to the medieval town.

The most important event of the postwar university history, the Student Movement, began in Paris and had a big impact all over the world, Japan included[4]. Students were now an effective, large community composed by a vast range of social classes, and the

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[1] Kerr, C., *The uses of the university*, 3rd ed. Cambridge MA (1st ed. 1962), p. 42. Cited in Muthesius (2000), p. 15.

[2] See Hottin (2014), pp. 75-79.

[3] Muthesius (2000), pp. 264-265.

[4] However, Japanese students' federation *zengakuren* (全学連) existed since 1948 and their opposition to the USA-Japan Security Treaty had already risen since 1960.
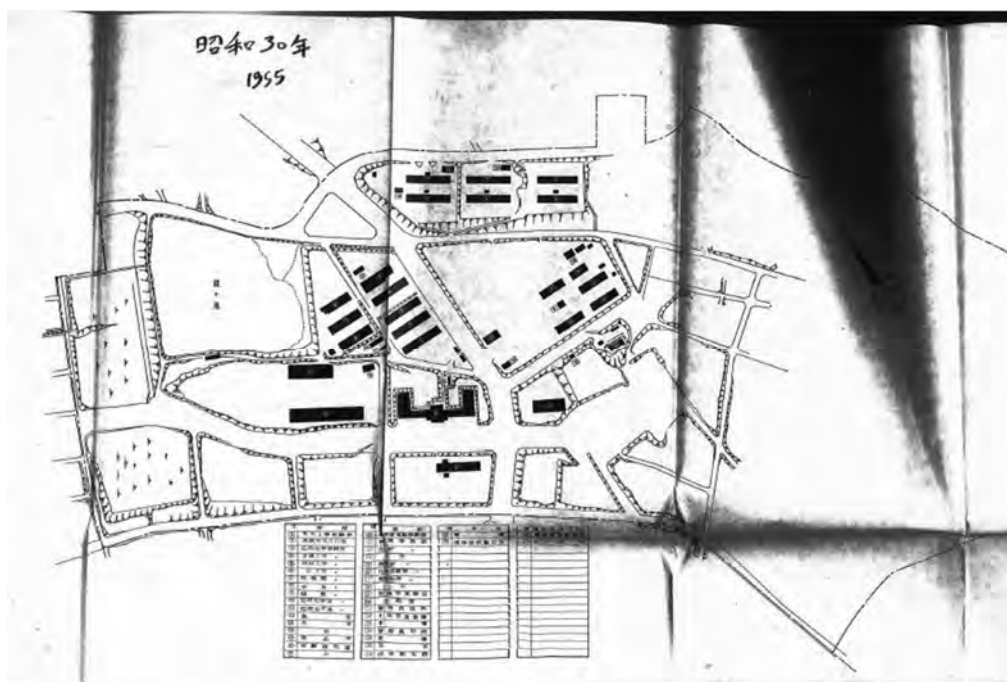
Fig. 27 Nagoya university Higashiyama campus in 1955. From *Nagoya Daigaku Yōran*, 1955, courtesy of Nagoya University Archives.

university space, whether it contained or not places appositely designed for their gatherings, became the theater of their actions.

3.3. In Japan: the historical and social context of postwar universities

Famously, the defeat in World War II meant for Japan the loss of its Empire over many Asian countries and the occupation by the United States under the leading of general Douglas MacArthur and the "GHQ" (General Headquarters). The immense destruction of war bombings was so heavy, in terms of deaths, material losses and people's spirit, that from 1945 until part of the 1950s-decade poverty and desperation, depicted in several works of literature and art[5], seemed the only possible future. In university architecture as in other fields, construction of significant works was paused: the reconstruction was still in the era of «wooden barracks»[6], as documented in university archives as that of Nagoya University, which started developing just before the war (Fig. 27)[7].

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[5] For example, the novels *The bells of Nagasaki* (『長崎の鐘』, Nagai T., 1949) and *Nijūshi no hitomi* (『二十四の瞳』, Tsuboi S., 1952), the movies *Ikiru* (『生きる』, Kurosawa A., Japan, 1952) and *A Boy Called H* (『少年 H』, Furuhata Y., Japan, 2013).

[6] Matsukuma (2016), p. 12.

[7] Nagoya University Archives (名古屋大学文書資料室) conserve university handbook (*Nagoya Daigaku*

The signing of the United States-Japan Security Treaty (日米安全保障条約, often shortened in 安保, *anpo*) enabled USA to maintain a strong military force and military bases in Japan. This was «an important factor during the Korean War and a continuing factor in Japan's U.S. relations»[8]. In facts, with the USA directly involved in the Korean War from 1950, Japanese industries and companies were suddenly submersed with orders for war supplies (the "special procurement"), and this is said to have been the major impetus for Japan in exiting the crisis[9].

Therefore, from 1956 to 1968, Japan's export-oriented economy grew surprisingly until reaching the status of second largest economy in the world[10]. However, it would be an error to think that during this period, often called *kōdoseichōki* (高度成長期, "high growth period") people's condition was already as good as in war winners countries: people worked hard and had still poor life conditions. In other words, Postwar Japan was a developing country.

This period of development coincided with the "baby boom" of newborns in 1946, which caused the necessity of building a large amount of new fireproof elementary and junior high schools in the 1950s and the consequent birth of the discipline of school architectural planning, whose leading theorists and architects were Nagakura Yasuhiko and Andō Katsuo, both later committed in university campus planning, too[11]. Their experiments in external corridors, classroom clusters or classroom towers were not largely adopted, but were meaningful to university architecture of the 60s-decade (see

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Yōran, 『名古屋大学要覧』) updated ever two years since 1955. For this research it has been consulted especially the state of Higashiyama campus in plans from 1955 to 1989.

[8] Hoover (2018), "United States-Japan Security Treaty", pp. 418-419.

[9] See *idem.*, "Occupation of Japan, American", pp. 294-295. Thus, dramatically, this economic expansion happened at the expense of Koreans and at the cost of permanently ruined relations with Japan's neighbors.

[10] See *idem.*, "Economy", p. 82.

[11] Nagakura Yasuhiko experimented steel structure and external corridors in Yakumo Elementary School (see *Kenchiku Bunka* no. 98, 1955, pp. 31-39 and no. 145, 1958, pp. 30-43) and class clusters in Omonma Elementary School (see *Kenchiku Bunka* no. 208, 1964), and was the author of the important text *Gakkō kenchiku no henkaku – hirakareta gakkō no sekkei/keikaku*, Shokokusha, 1993 (学校建築の変－開かれた学校の設計・計画, 彰国社, 1993). Andō Katsuo experimented cloistered composition in Oshima Elementary School no. 4 (see *Kenchiku Bunka* no. 127, 1955, pp. 27-29) and *walk-up* type in Sengen Elementary School (see *Kenchiku Bunka* no. 145, 1958, pp. 60-62). Nagakura was later responsible for the planning of Tokyo Metropolitan University Faculty of Engineering campus, and Andō for the Nishiwaseda Campus of Waseda University.

§5.2.).

The baby-boomers were to became 18 years old in 1966, and, in the meanwhile, university started to massify.

> Higher education in Japan has experienced a rapid quantitative expansion since the first 1960s due to the increase in the high school enrollment rate against the backdrop of rapid economic growth and the fact that the generation born during the so-called first baby boom reached the age of 18 in 1966. For example, in 1960, the number of students enrolled in universities and junior colleges was 710,000 and the advancement rate was 10.3%, but in 1965, the number was 1,050,000 and 17.0%, and in 1975, the number was 2,090,000 and 37.8%, a remarkable increase: universities entered the so-called age of massification.[12]

This massification was preannounced and prepared by the Basic Law on Education (教育基本法, *Kyōiku kihonhō*) of 1946, redacted under the occupation of GHQ, which pursued the spread of higher education to a larger span of social classes, and planned the realization of at least one national university for each prefecture, officialized in 1949 with the emanation of the Law for the Establishment of National Schools (国立学校設置法). The debate on the concrete shape and rules to give to the new-order university concerned 4 main actors: from the American side, the GHQ in the form of the Civil Information and Educational Section (CIE), and from the Japanese side the Association for University Standards (大学基準協会), the Committee for the Educational Reform (教育刷新委員会) and the Ministry of Education. According to Amano (2019), this debate was characterized by an initial mutual misunderstanding, in which the CIE insisted for reforms shaped on the American system and Japan for the conservation of some original characteristics[13]. Then, the period 1952-60 was characterized by the uniformity of views between the Ministry of Education and the single universities, in a context of poverty of resources and facilities, but also by criticism from the business world because of the scarce preparation of students and the lack of differentiation or specialization[14]. Finally, the Central Council for Education published the '63 Report (三八答申), considered by Amano to represent the end of the debate on the new order university and the start of the "massified university"[15]. In the preface of Section I, it is stated that:

> «The demands for institutions of higher education have become more diverse and wide-ranging (…). Against this backdrop, the character and functions of universities have undergone major changes, and the university as a social institution has come to the surface more strongly than the

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[12] Monbushō (1992), p.394.

[13] See Amano (2019), p. 17.

[14] *Ibid.*, p. 304.

[15] *Ibid.*, p. 523.

so-called "ivory tower". This also indicates the fact that the relationship between the purpose and mission of universities and the demands of the state and society is becoming increasingly close. On the one hand, universities maintain their traditional mission of contributing to the maintenance and improvement of Japanese culture by conducting advanced academic research in response to fierce international competition and to the demands of constant social progress, and on the other hand, in response to the demand for democratization of education that accompanies the development of democratic society, they provide people from all walks of life with a high level of vocational education and civic education. Moreover, it must be noted that the target of higher education has changed from a select few to a broad class with a wide range of abilities and characteristics»[16].

As it can be understood, the '63 Report acknowledged the already developed massification of universities and put the basis for the future strategies and considerations to assume. This report had a great importance. In fact, by criticizing the continental Europe-derived emphasis on the educational and research purpose, the Ministry of Education for the first time showed a different path, with emphasis on the liberal arts and human culture and sociality, as in British and American models. This way was already practiced especially in private universities; however, with the '63 Report also national universities had to correct their direction. Concretely, in order to adequately acknowledge and respond to the massification, the Report encouraged universities to undertake reforms in the scale, faculty organization, students' welfare, entrance examination and financial affairs.

Finally, it is important to note that university students united in the *Zengakuren* Movement since 1949, much earlier than in Europe or USA. Their protest against the *Anpo* exploded already in 1960 with a force that in Europe was still to be experienced; when the '68 Movement in the West rose and echoed in the already burning Japanese universities, students' protests were directed towards universities and their power (protests concerned, among other topics, the rise of university fees, control over dormitories and students' unions or *gakusei kaikan*) [17]. Political fighting escalated first in campus barricades and fires, and later into intra-movement violence. It is said that the Student Movement was the impetus which convinced the government and universities to inaugurate the reforms of the 1970s and the birth of a new kind of

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[16] '63 Report (1963), I. "Daigaku no mokuteki/seikaku ni tsuite" (translation by the author).

[17] See Monbushō (1972), pp. 839-842, and Monbushō (1992), p. 191. The expression *daigaku funsō* (大学紛争), meaning "university conflicts" is used to describe specifically the events of 1968-70, when students opposed to universities.

university as Tsukuba[18]; but in the practice, reactionary solutions were the main concrete change. For example, the Act on Temporary Measures concerning University Management (大学の運営に関する臨時措置法) of 1969 allowed universities to close its educational services in case of dispute with students; central Tōkyō universities such as Chūō University and Hōsei University moved in the countryside their campus right after the explosion of protests: this suggests an attempt to escape the risks of the concentration of schools in the metropolitan center, because in such cases «protest propagated in the neighbor university like leaping flames»[19]. Through measures such as these, the Movement was at first forcedly quieted and then it received a sort of *damnatio memoriae*, without reaching its cultural goal; as a result, nowadays the students' protest period is still a taboo topic, contrarily to Western countries where students were the moral and cultural "winners".

These are, in brief, the historical and social circumstances meaningful to Postwar Japan's universities: American occupation, economic development, "baby boom", new-order university, students' movement. It is now necessary to explore those changing factors that affected university space, starting with the analysis of University Establishment Standards and the present research's database.

3.4. University Establishment Standards and the Postwar *Campus* typology

Before the war, with the 1919 University Act (大学令, *Daigakurei*)[20], universities were not required to satisfy predefined spatial or architectural standards; however, the site plan and architectural design were subject to an examination by the Ministry of Education[21]. In the postwar era, instead, the government started a process of regularization and guideline definition that culminated with the University Establishment Standards (1956), so that the most important characteristics of Japanese university space were defined permanently and uniformly.

The following paragraphs describe its influence on each of the categories described in §2.6.1.: a) relationship with the city, b) outdoor space, c) students' residence, d) faculty organization and e) extracurricular activities. These categories will be analyzed in a different order, to better reflect the flow of events.

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[18] Monbushō (1972), p. 842.

[19] Fujii and Yamawaki (1997), p. 87 (translation by the author).

[20] "Daigakurei", Imperial edict no. 388, 1918.2.6. (大学令　大正七年十二月六日勅令第三百八十八号, https://www.mext.go.jp/b_menu/hakusho/html/others/detail/1318056.htm [accessed 2023.6.2] (in Japanese).

[21] Morikawa (2005), p. 133.

Tab. 3 Spatial planning guidelines for national universities contained in 9th Special Committee of the University

Establishment Commission, Ministry of Education: "Kokuritsu daigaku seibi keikaku yōkō", 1950.

第9特別委員会：「国立大学整備計画要綱」（1950）に記される大学空間の整備方針

Article 条	Paragr. 項	Content 内容
1		It is ideal that the basic facilities necessary to the education, research and management of national university are located in the same place. 国立大学の教育，研究、管理に必要な基本的施設は同一場所にあることが理想である。
2	1	However, in the case it would be difficult, it is preferable for the facilities of those faculties or departments which have many common lectures to be located in the same place or in mutual proximity. が困難な場合には、少なくとも共通的講座を持つことの多い学部，部門の施設は同一場所または相互に近接していることが望ましい。
3		In the case the relocation of faculties or departments with few courses in common with others would necessarily request too much expensive resources, it is inevitable to leave those faculties separated. 他学部，他部門との共通的講座を持つことの少ない学部、部門はその施設を移すのに巨額の経費を要する場合は分離していることも止むを得ない。
4		In order to realize a rational plan of unification, it is necessary to consider the following points: 合理的な総合整備計画が樹立されるためには、次の諸点が検討される必要がある。
	A	Reorganization and uniformation of the faculties, departments and affiliated institutions' facilties. 学部、学科、附属施設などの整理統合
	B	Rationalization of the number of students 養成学生数の合理化
5		It is also necessary to consider the following points: その他次の諸点を考慮される必要がある。
	A	The possibility of exchanges with other nearby educational facilties. 附近の教育施設等との交換を考慮する。
	B	The prevention of under- or over-estimation in the capacity of students of one school. 一校への学生数の過小または過大収容の防止。
		In this, some points in favour of the concentration of two faculties or departments in the same place are the following: このうち、2の学部、部門が集注することの利点として、
	A	The educational imbalance can be avoided. 教育上の不均衡がさけられる。
	B	From the point of view of the control office, it can be obtained smoothness of management and economization of finances. 事務管理上，運営の円滑、経費の節約をはかることができる。
	C	Redundance in facilities and professors' organization (especially for general education) can be avoided. 施設及び教員組織（特に一般教育において）の重複がさけられる。

Source: Ikuta and Aizawa (2008), Tab. 2, p. 58 (translation by the author).

3.4.1. Faculty organization

The new-order national universities of the postwar era were established according to the principle suggested by the GHQ of «one prefecture, one university»[22], and, practically, with the merging of several higher education former institutions, each one located in a different site within the pertinent region. This initial chaotic situation, with faculties and departments dispersed in a "octopus-feet form" – or *Diffuse university* made of several *Campuses* – , however, was considered as anti-economic and undesirable.

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[22] See Amano (2016), pp. 56-58.

Ikuta and Aizawa (2008) researched about the effort of the 9th Special Committee of the University Establishment Commission established by Ministry of Education in 1950 in order to provide guidelines for the unification of dispersed faculties and departments of national universities in one site [23]. These guidelines, contained in the Report "Requirements for the spatial planning of national universities" (「国立大学整備計画要綱」) are summarized in Tab. 3. It is noticeable that the division of faculties as in the French model, so influential for the birth of Japanese universities, was rejected by the official guidelines for a synthetic and economically sustainable one-*Campus* model. This suggests both the persistence of the prewar consolidated preference for the *Campus* and a new influence from the American model. However, in the practice, the variegated origin of the new-order national universities continued to emerge in the faculty structure, which, even once grouped in one site (process which required decades, for many universities), maintained a strong decisional autonomy.

This latent tendence to sectorize the disciplines is reflected in the first version of the University Establishment Standards (大学設置基準, 1956) in which the only possible faculties to establish were defined as Literature, Law, Economics, Commerce, Sciences, Medicine, Dentistry, Engineering and Agriculture[24]. However, after the 1956-1963 debate reported by Amano (2019) and the '63 Report, the faculty of Liberal Arts was added as a mean to provide a freer curriculum and unity of knowing. This shy attempt to loosen the boundaries of the traditional faculties was finally completed in 1991, with the "Report regarding the improvement of university education and deregulation of university establishment standards" (「大学設置基準の大綱化等大学教育の改善に関する答申」).

> «The first point of the reform of the University Standards was the abolishment of the distinction between general education and specialized education, so that each university could compose educational courses endowed with variety and originality»[25].

Therefore, *faculty organization* in Postwar Japan universities is characterized by a *status quo* of separated disciplines (French model) and a slow effort in order to realize interconnected faculty organization (American and German model). In spatial terms, this process can be represented, first, with the reunification of *Diffuse university* again into the prewar *Campus* typology; then, with the contents of the *Campus* itself, which,

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[23] Ikuta and Aizawa (2008), pp. 58-59.

[24] University Establishment Standards (1956), art. 2. Similarly, the 1918 University Act considered as possible faculties Law, Medicine, Engineering, Literature, Sciences, Agriculture, Economics and Commerce.

[25] Monbushō (1992), p. 397 (translation by the author).

Tab. 4 The first standards for university grounds and buildings defined in 1956.

Article 条	Paragr. 項	Sub.	Content 内容
35 (校地)			The university site shall have **an environment suitable for education, and the buildings' site shall have suitable open space for students to use for rest and other purposes.**
36 (運動場)			The sports ground, in order to not cause obstacle to education, as a general rule shall be positioned in the same site as the university buildings or in an adjacent site; when unavoidable, it can be sited in other suitable positions.
37 (校舎等施設)	1		The university, [apart from the necessary facilities] corresponding to its organization and scale, must at least be provided of buildings prepared for the following functions:
		i	Rector's room, meeting room, office
		ii	Research rooms, classrooms (lecture rooms, laboratories, seminar rooms etc.)
		iii	Library, medical office, **students' self-learning rooms, students' waiting rooms**
	2		The research rooms must be absolutely prepared for each full-time professor.
	3		The classrooms shall be prepared with the necessary types and number in base at the department and course level.
	4		In the library's reading room, there must be a number of seats major than 5% of the students' capacity.
	5		The university, in addition to the facilties listed in paragraph 1, shall be furnished **wherever practicable** with a hall, a **gymnasium** and **dormitories**.
	6		Universities with faculties which accomplish lectures during dark hours, in addition to provide research rooms for full-time professors and other extensions, shall feature suitable illumination and hygiene plants so to not cause obstacle to education and research.
38 (校地及び校舎 の面積)			The areas of the university site and university buildings are defined in a separate document.

Source: University Establishment Standards (1956), p. 1429, art. 35-38 (translation by the author).

from a faculty-organized and education-centered *Palace-like Campus* asset, tended to evolve slowly into a more students' life-organized and common-facilities-centered *College-like Campus*. This is analyzed further in the next paragraph.

3.4.2. Outdoor spaces, students' residence and extracurricular activities

The overmentioned University Establishment Standards (1956)[26] defined also the requirements in terms of university site and buildings. Because of this law, not only the *Campus* typology was *de facto* made the only possible configuration for a university space, but also, and more strictly for what concerns national universities, buildings' area and functions were regulated.

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[26] See University Establishment Standards (1956), art. 35-38. This law was subject of several modification, but modifications of the articles regarding school ground and buildings respected and enforced the goals of the first version. The standards in their latest version are visible at the law search engine e-Gov (e-Gov 法令検索), https://elaws.e-gov.go.jp/document?lawid=331M50000080028 [accessed 2023.6.2.].

3.4.2.1. Outdoor spaces

As shown in Tab. 4, the first paragraph states:

> «The university site shall have an environment suitable for education, and the buildings' site shall
> have suitable open spaces for students to use for rest and other purposes»[27].

This, together with the art. 36 concerning the presence on the same site of an athletic field, limits the possible university space typology to *Campus*. Not only; the purpose of open spaces is «the rest and other purposes» of students. This is significant for understanding a new factor considered by postwar universities: the necessity of students' wellbeing and welfare. Again, an influence of the Anglo-Saxon collegiate life model emerges.

3.4.2.2. Extracurricular activities

In art. 37, par. 1, sub. iii., it is required to provide space for «students' waiting areas» (生徒控室, *seito hikaeshitsu*), which, as later deepened in §5.3., was an area present in some prewar Number Schools but later abandoned in most of the university campuses. Such a function, for students to spend the extra-class time, was now strictly required and marks another difference with continental Europe university spaces. How did Japanese universities cope to such a requirement in the massification era is of great interest. It was right during the peak of massification that Kobayashi (1965) wrote:

> «Together with the sudden high economic growth, universities became not only the place of
> education and research anymore, but also a peaceful place aimed at increasing human culture. In
> order to build strong human relationships and to help the spread of sociality, universities started
> building the *daigaku kaikan* [translator's note: 大学会館, literally "university hall", but later
> translated as *gakusei kaikan*, 学生会館, students' hall] as places for extracurricular activities»[28].

This new kind of facility, built for the first time in Waseda University in 1954[29] and in the most prestigious private universities, was in fact already existing before the '63 Report, but since then it started appearing also in national universities.

3.4.2.3. Students' residence

However, not everything was "Anglo-Saxonized". The students' residence, so important for the British and American models, was not made a strict requirement. In art. 37, par. 4, the students' dormitories are listed among the facilities to realize only when possible. In the practice, when universities possessed dormitories, these where rather placed outside the campus. A practical example is represented by Shimane University Nishikawazu campus and Saga University Honjo campus described by Marumo (1990):

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[27] *Idem*, art.35 (translation by the author).

[28] Kobayashi (1965), cited in Kim et al. (1995), p. 79 (translation by the author).

[29] See §5.3.3.3.1.

Okayama University Tsujima campus 岡山大学津島キャンパス　1949

Nagasaki Institute of Applied Sciences 長崎総合科学大学　1962

Fig. 28 Two examples of campuses built in 1949 and 1962. Image: Geospatial Information Authority of Japan

both initially had existing dormitories within campus grounds, but relocated them in nearby sites to use the central areas to expand the educational facilities, instead[30]. Nowadays, nearly no university in Japan requires students to reside in the dormitories, although some do so. For this reason, the Japanese *Campus* remained generally a place where students commute from their residence or from the external dormitories.

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[30] Marumo (1990), p. 182 and p. 185.

Tokyo Zokei University campus 東京造形大学　1990

Tokyo University of Sciences Katsushika campus 東京理科大学葛飾キャンパス 2013

Fig. 29 Two examples of campuses built in 1990 and 2013. Image: Geospatial Information Authority of Japan

3.4.3. Relation with urban environment

The category of *Relation with urban environment* requires deeper research.

The presence of walls and gates remained a constant characteristic of most of Japanese campuses, marking a physical and visual threshold between the university space and the public space. However, especially from 21st century, this enclosure began being criticized and campuses without walls or featuring public parks and open spaces started to appear (Fig. 29, below).

The position of campuses already started to shift from the urban core to the periphery in

the 1920s, as described in §2.5.6.; in the postwar period, after the occupation of the best large and flat sites by the new-order national university campuses, most of the new settlements, especially of small-scaled private universities. were directed in extra-urban and topographically harsh sites (Fig. 28). However, to state that Japanese universities pursued segregation from the city because of "picturesque" or "collegiate" educational ideals would be inexact. First of all, in this research proofs of such a mentality in university rectors or legislators have not been found. Secondly, an overview of the campuses collected in the present research's database seem to indicate different reasons for the exit from urban cores. This is the object of the following paragraph.

3.5. Construction and position trends of Japanese Postwar *Campuses*

In this paragraph, besides trying to make clearer the postwar campuses' *relation with urban environment*, it is given an overview in order to have an idea of the scale and number of Japanese university spaces compared to other countries. As summarized above, other countries, facing massification, have pushed their traditional university space typologies to gigantic scale. Japan, instead, never pursued this way; it was instead favored the development of new universities to cover for the insufficiency of the established institutions.

First, a comparison of the number and scale of universities in Japan and some other countries is introduced. Then, by crossing the information regarding the settlement year and the position of each campus of the present research's database[31], it has been tried to visualize the trend of campus construction through the decades and the trend of their geographical and positional conditions. Finally, we focused on the postwar period in order to attempt an explanation of the link between campus foundation's trends and Japan's social and educational context.

3.5.1. Scale and number of Japanese universities

With 778 universities in 2022, Japan's higher education institutions comprise a diverse totality of small and private university with comparatively fewer financial resources than in other countries.

When compared, for example, to the Italian scenario, it is interesting to notice that, while Japan has 1,68 times the total number of Italian university students, the number of universities contains around 8 times the latter (Tab. 5). As a result, the average number of students enrolled in a Japanese university is much lower than that of an Italian university (4271 vs. 22 136 students in the case of public universities). It is also noteworthy that Japan's rate of students enrolled in private universities is

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[31] See § 1.3.2.

Tab. 5 Comparison between universities' number and scale in Japan, Italy, UK and USA

	日本 Japan	イタリア Italy	英国 UK	米国 USA
● 国公立大学 /Public univ. ● 私立大学 /Private univ.				
国民人口 (100万人・2021年12月) National population (1 million people, 2021.12)	126.47	60.24	67.1	334.0
大学の数 (教育機関) * Number of universities * (institutions)	179 / 607 = 786	21 / 69 = 90	9 / 124 = 133	772 / 1907 = 2 679
全体大学生数 (100万人) Number of univ. students (1 million people)	0.76 / 2.15 = 2.92(1)	0.24 / 1.48 = 1.73(2)	0.04 / 2.42 = 2.46(3)	4.91 / 8.98 = 13.9(4)
大学1校当たり 平均学生数 (1人) Average number of students per univ. (people)	4 271 / 3 542	22 136 / 11 428	19 838 / 4 543	11 635 / 2 578

参照 /References: (1) MEXT (2019); (2) MIUR (2019); (3) HESA (2020); (4) NCES (2018)
* 3年間以上に学士号と同等以上の学位が取得できる機関
* Institutions that provide a bachelor's degree equivalent or higher within a minimum of 3 years

overwhelmingly higher than in many western countries (Japan 77%, Italy 16%, United Kingdom 1%, United Stated 35%); this is because private universities are not as difficult for students to enroll in as national universities, differently from western countries.

3.5.2. Target campuses' information

Among the data collected for each of the 681 campuses considered in this research (see § 1.3.2.) there is the settlement year, defined as the starting year of educational activities in the considered site[32].
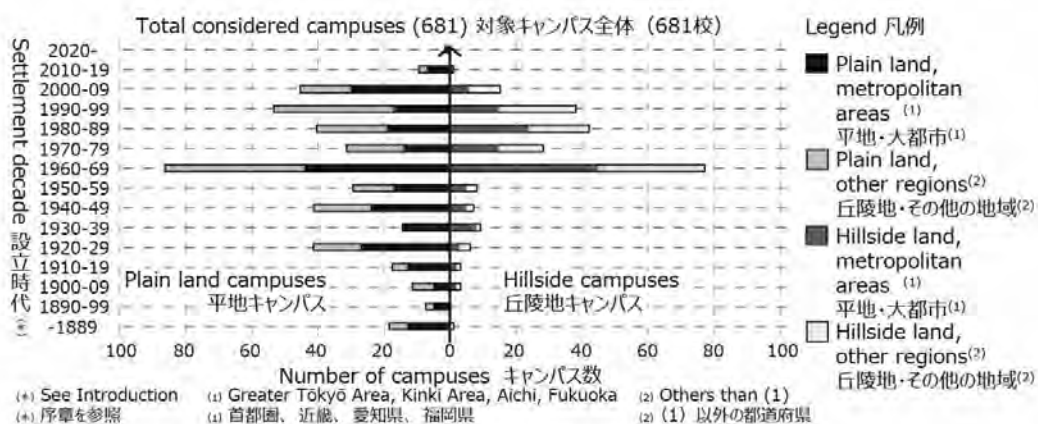
Fig. 30 Target campuses by 'settlement decade', 'region', 'plain land or hillside site position'

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[32] See § 1, note 6.

In addition, the presence or absence of a difference of altitude > 5 m within the campus' site[33] determined the definition of "plain land campuses" and "hillside campuses". Finally, three categories of "surroundings" have been classified. We here define as "urban" those campuses surrounded on every side by built environment; "rural" those surrounded on every side by non-built environment; "edge" those which confine partly with built environment and partly with non-built environment (forest or cultivated fields, rivers, sea). These are explained in detail in the next chapter (§ 4.2.), but we here introduce them to better picture the recent history of Japanese campuses' development.

3.5.3. Settlement trend of the target campuses, 1872-2022

The analysis shown in Fig. 30 highlighted an obvious link between regulations between university establishment and campuses' settlement, with new campus settlement peaks following the inauguration of the Education System (学制, *Gakusei*) of 1872, the University Act of 1919 (which permitted the new establishment of prefectural universities and the achievement of university status for many private higher education institutions), the postwar Basic Law on Education (教育基本法, *Kyōiku kihonhō*) of 1946. Many of the universities which evolved from existing institutions were founded on what was their previous site, thus requiring an evolution of the campus but not a new settlement.

The boom in campus settlements which occurred during the 1960s, and the spread outside the main metropolitan areas which intensified from the 1980s stand out. Of the considered campuses, 536 out of 691 (78,7%) were newly established after the World War II.

3.5.4. Focus on the postwar period (1946-2022) and link between campus settlements, social context and governmental policies

As a next step, the distribution of campus settlements by year has been compared with the trend of the foundation of universities and *tanki daigaku* (短期大学, 2-years "junior colleges")[34], with the trend of the 18-year-olds population[35], and with the trend of the real GDP[36]. The results have been confronted with the studies of Hasegawa (2012) and Yoshimi (2021) regarding the links between universities, governmental policies in matter of university establishment permissions and national territorial plans.

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[33] See § 1, note 8.

[34] Foundations for year based on MEXT (2021).

[35] Based on MEXT (2020b).

[36] Based on Honkawa (2022).
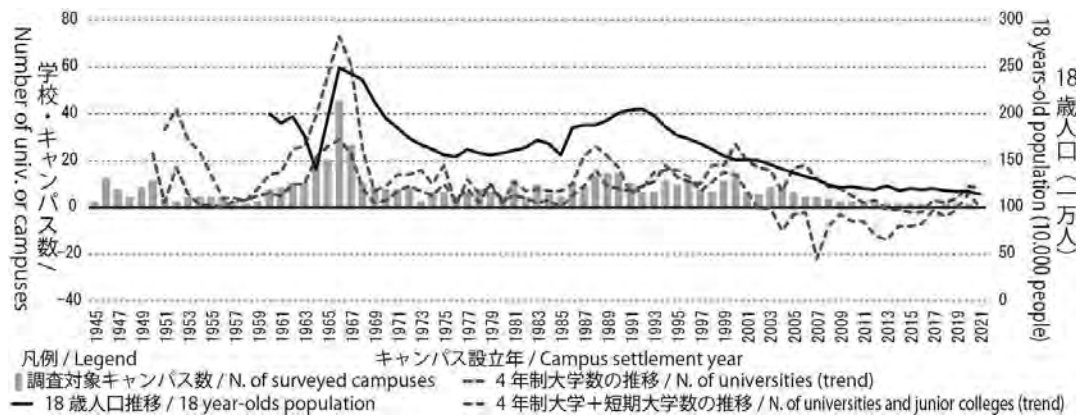
Fig. 31 Comparison between campus settlements, 18-year-olds population trend, new foundation of

universities and junior colleges (1945-2021)

3.5.4.1. Quantitative analysis

An analysis of the 536 postwar campuses in use as of March 2021 by year of establishment shows that 45 campuses started their educational activities on new sites during the sole 1966, the peak year; when considering the span between 1964 and 1967, the new settlements are 110, accounting for 20.5% of the total covered. The peak is equivalent to the first boom in the 18-year-old population in 1966 and the peak in the establishment of universities and colleges in preparation for this boom (Fig. 31). However, despite high GDP growth from 1967 to the first Oil Shock in 1973 (Fig. 32) and a generally thriving construction industry [37], the decline in the establishment of universities and in the settlement of campuses happened more rapidly than the decline
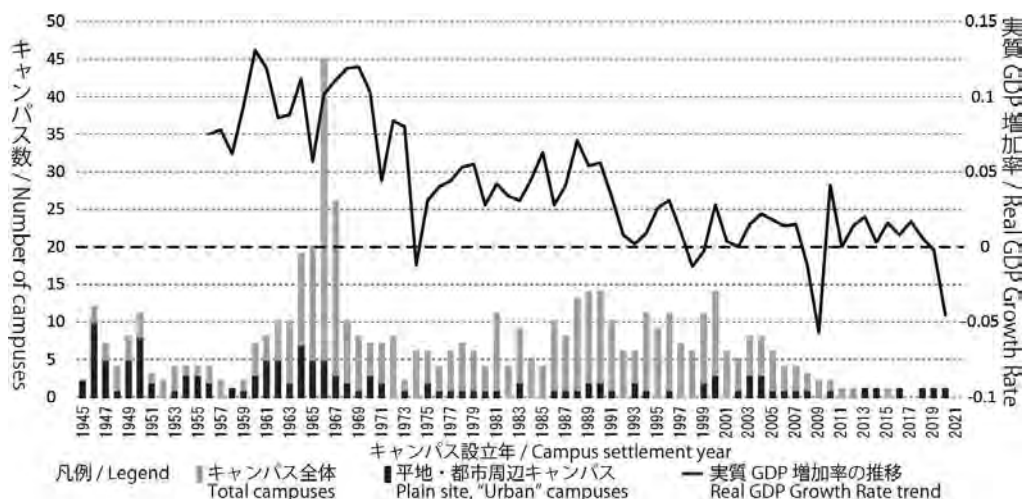
Fig. 32 Comparison between campus settlements and real GDP growth rate trend: plain site urban campuses

are highlighted in blue.

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[37] See Nihon no kindai gendai (2019), pp. 26-30.

in the number of 18-year-olds. Although prior studies do not provide an explanation for this, this is likely to have been influenced by the outbreak of the student movement in 1968-69. In the following decades, the distribution of the number of campuses established by year is similar to that of the number of universities in Japan. The low number of new campuses established in the late 1990s relative to the increase in the number of universities during the same period is explained by the raising of status from *tanki daigaku*s to universities, many of which continued to use their existing campuses.

3.5.4.2. Positional trend of campuses and national policies

Fig. 33 shows an analysis of the target campuses by surroundings classification (see §4.2.2.), by plain land/hillside area, by year of establishment, and by metropolitan areas/ other regions. First, it can be seen that from the establishment of the new universities in 1949 to the late 1950s, the majority of campuses were located in flatlands and urban areas, while in the 1960s, the number of campuses in hilly areas and on the limit of the urbanized zones (the "edge" surroundings) increased rapidly. The reason for this is broadly recognized to to be the *Kōgyō (jō)-tō seigen-hō* (工業（場）等制限法, Restriction Law for Industries Etc.), which prohibited the establishment of new universities from 1959 within the Tokyo metropolitan area and from 1964 in the Kinki region. However, Hasegawa (2012) reports that «because of the increase of university students of the first Baby Boom, the situation of the demands for approval of the establishment of new private universities was nearly left uncontrolled»; for this reason, in the 1960s the government policies had small impact. Also, the fact that the overwhelming majority of campuses were located in "edge" surroundings suggests that the need of small private institutions to build campuses in a short period of time, rather than a planning on a national scale, influenced the campuses' position trend during the peak period.

After the aforementioned 1967-73 establishment decline, a 10-year plan by the Ministry of Education's Central Council for Education[38] was implemented from 1975-84, a period during which no new universities were allowed to be established not only in major cities but also in specified areas of government-designated cities nationwide[39]. Therefore, most of the campuses were built in "rural" and "edge" surroundings, or on hillside sites, but the overall establishment of campuses entered a period of stagnation due to the lack of aid policies for private universities. The percentage of hillside campuses during this period was the largest. Next, in preparation for the second baby boom, the Ministry of Education formulated the "Plan for the 1985's" in 1986[40], which specifically initiated the

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[38] Monbushō chūō kyōiku shingikai, "10 nen-kan keikaku" (文部省中央教育審議会、「10 年間計画」).

[39] The *seirei shitei toshi tokutei chiiki* (政令指定都市特定地域).

[40] "Shōwa 60 nendai keikaku" (「昭和 60 年代計画」).
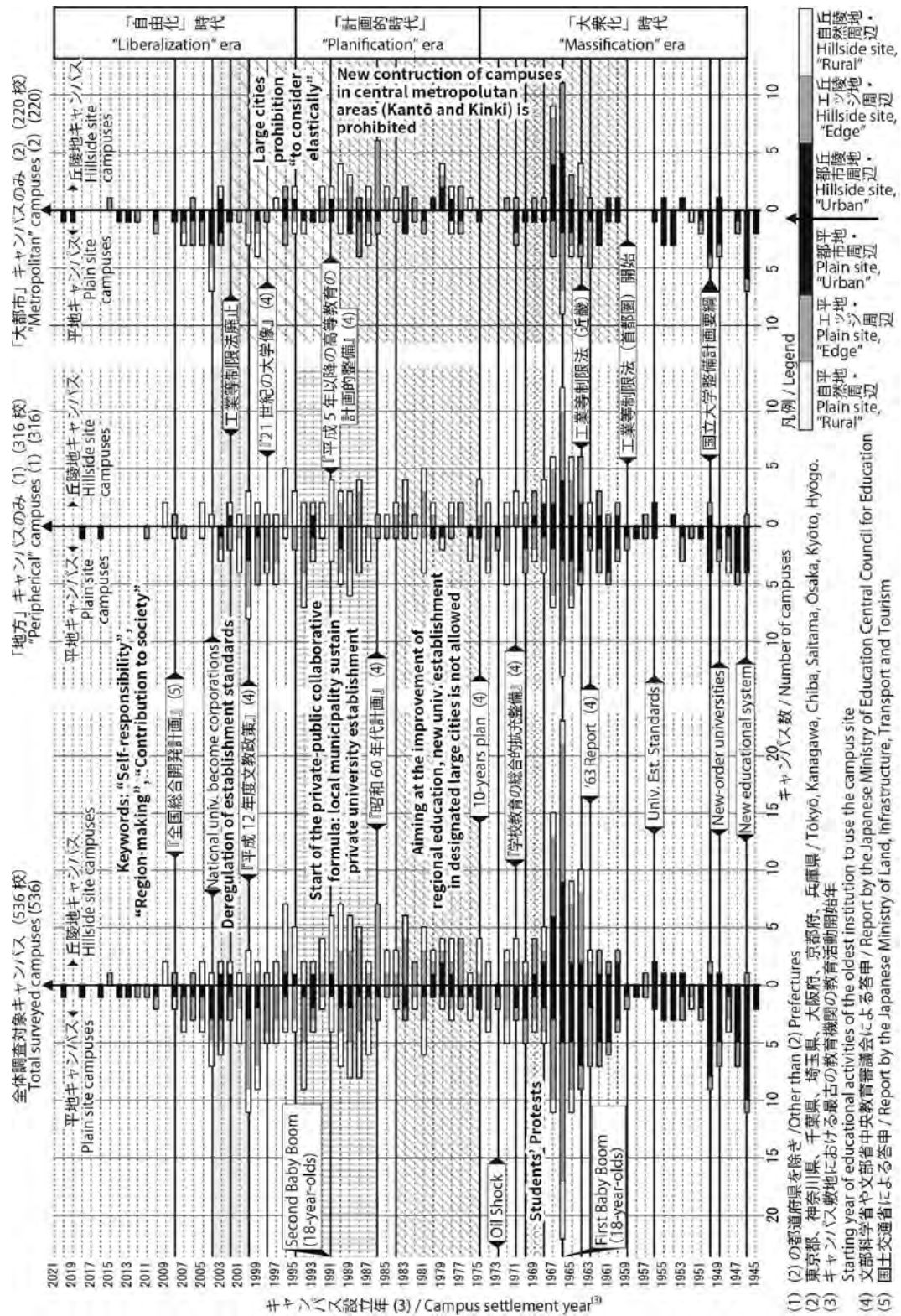
Fig. 33 Campuses by year of establishment, by surroundings classification, by plain land/hillside site, by metropolitan/peripherical regions (1945-2021). The captions show the main related laws, policies and events.

establishment of universities (including the cost of land and construction of school

buildings, etc.) through the "public-private cooperation method". Thanks to such material help, many campuses were established, especially in rural areas, and many hilly sites were adopted. In addition, with the 1991 "deregulation", the government allowed the increase in capacity of students and personnel of the universities.

Conversely, the dissolution of "temporary capacity allowance" in 2000-2004 on one side caused a damage for the smallest universities and favored the already strong universities; on the other side, the repeal of the *Kōgyō (jō)-tō seigen-hō* in 2002 eased restrictions on the establishment within metropolitan regions, resulting in a comparative increase in the number of new campuses, especially in metropolitan regions, on flat land and in "urban" surroundings. In fact, the establishment of university campuses decreased along with 18-year-olds population between 2001 and 2021, but two-thirds of the campuses built during this period are located in metropolitan areas. In the most recent years, the construction of new campuses is becoming rarer, while several private universities, especially those located in "rural" surroundings and peripherical regions, cannot fulfill the minimum number of students required.

3.5.5. The 3 eras of Postwar Japan universities and development of campuses: "massification", "planification", "liberalization"

The evolution of campus geographical conditions in Japan and of their relationship with the city can be roughly divided into three periods, whose definition is borrowed from the historians of postwar university development[41].

From 1945 to 1975, the proper "massification era", when urban sites were quickly occupied and then moved to the periphery due to necessity and metropolitan limitations. From 1976 to 1994, the "planification era", when national policies strongly discouraged the establishment of campuses in cities, and encouraged the settlement in rural areas, especially from the late 1980s, with hillside campuses outnumbering plain-land campuses.

Finally, in the "liberalization era" that began in 1995, competition among universities allowed universities in large cities and those with existing financial resources to take advantage of the possibility of establishing new campuses, and campuses on plain lands and in "urban" surroundings appeared again.

3.6. Conclusions of Chapter 3

We started this chapter with the question: "Compared to other countries, by modifying which original spatial/architectural characteristics did Japanese universities coped with the challenges given by the university massification?".

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[41] See Yoshimi (2021).

Japanese university space, as understood in §2.6., before World War II was essentially *Campus* in shape and *Palace* in content, meaning that the influence of French and German universities, both in a different manner centered on the function (education and/or research) rather than on the community of students and teachers, was powerful. In the years following the war, instead, universities were directed closer to the American model and the "collegiate life" system; however, the prewar experience and established way of being of Japanese universities resisted to some of the wished reforms.

For these reasons, some prewar characteristics of the university space did change and some did not (Fig. 34):

a) *Relation with urban environment*: The prewar originally urban campuses already started moving in peripherical areas since the 1920s-decade; in the postwar period, new settled universities were forced to adopt extra-urban position by inter-university competition for land purchase and by regulations. Fences and walls remained until recent years a stable feature of Japanese campuses, creating a gap between the inner environment and its surroundings, even when the campus is located in urban cores. However, in § 2.6. we proposed the thesis of the intrinsically urban nature of Japanese universities; in § 3.5.4., we saw that the exit from urban centers was the result of government policies, and universities returned to cities as soon as it became allowed again. Therefore, it appears that the rural or semi-rural position, forced through most of the postwar era, represented a forced condition for Japanese campuses, differently from the USA where in some cases was part of the educational ideal.

b) *Outdoor spaces*: From before the war Japanese campuses always provided in-campus outdoor spaces completed with plazas, gardens etc. With the postwar University Establishment Standards (1956), outdoor spaces «for students' rest and other purposes» were even set as the first requisite for university space. Actually, the most recent version of the Standards imposes that in case outdoor spaces are too difficult to realize, then «The school building shall be as open as possible (…)»[42] and «facilities necessary for interaction, rest, etc. shall be provided»[43].

c) *Students' residence*: Despite the new collegiate tendency, Japanese campuses remained non-residential also after the war. Students commute from their residence to the campus.

d) *Faculty organization*: In the years immediately after the war, the former high technical schools became faculties of the newly established national universities and

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[42] University Establishment Standards (1956), as valid in 2023, art. 34, paragr. 3. https://elaws.e-gov.go.jp/document?lawid=331M50000080028 [accessed 2023.6.2.].

[43] *Ibid.*

大学空間類型 Typology of university space	Separation from city / Union with city	Own OS / Public OS	Resident students / Commuting students	Grouped faculties / Divided faculties	Presence of space for extra-curricular activities
A.College					
B.1. Single-faculty Palace					
B.2. General Palace					
C. Diffuse university					
D.1. College-derived Campus					
D.2. Palace-derived Campus					
Prewar Japan 戦前日本					
Postwar Japan 戦後日本					

Fig. 34 Schematization of the peculiarities of postwar Japanese campuses compared to other typologies.

maintained a semi-independent French-like status. The following decades were characterized, on one hand, by this basic character, and on the other hand, by an effort in order to group faculties in one campus and later to allow a freer composition of faculties. Postwar campuses are still mostly organized by faculty function, but the necessity of loosening faculty separation is repeatedly recalled in plans and strategies.

e) *Extracurricular activities*: Especially with the '63 Report, the necessity of a place for students to gather freely for activities other than sport was finally welcomed – and this is the major vicinity with *College* and *College-derived Campus* typologies.

It is because of these conservations and changes that Japanese campuses acquired their peculiarity.

As it can be noticed, the categories *relation with urban environment* and *faculty organization* are complex and cannot be summarized in one adjective. However, it is possible to point out some other adjectives that are common to most of the Japanese campuses and did not change since the prewar period:

1) "non-residential",

2) "small-scaled"[44],

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[44] The average student number for university in Japan is 3000-4000 (see Tab. 5). It is not possible to
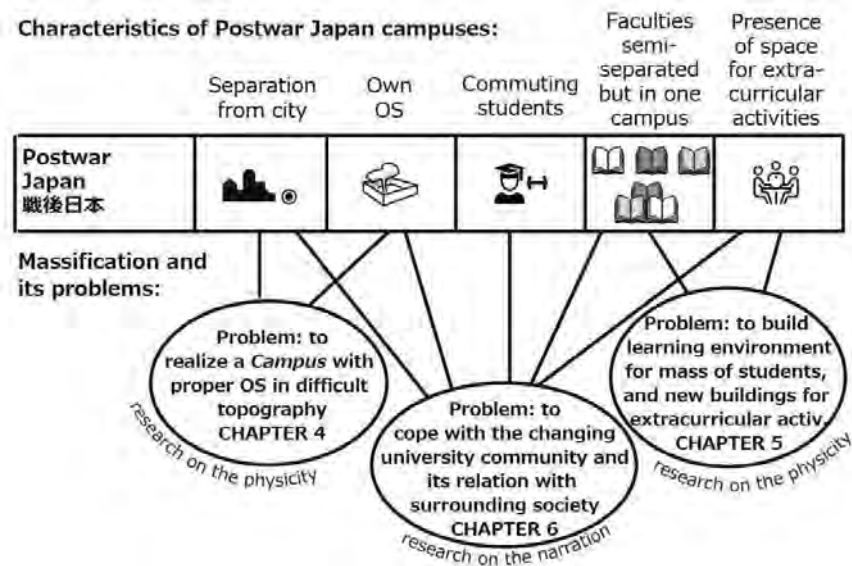
Fig. 35 Massification problems and campuses' characteristics

3) "enclosed (and with proper open spaces)".

These three characteristics allowed Japan to conserve the *enclave* nature of university campuses.

Instead, what did change was the new focus on the community of students and their life outside classes.

As a conclusion, while, as summarized in §3.2., other countries undertook the challenges of university massification by increasing the size of the single institutions and therefore by making gigantic versions of their own original spatial type, Japan increased instead the number of institutions and maintained these three adjectives of "non-residential", "small-scaled" and "enclosed" for several hundreds of campuses.

3.6.1. Introduction to the following chapters

In the following paragraphs, these characteristics are linked to three major architectural planning challenges brought by the massification and the postwar history of universities

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define an objective index of "smallness" of campuses. However, Xu, J., Zhang, Z. and Rong, J., "The campus road planning and design research", *Procedia-Social and Behavioral Sciences*, vol. 43, pp. 579-586, 2012 categorized Chinese campuses as "small" when the population of students and teachers is minor than 24,000 people, which in Japan is a number reached only by 14 universities considered as a whole. In the USA, the Carnegie Classification of Institutions of Higher Education (https://carnegieclassifications.acenet.edu/carnegie-classification/classification-methodology/size-setting-classification/ [accessed 15.4.2023]) define as "small" or "medium" ("primary nonresidential" section) those universities with less than 10,000 students. Japanese universities are more similar in scale to American ones than to Chinese ones.

(Fig. 35). It is useful to remember here that the present research's purpose is to find and reevaluate the postwar architectural planning solutions which were capable of responding to the educational and research necessities within the limitations given by the massification phenomenon, in terms of spatial configuration and university community.

Therefore, in Chapter 4 it is addressed the limitation given by the fact that a large number of universities had to build campuses outside the urban centers, and therefore, because of the mountainous geography of the archipelago, in topographically difficult terrains, while necessarily realizing enclosed campuses with open spaces for the welfare of students.

In Chapter 5 it is addressed the necessity of providing campuses with lecture room buildings able to house the masses of students from several faculties incorporated in one campus and connected to open spaces, and buildings for extracurricular activities, for which an architectural typology had to be found for the first time.

In Chapter 6 it is addressed a common theme to all the described characteristics, which is the environment for the postwar university community (separated from the city, enclosed, commuting, ambiguously divided in faculties and provided with a place for extracurricular activities), the changes it encountered until the contemporary era, and the recent debate regarding its mission in contributing to society.

Chapter 4. THE PECULIARITIES OF JAPANESE CAMPUSES' PLANNING APPROACHES TO HILLSIDE TERRAINS

4.1. Introduction

In this chapter, the planning problems given by the position and geographical conditions of the university campuses in Japan are explored[45].

The geographical characteristics of the archipelago influenced greatly the positional choice of campuses: the concentration of big conurbations in small part of the territory led to a polarization between "urban campuses" and "countryside campuses", and the fact that roughly 70% of Japan territory is mountainous caused a large part of campuses to be built in hilly areas.

In addition, as seen in the previous chapter, several historical and social circumstances represented obstacles to the construction. Here we may mention the extremely high number of universities and their relatively small scale, the early choice of *Campus* to be the sole space typology, the influences of government directions and the initiative of private universities, the lack of resources and the subsequent rapid construction growth after the World War II, the higher education boom with hundreds of new universities founded in the 60s, the rise and fall of the Student Movement, the diminution of births, etc.

In summary, all the depicted circumstances, on one hand, limited the availability of large and central sites and the economic resources of universities for building facilities, but, on the other hand, they required a high architectural standard to host students' community, which can be seen in the respect for the natural context, in the realization of outdoor and indoor common spaces, in the provision of comfortable learning environments.

The way of planning such complex architectures with scarce economic resources in remote or hillside sites was refined through one century and more. However, the recent years trend of universities to relocate or rebuild campuses in the most central urban zones, as reported by Sumida and Saio (2018)[46], together with the search for a tighter relationship between university and urban society, is probably going to continue diminishing the importance and popularity of rural, hillside campuses.

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[45] The present chapter is adapted from a 2022 peer-reviewed paper of the author, referred to in the bibliography as Vecchi and Suzuki (2022 a).

[46] From the 2002 abolition of the law *Kōgyō-tō seigen*, 66 out of 80 campus relocations or new construction in the Tōkyō metropolitan area were directed into the central city area. See Sumida and Saio (2018).

4.1.1. Purpose of the research

Based on the present research's database[47] containing the vastest possible number of campuses examples, the author determined their governance and position categories, analyzed the trends of site position through the history and, subsequently, concentrating on the hillside sites, organized them by harshness level (grade or pendency) and method of realization of open spaces.

4.1.2. Literature review

After Izawa et al. (1976 a-b) analyzed planning and topographical features of hillside campuses in the Tōkyō areas affected by the *Kōgyō-tō seigen* law (which limited construction of new campuses within the main urban centers during 1959-2002) and the Nagoya surroundings, Kobayashi (1978) included «hillside campuses» into its classification [48] and Miyamoto (1999) divided campus planning mindful of the topographical characteristics into «campus placed on hills», «campus placed on slopes» and «campuses using valleys»[49], no studies have been found that address the spatial characteristics of hillside campuses. Two important studies which investigate the reasons behind the campus positional choices are: Marumo (1987), who focused on the reorganization or moving of national campuses, finding that the location choice is the result of a balance between a wish of growth and a link with the local community and historical origins of institutions; and, more recently, Sumida and Saio (2018). The author previously conducted researches about the planning approach of three hillside campuses in Aichi Prefecture[50], building the premise to the campus categories individuated in the present paper.

Some of these studies are connected to particular regions, some consider only campuses with a clear plan, and some others concern only national university campuses. The originality of the present chapter's research can be seen: in the vast range of the target, having analyzed data for any Japanese region and any university scale or type; and in the search for new parameters for the classification of hillside campuses.

4.1.3. Target campuses

In this study, the campuses' information described in § 1.3.2. were all used and compared.

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[47] See § 1.3.2.

[48] Kobayashi (1978), pp. 134-144.

[49] Miyamoto (1999), pp. 19-20.

[50] Vecchi and Suzuki (2019).

Tab. 6 Percentage of "hillside campuses" by university government

Governance 大学種別	A Total n. of considered campuses 対象キャンパス数	B N. of hillside campuses うち丘陵地キャンパス数	B/A Rate 割合
National 国立	107	28	26%
Local public 公立	79	20	25%
Private 私立	495	190	**38%**
Total 計	681	238	35%

4.2. Considerations on campus position data

4.2.1. Plain land campuses vs. hillside campuses

Except for Izawa et al. (1976 a-d), no other studies have been found to define numerically a "hillside site". Izawa et al. collected data from the 1/3000 scale maps issued by local governments and other 1/2500 scale urban plan maps, and defined as "hillside campuses" those with a minimum difference of altitude of 4m, based on «the height of one story of a building»[51]. However, in order to analyze uniformly all the target campuses, in this research authors used GSI "standard maps", which are homogeneous for the whole Country and present a minimum contour line interval of 5m. Here, therefore, campus sites which present a minimum difference of altitude of 5m are considered as "hillside campuses".

As shown in Tab. 6, "hillside campuses" represent more than one third of the total considered campuses of Japan. If we consider only campuses belonging to private universities, the "hillside" ratio reaches 38%; also, 190 out of 238 total hillside campuses are private (80%). Because in Japan private universities have on average a more limited access to land purchase than public ones, a first, easy conclusion we can draw is that hillside sites are less expensive to purchase than plain land sites, and that private universities face major difficulties in building their own campuses.

4.2.2. "Urban surroundings", "Rural surroundings" and "Edge surroundings"

We here define as "urban" those campuses surrounded on every side by built environment; "rural" those surrounded on every side by non-built environment; "edge" those which confine partly with built environment and partly with non-built environment (forest or cultivated fields, rivers, sea). See Fig. 36 for examples.

Tab. 7 shows that, while more than half of the plain land campuses is located in urban sites, "urban" hillside campuses are less frequent. It is necessary to note that "urban" hillside campuses were often built before 1965, when the surrounding areas of most of them were still rural. In such cases, urban development was attracted by their presence, until completely englobing them[52].

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[51] Izawa et al. (1976 a), p. 645 (translation by the author).

[52] For example, Kansai University Senriyama campus, Kōbe Jogakuin University campus,

都市型・丘陵地キャンパス "Urban" hillside campus

Kansai University Senriyama Campus 関西大学千里山キャンパス

エッジ型・丘陵地キャンパス "Edge" hillside campus

Konan Women's University Campus 甲南女子大学キャンパス

地方型・丘陵地キャンパス "Rural" hillside campus

Daito Bunka University Higashi Matsuyama Campus 大東文化大学東松山キャンパス

0 100 500m
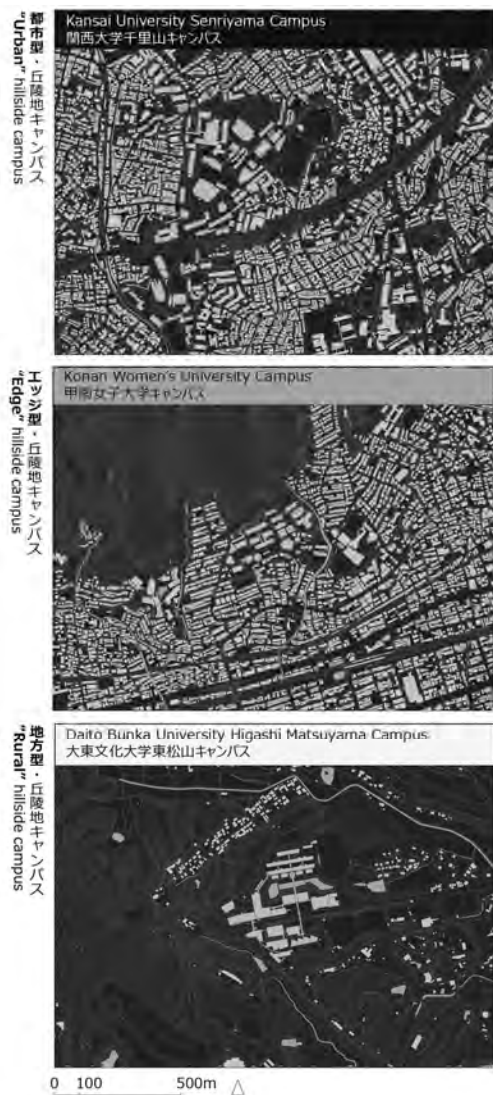
Fig. 36 Examples of "urban", "rural" and "edge" surroundings

Tab. 7 Percentage of hillside/plain land campuses for surroundings type

Position type 立地分類	Plain land c. 平地キャンパス		Hillside c. 丘陵地キャンパス		TOTAL 計	
Urban 都市周辺	229	52%	65	27%	294	43%
Edge エッジ周辺	148	33%	98	42%	246	36%
Rural 自然周辺	66	15%	76	32%	142	21%
Total 計	443	100%	238	100%	681	100%

Tab. 8 Typologies of "edge" surroundings

"Edge" position typology エッジ周辺キャンパスの分類	"Edge" plain land campuses エッジ平地キャンパス	"Edge" hillside campuses エッジ丘陵地キャンパス	Total 計
Confining with fields or forests 森林・畑に隣接	95	93	188
Confining with in-city natural escarpments 都市内断崖に隣接	3	2	5
Confining with sea or lakes 海・湖に隣接	18	0	18
Confining with rivers or ponds 川・池に隣接	32	3	35
Total	148	98	246

Another worth noting data is the high percentage of "edge" sites, which are the relative majority of hillside campuses with 42%. In total, 36% of the considered campuses possess one side which faces the city, and one side which faces forests, fields, natural escarpments or bodies of water, as it can be seen in detail in Tab. 8. As the author noticed in previous researches, also in Italy and other European Countries "edge" position is common and convenient[53].

In Japan, the reasons this particular position was adopted so often could be summarized in the two following cases:

Takaragawa University campus, Nanzan University campus, Ōsaka University Toyonaka campus.

[53] See Vecchi and Suzuki (2021 a).

Fig. 37 Target campuses by settlement decade and position.

Above: total; Below/left: by region; Below/right: by university governance

a) campus was built in a previously rural area, and subsequently attracted urban development in its access area;

b) campus' site was selected from the beginning in order to confine with a non-exploitable area.

Option b) appears the most probable in the majority of Japanese "edge" hillside campuses, which often have their "shoulder" watched by mountainous, unbuildable terrain. This, architecturally speaking, made a large part of Japanese campuses capable of distinguishing between a front, open zone and a back, enclosed zone. Also, it appears that "edge" campuses located in slopes which are singled-oriented towards south or west are very common: for example, the richness of such topographical conditions in Hyōgo Prefecture (hills descending towards the city to the south) and Shizuoka's Nihon Daira (hills descending towards the city to the west) was so inviting for campus planners that the majority of Hyōgo Prefecture and Shizuoka City examples are "edge" campuses.

4.3. Relationship between campus position and settlement year

In this paragraph it is repeated what done in § 2.6.: by linking the mentioned categories (plain land or hillside position, "rural", "urban" and "edge" surroundings) to each campus' foundation year, it was possible to obtain the graphs of Fig. 37, comprehensive of the pre-war era.

As already mentioned, the enormous number of new settlements of the 1960s resalts. Also, it is noteworthy that in historical periods of growth, such as the 1920s, 1960s, and 1980s, new campus establishments increased and the total balance tended toward plain land locations, while in historical periods of recession, such as the 1930s (militarization) or 1970s (Oil Shock), not only new campuses establishments decreased, but the balance also moved toward hilly terrain locations. However, as made clear in § 2.6.4.2., this is due not only to the economic context, but also, and mainly, to government policies.

The total overview (Fig. 37, above) evidences that the initial push due to the University Act of 1919 and the *daigakumachi* formation increased hillside campuses; however, they are mainly a postwar phenomenon, which began in the 1960s, had its peak during the 1980s (the number of new hillside campuses overpassed plain land ones), and started to decrease since the 1990s.

Despite the fact that only metropolitan areas and government-designated cities were object of the regulations that forbid campus construction within urban boundaries, as the *Kōgyō-tō seigen* law, and of other government strategies for the delocalization of higher education, however, by confronting data of campuses located in prefectures influenced more directly by the law (Greater Tōkyō Area, Kinki Area and, indirectly, Aichi and Fukuoka Prefectures) with those located in other, more remote prefectures

(Fig. 37, left-below), it appears that the trend of "rural", "edge" and hillside campus position during the decades was similar everywhere. Moreover, the percentage of "urban" campuses built from 1960 to 1999, when the *Kōgyō-tō seigen* law was effective, was respectively: Greater Tōkyō Area 35% (32 within 91 total sites), Kinki Area 36% (22/60), Aichi 32% (9/28); Fukuoka 54% (7/13); instead, in other prefectures the percentage is only 15% (32/203). This points out that, in the "Planification era"[54], the "rural" and "edge" position of campuses was chosen also when other choices were possibles. This graph also evidences that within 229 total "urban-plain" campuses, 45% are located in the Greater Tōkyō Area; instead, especially in postwar period, campuses of other prefectures are mostly located outside the city or in the hilly part of the city. Therefore, not analyzing non-urban, non-plain campuses would mean ignoring the actual state of Japanese university spaces outside the capital.

A most decisive difference can be seen when comparing national, local public and private universities (Fig. 37, right-below). National campuses dramatically changed the choice of their sites from urban to peripheric, and from plain to hilly after 1950s; local public campuses had a boom in the 1990s, especially in "rural" and "edge" positions; instead, private campuses did not significatively differ from the overall trend. It is evident that public university campuses followed more closely the policies for decentralization.

Finally, new settlements of campuses are becoming increasingly rarer everywhere from 2010s decade; particularly, just one example between the 681 targets was built in hilly terrain since 2010.

4.4. Hillside campuses by topographical difficulty level: the simplified average grade of campus sites

The following chapters are focalized on hillside campuses.

In order to be able to compare a large variety of topographical features, and subsequently to catalogue different ranges of planning difficulty, the author searched for a numerical index capable of summarizing the pendency or grade of each campus site.

"Grade" is defined as difference of height divided for difference of length, and it is a geometric value which can only be referred to lines (streets or sections) and not to areas, especially when they have different grades for multiple directions, as valleys or mountains. Facing the same problem, Izawa et al. (1976 a-d) used an index called "average grade" (平均勾配) to analyze campuses areas pendency[55]. By overlapping a 40m grid to the campus site perimetry, they collected difference of altitude data for each

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[54] See § 3.5.5.

[55] Izawa et al. (1976 a), p. 645.
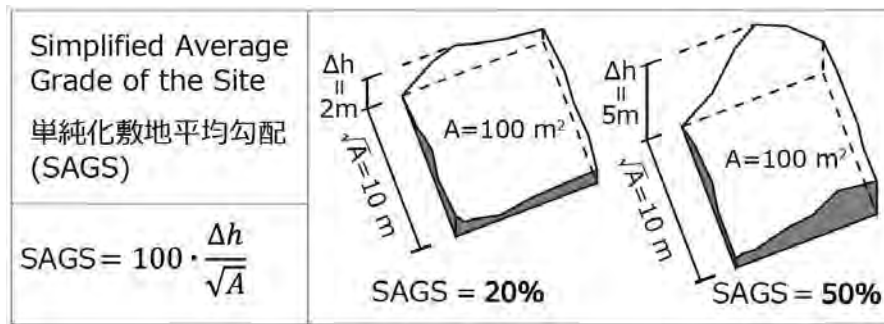
Fig. 38 Simplified Average Grade of the Site (SAGS)
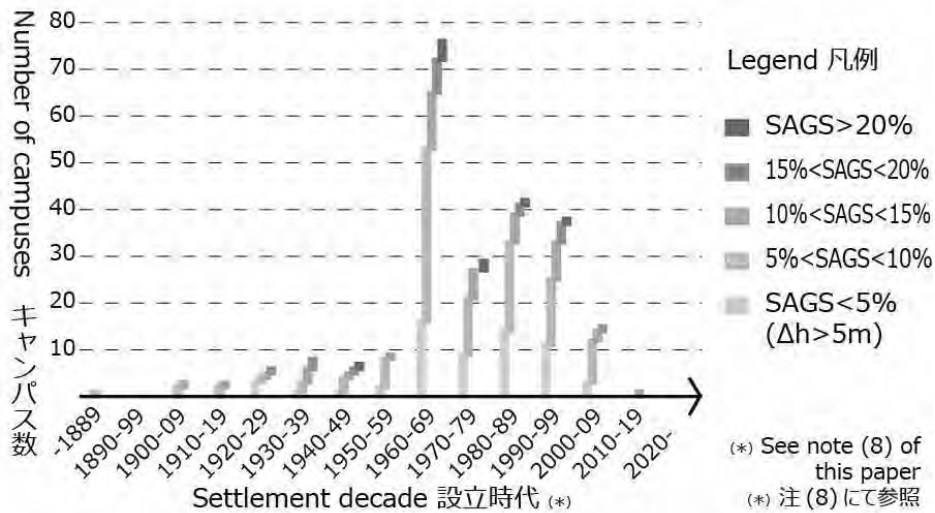
Fig. 39 SAGS ranges by decade

40x40m square, and derived their average difference of altitude. Then, dividing such result (average difference of altitude of squares) by the square's area root (40 m), they obtained an approximated average grade of the site.

However, the vastity of the present research's targets made impossible to collect such detailed difference of altitude data. For this reason, the author simplified the process by dividing the whole campus site's difference of altitude (from the lowest to the highest terrain point) by the whole site area's root, obtaining a "simplified average grade of the site" (hereinafter, SAGS). The result may be not as precise as the previous, but it is still useful in comparing campuses topographies, especially in defining numerically terrain's harshness: in facts, a terrain with high difference of altitude and small area would have a SAGS higher than a terrain with low difference of altitude and large area (Fig. 38).
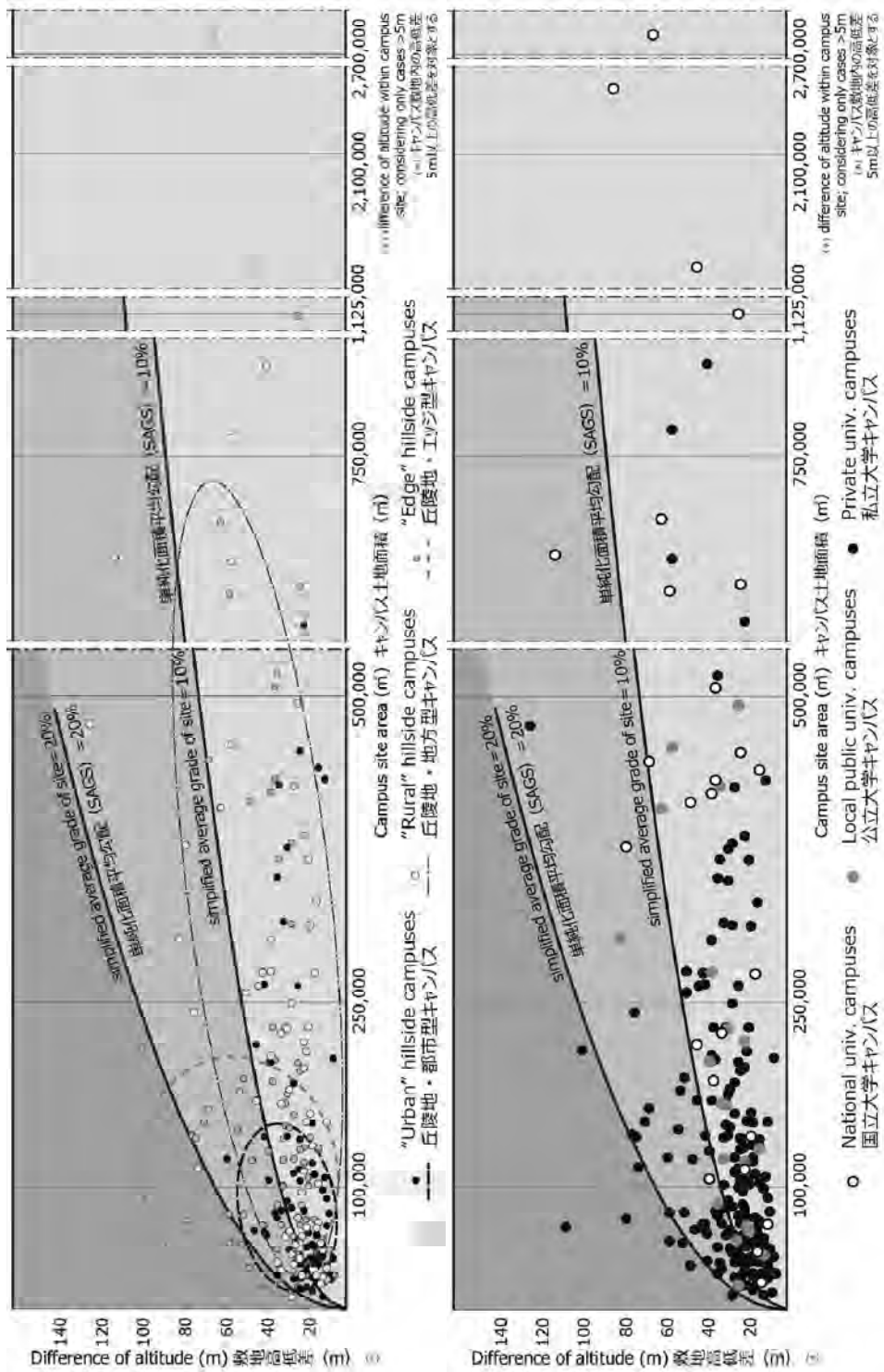
Fig. 40 (left) Hillside campuses surroundings typologies and SAGS relationship

Fig. 41 (right) University governance type and SAGS relationship

First, it was found that the range of SAGS of the analyzed 238 hillside campuses spreads from 1% to 41%; however, campuses overpassing 20% are only 8 of the totals. It was also found that the distribution of campuses in different range of SAGS through the past

decades was quite homogenous, the range from 5% to 10% being the most frequent in any decade (Fig. 39).

By creating a graph with campus site area on the *x* axis and campus difference of altitude on the *y* axis, the SAGS ranges can be visualized as parabolas with increasing amplitude. When a campus presents a wide and tenue topography, it will be visualized on the right-lower part of the dispersion graph; when it has a narrow and harsh topography, on the left-upper part (Fig. 40, Fig. 41).

4.4.1. Relations between Simplified Average Grade of the Site and campus position

In Fig. 40, campuses are organized by position type. As it was predictable, on average "rural" campuses have larger area, while "urban" campuses are narrower; in addition, the latter present on average a small difference of altitude, even if there are many cases of "urban" campuses with SAGS higher than 10%. However, the harshest and most difficult topographic conditions, exemplified by those campuses with SAGS higher than 20%, are located in "edge" areas.

4.4.2. Relations between Simplified Average Grade of the Site and university governance

The most evident difference of topographical conditions is between private university campuses, which almost monopolize sites with SAGS higher than 10% and areas lower than 200,000 m², and public universities, which have access to larger sites and lower pendency terrains (Fig. 41). Again, in Japan, small scale private university are those which faced major difficulties in campus planning.

4.5. Campus planning approaches to hillside terrains by realization method of open spaces

Architectural planning of campuses in hillside terrains can be classified through various distinctions: for example, according to the specific geomorphology of the site, or the building disposition, or again to the street pattern.

However, these distinctions could be applied to any architectural settlement in hillside areas. What is distinctive of *Campus* typology is the mix of open spaces and facilities, that are set in order to realize an environment characterized by commonality, something that, in Japan, is not to find easily in normal urban environment, as Ashihara stated[56]. Moreover, as seen in § 3.4.2.1., open spaces are also legally the main prerequisite of university spaces. Therefore, the most decisive challenge of designing campuses in hilly

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[56] Ashihara (1998)'s chapter 10 (pp. 30-31), titled «Uncoordinated Land Use» declare that the excessive subdivision of land and the absence of coordination between landowners are the reasons for the confused Japanese cities' landscape.

Fig. 42 Example of *Cut/fill* type: Hiroshima University of Economics (広島経済大学) campus.

Fig. 43 Example of *Valley/ridge* type: Baika Women's University (梅花女子大学) campus.

Image: © Google Earth Pro, © Landsat/Copernicus [accessed 12.03.2023]

Fig. 44 Example of *Contours following* type: University of the Ryukyus (琉球大学) campus. Source:

https://www.u-ryukyu.ac.jp/ [accessed 12.03.2023]

Fig. 45 Example of Artificial ground type: Kibi International University (吉備国際大学) campus. Source:

https://kiui.jp/ [accessed 12.03.2023]

areas is to find room for open spaces, plazas, multifunctional and unspecific purpose zones. In summary, the decisive classification would be: how are open spaces (hereinafter, OS) realized in slopes, valleys or ridges?

To answer this question, we proceeded to analyze the changes in the topographical features of each target campus' site.

Takahashi et al. (2007) used the GSI tool "aerial photographs by decade" (年代別の写真) to realize a model of the land transformation and landfill distribution in the site of Nagoya University's Higashiyama campus, a method which was proven to be able to compensate for the absence of data. In previous research of the author about three Aichi prefecture campuses[57], GSI's "past topographical maps" (図暦（旧版地図）) were used to redraw contours before and after campus construction. In the present research, due to the vastity of material to analyze, at first campus sites topographies were observed through the GSI tool "shaded undulation map" (陰影起伏図), which allowed to estimate unnatural presence of flat land; a further observation was conducted by consulting the "aerial photographs by decade" tool; finally, the cases which required a more cautious evaluation were checked through the analysis of past topographical maps[58].

This procedure, accomplished for all of the 238 hillside campuses, permitted to evaluate roughly to what extent and in which areas of each campus land flattening was accomplished. Hence, we were able to divide the targets in four typologies of methods[59]. They are described as follows.

A) *Cut/fill type*: sites where areas previously characterized by slopes, valleys or ridges have been flattened through excavations and land fillings to locate units of OS and buildings, or the entire built part of the campus (Fig. 42, Fig. 46 first from above);

B) *Valley/ridge type*: sites where existing valley and ridges have been maintained by placing OS there, and, as a consequence, buildings are placed on slopes without artificial flattening, except for the area equivalent or immediately adjacent to their foundations (Fig. 43, Fig. 46 second from above);

C) *Contours following type*: sites were both OS and buildings are placed in the areas of

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[57] Vecchi and Suzuki (2019),

[58] «年代別の写真» (aerial photographs by decade), «陰影起伏図» (shaded ondulation map), «図暦（旧版地図）» (maps edited in the past) services are all available at the GSI menu: https://www.gsi.go.jp/tizu-kutyu.html (accessed 2023.03.12).

[59] The first three methods derive from the observations accomplished by the author in Vecchi and Suzuki (2019), which were found to be appliable to large part of the target sites; however, there was the necessity to add a fourth method, Artificial Ground type, which had not been observed in the previous research.
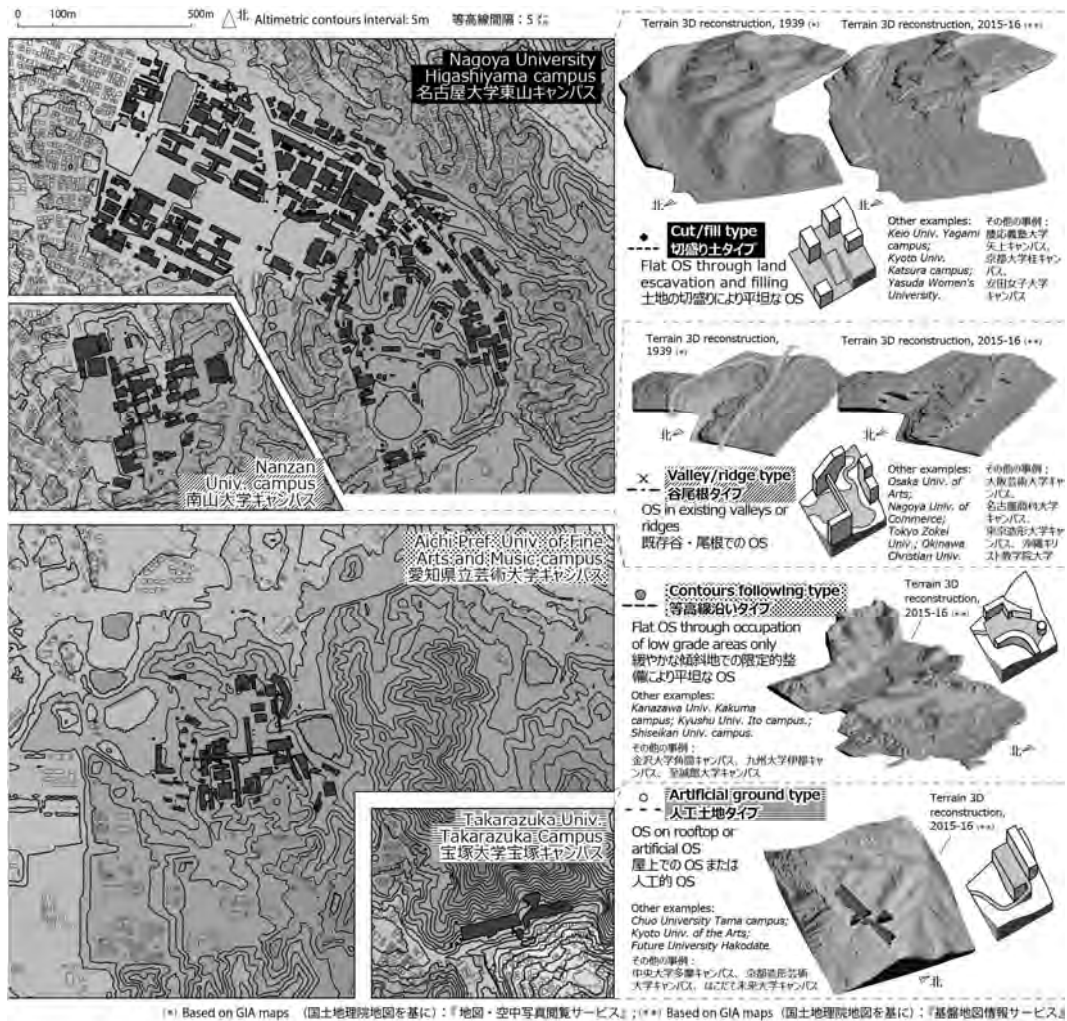
Fig. 46 Schematic description of the four individuated methods for planning of OS in hillside campuses, with illustrative examples

the hilly site originally characterized by lower grade, adjusting the perimeter of the built area of the campus to these flatter areas (Fig. 44, Fig. 46 third from above);

D) *Artificial ground type*: sites where OS are realized on the roof floor of buildings or in apposite architectonic structures (Fig. 45, Fig. 46 below).

Fig. 46 shows schematizations of these methods and 3D models of the terrain modification of illustrative campuses. It is worth noting that *Cut/fill* type is the only one which is based on massive land modification; other methods, instead, take as a starting point a conscientious study of hill's characteristics: *Valley/ridge* type and *Artificial ground* type methods are based on the topography's section study, while *Contours following* type on its plan study.

4.5.1. Quantitative considerations on "open space realization methods"

Fig. 47 shows quantity of each of the above described OS realization methods. *Valley/ridge type*, *Contours following type*, *Artificial ground type* methods, together,

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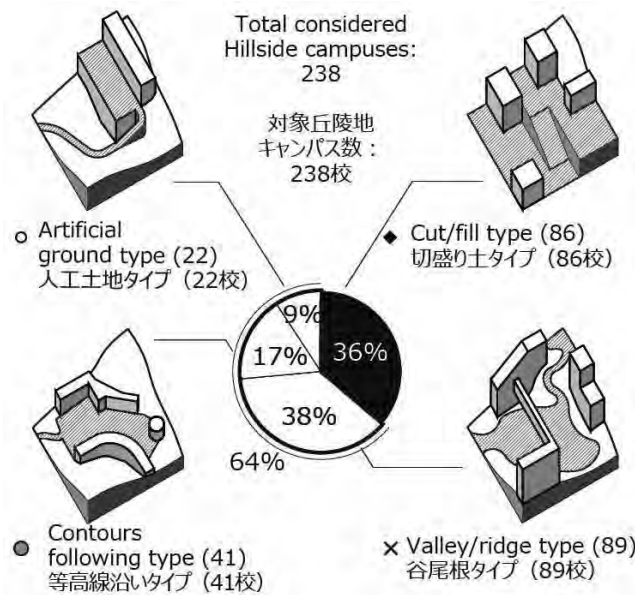
Fig. 47　Percentage of each OS realization method type for the 238 target hillside campuses

Tab. 9 Cross relationship between OS realization method type and typology of campus' surroundings

Quantity (% referred to ↓) (% referred to ←)		Cut/fill type 切盛りタイプ	Valley/ridge type 谷尾根タイプ	Contours following type 高等線沿いタイプ	Artificial ground type 人工土地タイプ
"Rural" 自然周辺	75 100%	26 (30% ↓) (35% ←)	22 (25% ↓) (29% ←)	19 (46% ↓) (25% ←)	8 (36% ↓) (11% ←)
"Urban" 都市周辺	64 100%	23 (27% ↓) (36% ←)	28 (31% ↓) (44% ←)	7 (17% ↓) (11% ←)	6 (27% ↓) (9% ←)
"Edge" エッジ周辺	99 100%	37 (43% ↓) (37% ←)	39 (44% ↓) (39% ←)	15 (37% ↓) (15% ←)	8 (36% ↓) (8% ←)
TOTAL 計	238	86 (100%)	89 (100%)	41 (100%)	22 (100%)

Tab. 10 Cross relationship between OS realization method type and typology of university government

Quantity (% referred to ↓) (% referred to ←)		Cut/fill type 切盛りタイプ	Valley/ridge type 谷尾根タイプ	Contours following type 高等線沿いタイプ	Artificial ground type 人工土地タイプ
National 国立大学	28 100%	15 (17% ↓) (54% ←)	4 (4% ↓) (14% ←)	8 (20% ↓) (29% ←)	1 (5% ↓) (4% ←)
L. Public 公立大学	20 100%	4 (5% ↓) (20% ←)	4 (4% ↓) (20% ←)	8 (20% ↓) (40% ←)	4 (18% ↓) (20% ←)
Private 私立大学	190 100%	67 (78% ↓) (35% ←)	81 (91% ↓) (43% ←)	25 (61% ↓) (13% ←)	17 (67% ↓) (9% ←)
TOTAL 計	238	86 (100%)	89 (100%)	41 (100%)	22 (100%)

constitute 64% of the total, pointing out that, overall, Japanese campus planning has been somehow environmentally-minded. The most frequent method is *Valley/ridge type* (89 campuses), which slightly overpasses *Cut/fill type* (86 campuses).

When observing the OS method data crossed with the campus position data (Tab. 9), it is interesting to notice that *Contours following* method is more frequent in "rural" campuses (46%), presumably because of the major availability and freedom of construction area. *Cut/fill* method is equally distributed in "rural", "urban and "edge" campuses, presumably because its premise is to ignore characteristics of the site. It is also interesting to notice that *Valley/ridge* method is most frequent in "urban" sites (44%). This could be linked to the convenience of this method in narrow sites with little plan freedom, which brought architects to design university facilities starting from the

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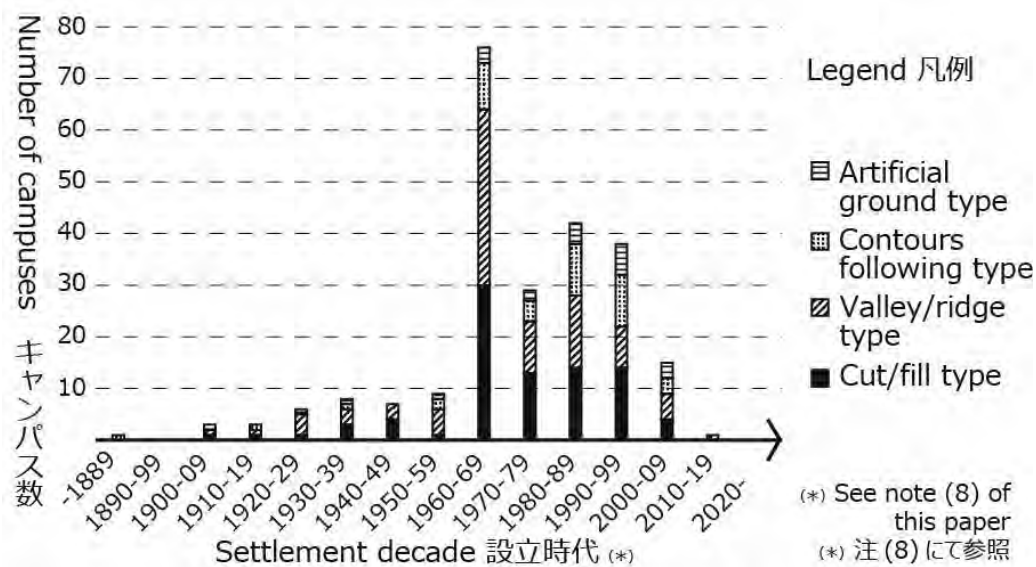
Fig. 48 OS realization method type by campus' settlement decade

section study of the terrain. "Edge" campuses present a quantity of each OS method that is not different from the total asset.

By crossing data with university governance type (Tab. 10), we understood that *Cut/fill* method is the most frequent for national universities (54%). Private universities used frequently *Cut/fill* method (35%), but *Valley/ridge* method is the most used with 43%. Because, as seen in previous paragraphs, private universities are on average the most lacking in resources, one hypothesis is that *Valley/ridge type* is the cheapest method, while *Cut/fill type* is the most expensive whilst being the most harmful for the environment. Local public universities used relatively often *Contours following* method (40%) and *Artificial ground* method (20%, overwhelming national and private universities percentages), showing a predilection of local public universities for architecturally challenging OS plans.

4.5.2. Relationship between hillside campuses open space realization methods and settlement year

The relative distribution of each of the mentioned methods in the postwar decades does not vary significantly, except for a slight relative increase of *Cut/fill method* during the 1970s (Fig. 48), followed by an increase of the other three methods during 1980s. However, it is important to remember that the campus foundation data collected in this research does not allow to take into consideration an eventual discrepancy between the architectural solution adopted at the time of the campus foundation and the present-day situation. For this reason, especially *Artificial ground type* method, in some cases, could have been added in a period successive to that shown in Fig. 48. It is of great interest the fact that during the most striving decade, the 1950s of reconstruction, 7 over 8

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hillside campuses realized sustainable OS methods.

4.5.3. Relationship between open space methods and Simplified Average Grade of the Site

We redraw the SAGS dispersion graph classifying campuses according to their OS method (Fig. 49), and derived the central tendency line of each method's data. Central tendency «is a descriptive summary of a dataset through a single value that reflects the center of the data distribution»[60]. As a result, it is possible to state that *Contours following type* is used mostly for campus sites with SAGS lower than 5% (large areas and low difference of altitude); then, at increasing levels of SAGS, we observe, in order, the *Cut/fill type*, the *Valley/ridge type* and, finally, concentrated in those terrains of greater difficulty (almost every example overpasses 10% of SAGS), the *Artificial ground type*. The central tendency lines highlight that environmentally harmful *Cut/fill* method is on average used in easier hilly terrains than *Valley/ridge* method. This is noteworthy, because it means that, even when campus construction conditions are more challenging, sustainable alternatives to excavations and land fillings exist.

4.6. Conclusions of Chapter 4

Regarding the initial aim of analyzing the peculiarities of campuses geographical conditions and especially of hillside campuses in Japan and to capture sustainable planning strategies, the present research highlighted the following results and observations:

1) Private universities presence in hillside areas is, compared to public universities, relatively stronger than in plain land areas. Furthermore, private universities have on average access to sites which are narrower and with higher difference of altitude than public ones.

2) Most of hillside campuses (42%) present one side facing urban environment and one side facing natural environment ("edge" position). At the same time, those are the sites with the highest degree of topographic difficulty (higher SAGS).

3) Hillside, rural campuses are mainly a postwar phenomenon; as explained in §2 and §3, Japanese campuses were originally urban spaces, and their exit from the city has its reasons in regulations and economic constraints. The concentration of "urban" plain land campuses in the Greater Tōkyō Area appears as an exceptional and privileged condition when compared to other Japanese areas.

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[60] Corporate Finance Institute, "Central tendency".

https://corporatefinanceinstitute.com/resources/knowledge/other/central-tendency/

[accessed 2021.11.06].
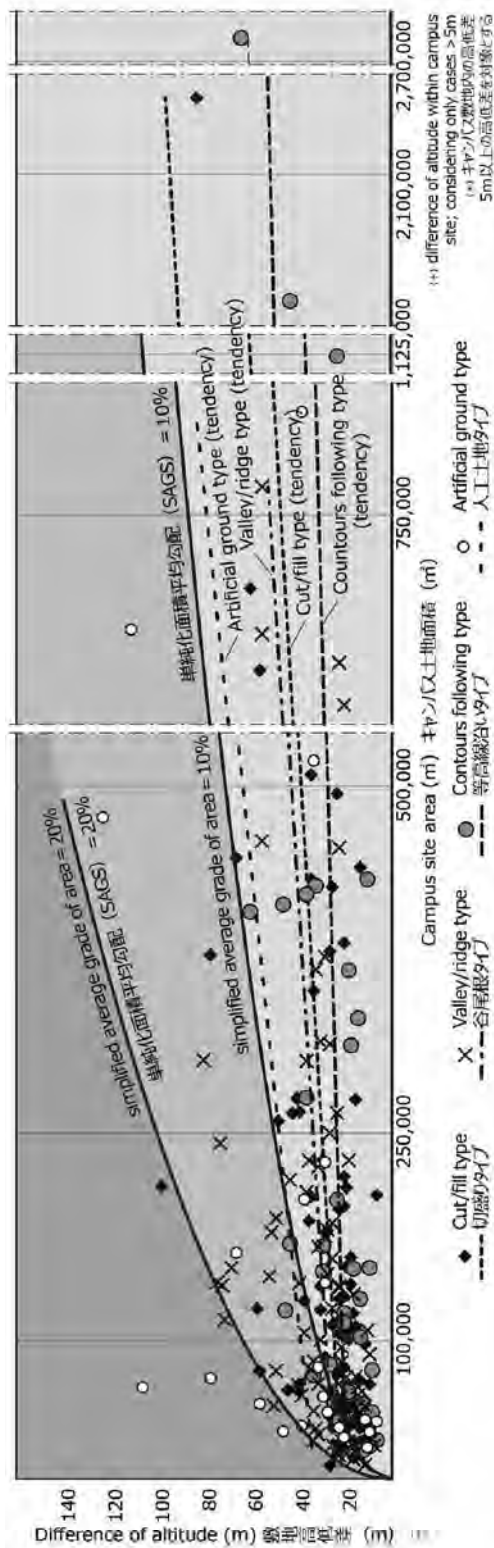
Fig. 49 OS realization method type and SAGS relationship

4) The large majority (64%) of hillside campuses plans, exemplified by their OS realization methods, has been enough conscient of each terrain's own morphology to take

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advantage of the topography instead of modifying it. Excavations and land fillings are accomplished more often in the case of national universities; local public universities, instead, risked more sophisticated architectural solutions capable of respecting the topography. Private universities, also, were able to adopt sustainable plan methods even when facing the harshest terrains.

5) Comparison between the three graphs regarding SAGS (Fig. 40, Fig. 41, Fig. 49) allows to conclude that: campuses with SAGS below 10% and with area >250,000 m² are more frequently "rural", national or local public, and use *Cut/fill*, *Valley/ridge*, *Contours following* methods; campuses with SAGS over 10% are more frequently located in "edge" position, are mostly private, and use *Cut/fill*, *Valley/ridge* and *Artificial ground* methods. Particularly: *Contours following* method is more suitable to large and tenue hillside sites; *Valley/ridge* method for nearly any type of terrain except for the most difficult slopes; however, in these kind of terrains, *Artificial ground* method allows construction of open spaces.

In § 3.6. we pointed out some adjectives that are common to most of Japanese campuses: "non-residential", "small-scaled" and "enclosed"; then, we added "originally urban". The last intuition, which is confirmed also by the above point 3, seems to contradict the definition of "enclosed". However, here, the high number of "edge" campuses may signify that Japanese universities seek a balance between openness to the social context and protection of the university community. This aspect is analyzed further in § 6.

The way even private universities with low budget, even in periods of economic struggle, faced the task of enriching the environment for the student community with open spaces and plazas, shows that construction methods which are respectful of the hill morphology are possible also in the most challenging sites. Instead, massive modification of the topography appears to be more expensive (used by universities with access to richer resources) and still not the most efficient planning method, because the results showed that the sole *Valley/ridge* method could be adapted to even a major range of hilly sites than *Cut/fill* method. This study pointed out also that, despite the initial hypothesis, the phenomenon of hillside campus planning regarded primarily peripherical areas of Japan and private universities, both fields which rarely become object of research, but which, besides offering higher education to the majority of Japanese students, constitute an essential part of the Japanese university architectural context.

In this chapter we concentrated on the large-scale campus plan; in the next chapter, we will move on looking more closely at university facilities' architectural design and its peculiarities, taking into account the importance of the first postwar period (the 1946-1975 "massification era") which brought the most economically challenging planning conditions.

Chapter 5. THE PECULIARITIES OF ARCHITECTURAL ENVIRONMENT FOR LEARNING AND EXTRACURRICULAR ACTIVITIES OF JAPANESE CAMPUSES IN THE "MASSIFICATION ERA"

5.1. Introduction

In § 3 we understood that the majority of campuses in use today were built during the postwar "massification era" of universities (1946-1974), which started with the reconstruction after the World War II disaster, and accomplished the goal of allowing a larger range of social classes to receive higher education. However, the majority of existing studies regarding university architecture concentrate on the Meiji-Taishō-early Shōwa era examples. In order to comprehend the peculiarities of Japanese campuses, it seems unreasonable to stop at its origins, also because the new influence of the American Campus typology after World War II are undeniable. We also understood that massification brought mainly two new challenges to university campuses' architects: the necessity of giving a place to take classes to masses of students, concentrated in small campuses, and the necessity to create a new typology, that of the building for students' extracurricular activities.

5.1.1. Purpose of the research

In this chapter, at first, we will concentrate on the buildings for lecture rooms, their environment and how their designers conceived the relationship with the campus' opens spaces. Then, we will analyze the *gakusei kaikan* (学生会館, students' hall) facilities, places for the students' community and their extracurricular free activities. The research methods used in both sections are described in their respective introductions.

5.2. Architectural planning solutions for natural ventilation and illumination in the Japanese university lecture room buildings of the "massification era"

In the postwar Japanese era, not only university but the totality of architecture for education faced the growing necessity of facilities and, at the same time, welcomed the modernist style as a rational, hygienic and economically reasonable way of building[1].

School building designers of that period strove to conceive functional plans, especially focusing on user circulation and on the classroom environment characteristics, as natural illumination and ventilation. Famous school architecture experts such as Nagakura Yasuhiko, Andō Katsuo and Matsumura Masatsune studied from the 1950s corridor positioning, window area, provision of outdoor spaces for what concerns elementary and junior high schools; at the same time, a similar effort was being accomplished by many architects and designers for what concerns university lecture room building (hereinafter, LRB) planning.

Natural illumination, cross-ventilation and outdoor access of the lecture room

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[1] The present paragraph is adapted from a 2020 study of the author, referred to in the bibliography as Vecchi and Suzuki (2020 c).

(hereinafter, LR) are still nowadays urgent issues that are linked to energy saving, users' health and environmental responsibility. We believe that the Japanese postwar era architects offered worth-studying solutions to those problems through new and experimental architectural plans.

5.2.1. Method of the research

In this research, 24 examples of LRBs were selected and their plans analyzed from architectural reviews and other publications[2]. We concentrated on university buildings designed between the end of the World War II and the year 1966[3]. Some different high education institution that are not universities (LRB n. 16 is a professional school), plus one case of a high school building (LRB n. 23), have been inserted as interesting case studies.

Through the analysis of plans and design description, we collected data regarding corridors length and position, presence of outdoor spaces (balconies), LR area, window position and area. We subsequently deducted the values of:

Floor/window area ratio (Tab. 11, "h/g");

Rate of LRs with windows or illuminating surfaces on more than one side (Tab. 11, "i");

Rate of LRs with direct outdoor access (Tab. 11, "j").

We compared these values and separately studied the highest-performing planning solutions.

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[2] The references used for each LRB architectural drawings are as follows (see bibliography for details): LRB n. 1: Kenchiku Bunka (1949-30); LRB n. 2: Kenchiku Bunka (1953-75); LRB n. 3: Kenchiku Bunka (1955-98); LRB n. 4: Kenchiku Bunka (1955-100); LRB n. 5: Kenchiku Bunka (1958-145); LRB n. 6: Kenchiku Bunka (1958-146); LRB n. 7 and 8: Kenchiku Bunka (1959-154 a-b); LRB n. 9 and 10: Kenchiku Bunka (1960-168); LRB n. 11: Kenchiku Bunka (1961-177); LRB n. 12: Kenchiku Bunka (1962-184); LRB n. 13: Horiguchi Sutemi (1984) pp. 124-128; LRB n. 14: Kenchiku Bunka (1962-189); LRB n. 15: Shinkenchiku (1962-6); LRB n. 16: Kenchiku Bunka (1962-189); LRB n. 17 and 18: Kenchiku Bunka (1963-197); LRB n. 19 and 20: Kenchiku Bunka (1964-208); LRB n. 21: Kenchiku Bunka (1964-212); LRB n. 22: Nanzan University (1967); LRB n. 23: Kenchiku Bunka (1965-220); LRB n. 24: SD Bessatsu (1971-1).

[3] According to Japan Economic Yearbook (1967), p. 23, 1966 was the first year in which national economics left the "reprise period" for a period of pure growth.

LR = Lecture Room
(*) Calculated from the stairway or entrance access to the furthest LR; sum of all floors.
(**)Sum of all LRs in all floors
(***) Sum of all window areas in all LRs

N.	Building name	Institution	Realization year (year)	Still existing/renovated○ / Demolished ✗ / Never built △	a. Number of floors with LRs	b. Total number of LRs	c. Corridor position or other solutions	d. Balcony□ / Viable balcony○ / Terrace or Loggia△	e. Total lenght of LR serving corridors (m)*	f. Total lenght of LR serving viable balconies (m)*	g. Approx. gross internal area of LRs only (m²)**	h. Approx. total area of LR windows (m²)***	h/g (%)	i. LR Standard >10% LR ratio with outdoor access (%)	j. LR ratio with windows on more than 1 side (%)
1	Engin. Fac. Bldg	Waseda Univ.	1949	✗	2	15	North		128.2		1211	191	16%	7%	0%
2	Bldg n.10	Waseda Univ.	1953	○	4	36	North	△	364.0		1816	432	24%	0%	0%
3	Classroom Bldg (plan proposal by Yoshizaka and Andō)	Tunghai Univ. (Taiwan)	1955	△	2	8	Detached open corridor	○		151.0	2762	1316	48%	100%	100%
4	1955 Hall (exc. for auditorium)	Hosei Univ.	1955	✗	6	36	North	○	331.5	405.0	2161	596	28%	0%	100%
5	1958 Hall (exc. for shell roof hall)	Hosei Univ.	1958	✗	5	16	North	○	358.0	422.0	2350	666	28%	0%	100%
6	Bldg n. 1	Seijo Univ.	1958	○	3	12	North	○	119.6	157.2	965	224	23%	17%	100%
7	Bldg n. 1	Tokyo Keizai U.	1959	○	4	24	Internal	○	347.9	347.6	2692	363	13%	0%	79%
8	Junior College Bldg	Toyo Eiwa Jogakuin	1959	✗	2	8	North	○	86.8	69.5	506	121	24%	0%	100%
9	North Bldg n. 1	Gakushuin U.	1959	○	2	2	Loggia	△		60.2	389	62	16%	100%	100%
10	South Bldg n.2	Gakushuin U.	1960	○	2	10	Central	□	45.4		746	157	21%	20%	40%
11	Kiuchi fashion college	Kiuchi Gakuen	1961	○	2	6	South, incorporated in classrooms		35.8		458	106	23%	100%	0%
12	Faculty of Engineering Bldg	Tokyo Metropolitan University	1961	✗	2	16	North; 1 stair serving 1 unit of 4 classr.	□○	130.4	96.0	2047	756	37%	50%	63%
13	Second Bldg	Meiji Univ.	1961	✗	4	8	South; viable balconies as main corr.	○	73.6	540.1	2141	614	29%	100%	100%
14	1962 Hall, Tamachi Branch	Hosei Univ.	1962	○	4	24	Central	○	204.8	146.0	2279	462	20%	0%	75%
15	Bldg n. 31 Toyama Campus	Waseda Univ.	1962	○	3	16	North, open	○△		241.2	920	289	31%	100%	100%
16	French Language School	Athénée Français	1962	○	2	8	North		44.2		396	79	20%	0%	0%
17	Bldg n. 11	Seikei Univ.	1963	○	1	4	Only terrace	△		96.0	314	106	34%	100%	100%
18	Bldg n. 12	Seikei Univ.	1963	○	1	5	Central	△	30.9	48.0	432	107	25%	40%	100%
19	Bldg n. 52, Nishiwaseda Campus	Waseda Univ.	1964	○	3	12	Central, cruciform (walk up type)		143.0		2257	762	34%	100%	0%
20	Bldg n. 52, Nishiwaseda Campus [=Bldg n. 53]	Waseda Univ.	1964	○	5	20	Central, cruciform (walk up type)		206.6		2038	846	42%	100%	0%
21	Natural Sciences Lecture Hall	Toho Univ.	1964	✗	3	3	Central, reduced (walk up type)	△	44.6	42.1	485	114	23%	100%	100%
22	Bldg G (except for G30 auditorium)	Nanzan Univ.	1964	○	3	17	Central		157.8		2403.0	374	16%	0%	0%
23	Classroom Bldg	Iwata Gakuen	1965	○	5	10	Walk up type	△		28.5	806.6	218	27%	100%	100%
24	Lecture Room Bldg	Aichi Pref. Univ. of Fine Arts and Music	1966	○	1	8	Corridor placed downstairs		73.8		1060	431	41%	100%	0%

5.2.2. Ventilation and natural illumination conditions

According to the building construction standards, elementary, junior high school and high school must present a window/floor area ratio, in our study represented by the "h/g" value, > 20%; and classrooms of higher institutions different from high school, as university LRs, must have a value >10%[4]. As we can see in Tab. 11, large part of the postwar period university LRBs satisfied abundantly the standards, reaching in some cases a ratio 4 times larger than the minimum required. Traditional solutions made only of a row of classrooms reached by a linear corridor, as n. 1, 2, 7, 10, 16, 23, never overpass a ratio of 25%. Thus, the highest natural illumination rate has been obtained through the following solutions, and it is linked to the possibility of outdoor access (that implies larger windows) and the presence of more sides with openings in one room.

5.2.3. Possibility of outdoor access from the lecture rooms

It can be noticed that through all the decade of 1950s the "viable balcony" solution has been largely adopted. This allowed a double system of user circulation, paired with the corridors, without affecting natural illumination and ventilation. This also allowed direct

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[4] *Kenchiku kijun-hō shikōrei* (建築基準法施行令, Architecture standard law executive order), year 1950, order n. 338, article 29.
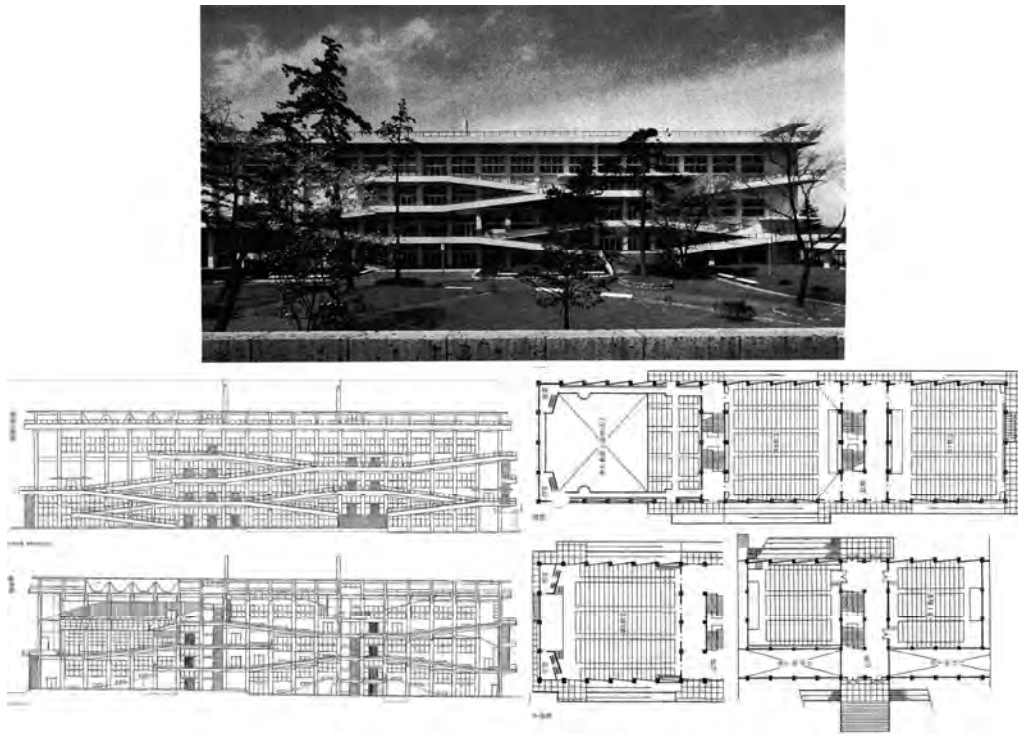
Fig. 50 LRB no. 13: Meiji University (明治大学) Izumi campus, Second Building (design by Horiguchi Sutemi,

1960, demolished). Left/middle: south elevation; left/below: section; right/below: 2nd and 3rd floor plans.

Source: Horiguchi Sutemi (1983).

outdoor access from each LR (in 7 out of 10 buildings with viable balconies, 100% of LRs have an outdoor access), which is at the same time an efficient fire safety measure and an additional place for students to gather.

The use of viable balconies is brought further especially in two buildings: Classroom Building of the Taiwanese Tunghai Univ. proposal plan of Yoshizaka Takamasa (n. 3), and Second Building of Meiji Univ. Izumi Campus (n. 13, Fig. 50). Here, corridors are almost completely substituted by external passages, and the absence of closed spaces next to the lecture room allows opening of windows in two opposite sides and therefore cross-ventilation. The weakness of this solution consists in being affected by climatic conditions. In fact, 5 out of 8 buildings with such solution, all of them sited in the Tōkyō area, have been demolished (n. 4, 5, 8, 12, 13); perhaps suggesting an affection of the climate conditions over user circulation comfort.

5.2.4. Possibility of multiple window orientation

Values of the "i." column in Tab. 11 indicate the ratio of LRs in which light and air can

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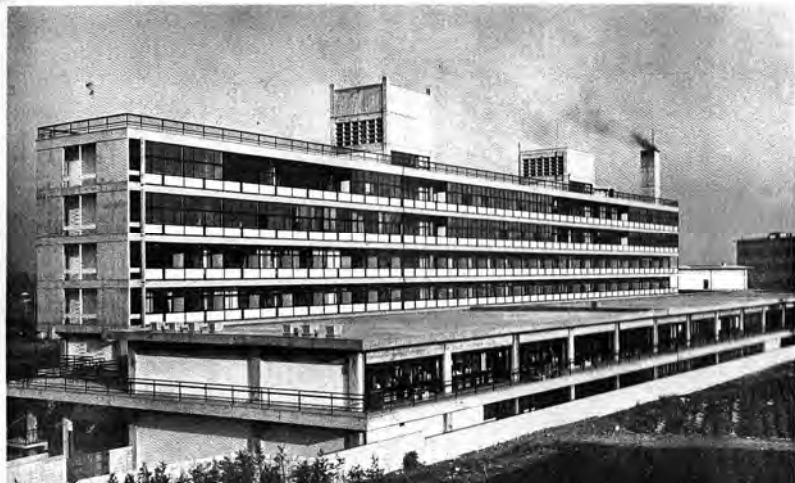
Fig. 51 LRB no. 12: Tokyo metropolitan University (東京都立大学) Department of Technology (design by

Architectural Laboratory of the univ., 1962, demolished). Source: Kenchiku Bunka (1962-184).
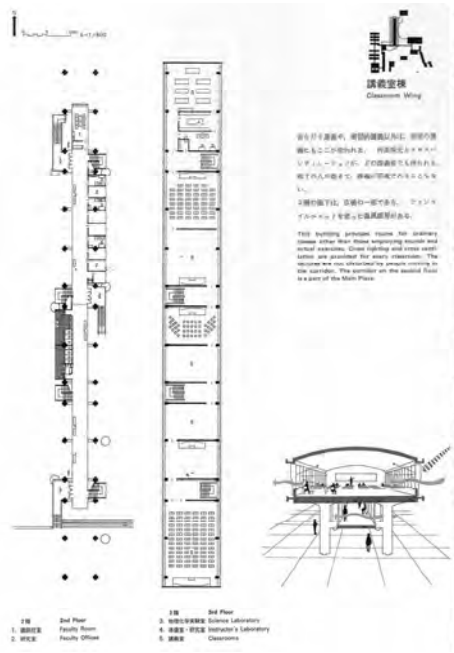
Fig. 52 LRB no. 24: Aichi Prefectural University of Fine Arts and Music (愛知県立芸術大学), classrooms

building (design by Yoshimura Junzō, 1966).

Plans: SD Bessatsu (1971-1); photo: courtesy of Punhan Karimli, 2023.

be captured from multiple directions, that is, where windows are placed in more than one side of one LR. In traditional north or central corridor solutions, this is made possible

Fig. 53 LRB no. 19 and 20: Waseda University (早稲田大学) Nishiwaseda campus, lecture room buildings

(design by Andō Katsuo, 1964). Source: Kenchiku Bunka (1964-208)
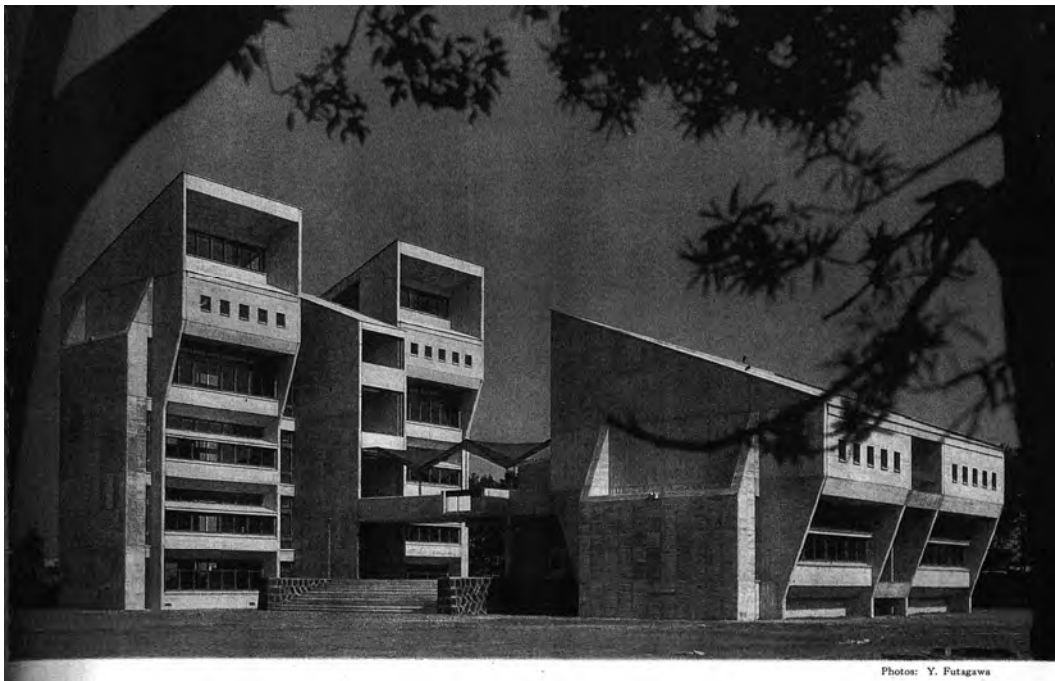
Fig. 54 LRB no. 23: Iwata Gakuen (岩田学園) Classroom Building (design by Isozaki Arata, 1965). Source:

Kenchiku Bunka (1965-220)

only in a part of all the LRs, those placed at the end or at the corner of the building. Therefore, the buildings presenting i=100% are, again, those buildings with experimental corridor solutions.

Tokyo Metropolitan Univ. Faculty of Engineering (n. 12, Fig. 51) had corridors and viable balconies on the lower floors, whilst the upper two floors are open spaces used for technical drawing classes, without corridors and with windows on both sides. Aichi Prefectural University of Fine Arts and Music (n. 24, Fig. 52) pushes further this solution, adopting the complete the separation of LR and corridor in different floors, with classrooms accessible only from stairs and unconnected on the same floor[5]. Both

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[5] This building deserves a separate mention. Its position between two valleys, in a *Contours following*

solutions, however, present only 1 or 2 floors with LRs, perhaps highlighting that numerous floors bring to an excessive distance to travel in order to move from on LR to another.

Another solution is the "walk up type", in which a central core distributes vertically groups of LRs, allowing them to face on multiple directions. Waseda University Engineering Faculty buildings (n. 19 and 20, Fig. 53) presents four corner-placed LRs for each floor, generating a vast illuminating surface but avoiding the cross-ventilation, which would be harsh due to the highness of the facilities. Here, the limit is represented by the impossibility of south orientation for all the LRs. A solution to this problem is offered by a high school building, Iwata Gakuen (n. 23, Fig. 54) that combines the "walk up type" with outdoor access and cross-ventilation, thanks to a minor number of LRs per floor[6].

5.2.5. Area and quantity of lecture rooms

Between the objects of the study, 11 buildings present a total LR area >1500 m^2 (n. 2, 3, 4, 5, 7, 12, 13, 14, 19, 20, 22). 4 of them adopt a traditional pattern and present a low performance in terms of air-illumination conditions (n. 2, 7, 14, 22).

However, if we consider that Hosei University 1955 and 1958 Hall (n. 4 and 5, Fig. 55) are in fact connected as one building, we can notice that there are 52 LRs distributed on 6 floors and a LR area of 4511 m^2; and if we consider that Nishiwaseda buildings (n. 19 and 20, Fig. 53) consists in one connected complex with a total of 52 LRs on 5 floors and a total LR area of 6332 m^2, we could state that interconnection of single "viable balcony" or "walk up" type buildings generates architectural complexes with the highest area and density of LRs.

5.2.6. Summary of the planning solutions

The main planning solutions that generate a high floor/window area ratio are mainly three (Fig. 56):

1. Viable balconies or outdoor corridors;

2. Separation of LR and corridor floor;

OS planning method type (§ 3.5.) forced it to renounce to the south exposition, so that the innovative cross lighting and cross ventilation solution is a response to the east-west exposition. Also, its position at the entrance of the campus shaped its ground floor as a covered access street to other facilities. From a hearing with professor Suizu Isao, we were taught that the environmental conditions of this building were so favorable that air conditioning system was added only few years ago.

[6] The Iwata Gakuen Classroom Building has been added to the target of this research despite not belonging to a university campus, because of the synthesis of the solution experimented since then in Japanese school and campus architecture.
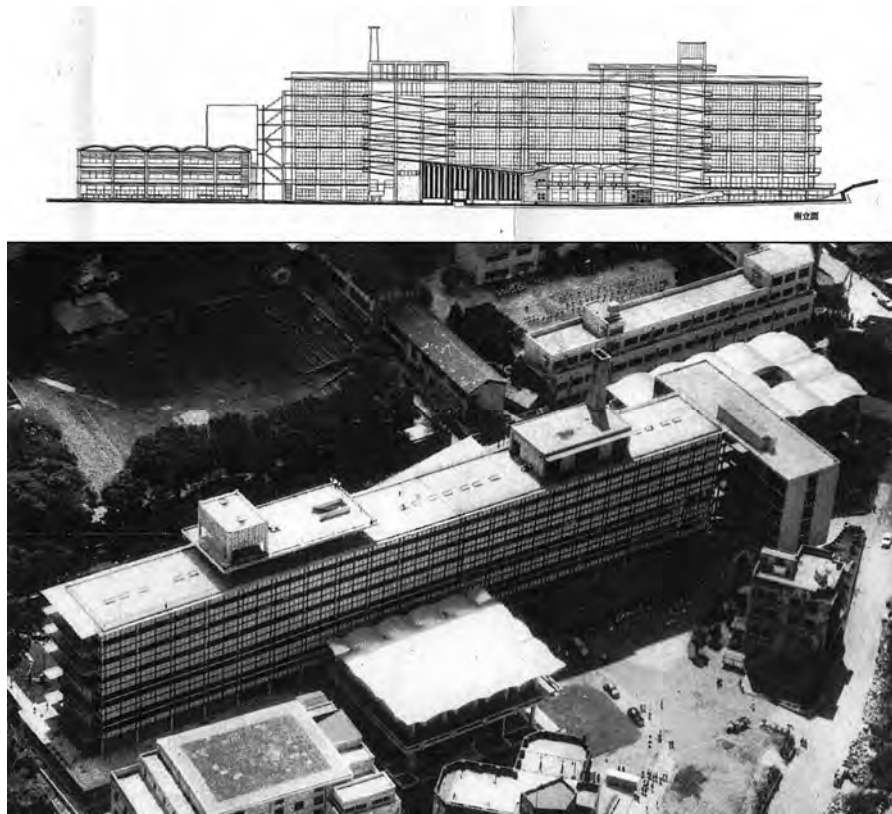
Fig. 55 LRB no. 4 and 5: Hosei University (法政大学) Ichigaya campus, 1955 Hall (east half part of 7-story building) and 1958 Hall (west half part) (design by Ōe Hiroshi, 1955-58, demolished). Source: Kenchiku Bunka (1958-145).

3. Walk-up type LRB.

The first is effective in temperate climate areas; the second in buildings where the density of LRs is low, and the third, being adaptable to the context and combinable with balconies, has a quite large range of effectiveness. Cross-ventilation can be obtained in all of those types, except for the walk-up type when it presents corner-placed classrooms. Finally, the fact that numerous buildings built in the postwar period featured outdoor access possibility directly from the LRs indicates that, before the advent of air conditioning systems, the connection with the outdoor environment was felt as a necessity in Japanese spaces for learning.

5.2.7. Influence on later campus design and contemporary importance

After 1966, too, designers of LRB explored further the solutions experimented during the first postwar era. The walk-up type was interpreted in a helicoidal composition of staggered LRs in the Osaka University of the Arts (Fig. 59). Even hillside "rural" campuses (§ 3.2.), blessed with a larger site area but with difficult terrain conditions, made an effort in creating large semi-independent Lecture Rooms, grouped in towers, as Nagoya Gakuin University Seto campus, where LRs are placed in a radial composition, piled in towers which descend along the harsh slope, accessible at the upper level from
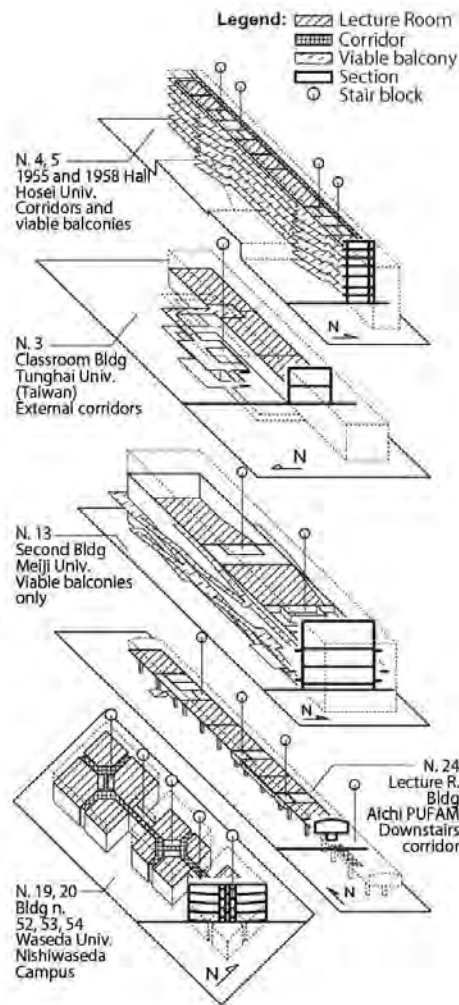
Fig. 56 Schematization of environment-minded planning solutions for Lecture Room Buildings adopted in postwar Japanese university campuses

a plaza and connected at the lower floors by independent external corridors (Fig. 57) or in other compositions, as the terraced LRBs of Nagoya University of Commerce, which take advantage of the hill's slope (Fig. 58).

The same necessity of natural lighting and ventilation is still now regarded as important in many foreign university buildings, especially in countries characterized by high temperatures. For example, the volume dedicated to university architecture of the review *En Blanco Revista de Arquitectura*[7] introduces the designs of the Universidad de las Fuerzas Armadas ESPE campus (Ecuador, 2016), the Institute of Engineering and Technology of the Ahmedabad University (India, 2014), the new Lecture Room Building of Alioune Diop University (Senegal, 2017), all featuring lecture rooms without internal corridors and with the possibility of cross ventilation. However, these universities are

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[7] See En Blanco (2021-31), pp. 30-115.

Fig. 57 Nagoya Gakuin University (名古屋学院大学) Seto campus (built in 1968). Aerial photo: © Google Earth

Pro, © Landsat/Copernicus [accessed 14.3.2023]; other photos by the author, 9.11.2022.

Fig. 58 Nagoya University of Commerce (名古屋商科大学) Nisshin campus (design by Takenaka Corp., 1975).

Aerial photo: © Google Earth Pro, © Landsat/Copernicus [accessed 14.3.2023]; right photo by the author,

23.3.2020.
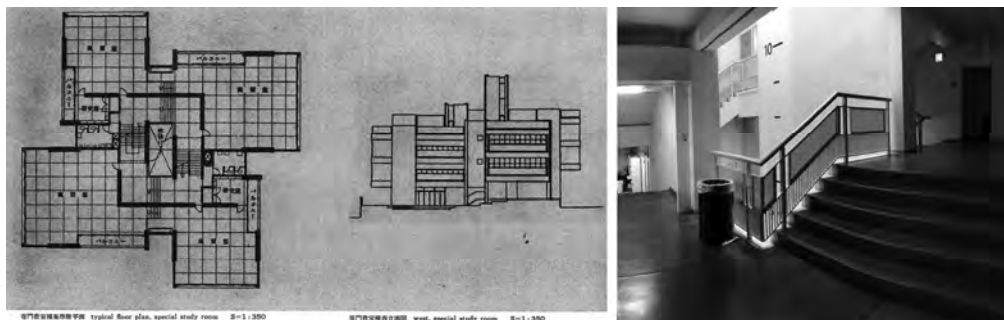
Fig. 59 Osaka University of the Arts (大阪芸術大学) LRB (design by Takahashi Tei-ichi, 1964-86). Plans:

Kenchiku Bunka (1965-230), photo of the stairwell by the author, 15.12.2021

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provided with large and flat sites. The LRBs of the Japanese "massification era" and of the "planification era", instead, although being disadvantaged by narrow areas and difference of altitude, were successful in maximizing both the environmental comfort and the quantitative demands of space for learning, and are for this reason an important source of planning knowledge worth of being transmitted to developing countries, especially those where the geographical conditions are challenging.

5.3. The buildings for students' extracurricular activities: rise and decline of the *gakusei kaikan* facilities

Starting from the postwar period, in Japanese university campuses is often present, as well as the educational, representative and administrative facilities, a building called *gakusei kaikan* (学生会館, students' association hall), *daigaku kaikan* (大学会館, university hall), *kurabu-shitsu tō* (クラブ室棟, building for club rooms), or *gakusei kōsei tō* (学生厚生棟, building for students' welfare)[8]. Those various nomenclatures indicate basically the same function, that is the one of giving a space to students where they can spend the time that is not dedicated to learning activities. Fundamentally, the provided spaces are: club rooms to be assigned to each university group, a students' use auditorium or assembly hall, a relax or study area. Depending on the case, there can be found an administration office (where the building is managed by students) or a private or cooperative shop; moreover, often *gakusei kaikan* and dining hall form a single building with dining space at the ground floor and meeting rooms at the upper floors.

The role of those kind of facilities inside the campus became central in many countries during the postwar period's student riots. "Students' activities buildings", together with student dormitory buildings, became somehow the symbol of the students' self-governance inside the university, in opposition to other structures such as the university headquarters building or the memorial hall, that are symbolic of the institution's authority.

In the first part of this paragraph, we will better define what caused Japanese institutions of higher education to start building students' activities buildings inside the campus. Therefore, at first, we would have to understand the origins of this typology of building, and to consider where were students allowed to spend their free time in the pre-war schools and universities. In the second part of the study, we will try to identify the Japanese universities' attitude towards students' facilities in the period after the World War II. In summary, we tried to answer to the question: to what extent

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[8] The present paragraph is adapted from a 2020 study of the author, referred to in the bibliography as Vecchi and Suzuki (2020 a-b).

institutions considered necessary to allow and promote students' free socialization and non-academic activities within the campus?

5.3.1. Method of the research

The use of both Japanese and foreign sources will help in comparing also the differences in the approach to these architectures. We will then proceed by having a wide look at some famous international postwar examples of students' activities buildings and then by picking up Japanese examples of national, public and private worth noting *gakusei kaikan*, collecting information especially from architectural reviews, academic researches and university archives.

5.3.2. Before World War II

5.3.2.1. Origins of the students' union buildings in the UK and the USA

The idea of a building that could house all the students' extracurricular activities was born in the late 19th century in Scotland and England, leaded by the concept, very important for the British, that comradeship between students is a value to be preserved and encouraged by the institution itself[9]. Those structures took the name of "students' union building" or "students' activities center". Even if their birth is linked to the formation of the first students' union societies[10], it is worth noting that the decision of their construction was at first mainly taken by the institution's government, rather than suggested by the students themselves. The functions of the students' union building were first of all recreational: bars, cafes, clubs, performance spaces, etc. It had common spaces as well as more contained meeting rooms for minor associations; it could be housed in a part of the college building, or in a detached structure.

American universities soon took inspiration from British ones, and University of Pennsylvania's Houston House (Fig. 60) was the first students' union building to be built in an American campus, in 1896. There, it is interesting to note that the project of the building was based on the concourse for ideas of the architecture faculty's students of

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[9] The first students' union building in England (except for what concerns private students' unions as the Oxford Union) was the one at the Beit Quadrangle of Imperial College, ideated by Sir Arthur Acland, who individuated «the need for a place for students to congregate and develop a collegiate social life». See Gay (2007), pp. 72-73.

[10] Students' union societies were born in England, at first as debating associations, and then, starting from the union of King's College London in 1873, with the task of organizing students' social activities and athletic events. See https://www.kcl.ac.uk/aboutkings/history/dates [accessed 14.3.2023].

Fig. 60 University of Pennsylvania's Houston House, first floor plan and view from the campus main square.

Source: https://archive.org/stream/reportofsuperint1896penn/reportofsuperint1896penn#page/n514/mode/1up

the same university[11], suggesting the developing concept that, while other buildings were possession and problem of the university's management department, that one facility was "student's matter". Houston House is located in the heart of the campus, next to the "College Hall", the auditorium and the library buildings, acquiring the status of representative structure of the university.

Following the example of Pennsylvania, by the 1950s this typology of building became a normal feature of the American private and public campuses, often being financed not by taxes nor by normal management budget, but by special offers, or by some sort of self-taxation on the university fees made by the students involved in the unions[12].

5.3.2.2. The services for students in other countries

While students' union buildings were important especially in American and British universities, and were soon adopted also in other countries following the British university model as, for example, Nigeria and India, in most of southern Europe and some of Latin American countries' universities, following the French model, this trend

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[11] See Thomas and Brownlee (2000), p. 3, 12-13.

[12] For example, the Students' Union at Oklahoma State University.

Fig. 61 Model case plan of a junior high school in Ōita prefecture. From School Architecture Drawing

Explanation and Design Compendium (學校建築図説明及設計大要), 1894

http://dl.ndl.go.jp/info:ndljp/pid/1078704 [accessed 14.3.2023].

did not become established. Germany's situation is quite peculiar, because the students organized themselves into inter-universities associations called *Studentenwerken*, running their own dormitories, cafeterias and spaces for cultural events, therefore independently from the universities. It appears clear that the condition to the development of services for students in one country are to be searched in the nature of the country's higher education model, whether it evolved from residential *Colleges* or from urban *Palaces,* as described in § 2.

We already saw that the British collegiate model, especially before the World War II, had hardly any influence on the Japanese universities. Instead, after the World War II, the American influence is undeniable, and that coincides with the appearing of the *gakusei kaikan* buildings in the campuses of the archipelago.

However, spaces for students' relax and free activities were present in the pre-war campuses, too. This highlights another peculiarity of Japanese university space and its community: despite being derived from non-collegial university models, what students did in the time outside classes was nevertheless a matter of worry of the institution.

5.3.2.3. The "students' waiting areas" in Meiji Era Japanese elementary and junior high schools

In Japan, universities were founded at the same time as other schools. Since the beginning of the construction in Japan of western style schools, in Meiji Era, it was suggested the arrangement of spaces for students' socialization and relax. As for universities, the role of the Ministry of Education was central in this development, at first by directly designing public school's buildings, and then by defining the rules for

their construction[13]. These "*seito hikaejo*" (生徒控所, students' waiting area) appear in the *Rules for the construction of Junior High School* (尋常中学校設備規則) promulgated in 1891, where "*seito hikaeshitsu*" (students' waiting room) is listed among the minimum requirements[14]. In the following *School Architecture Drawing Explanation and Design Compendium* (學校建築図説明及設計大要) of 1894, it is reported the project of a junior high school in Ōita prefecture as a model case project, in which the *seito hikaeshitsu* is a semi-independent building[15] (Fig. 61). Regarding elementary schools, Kita (1986) wrote:

> «*Seito hikaejo* carried out the functions of the normal life of the students, as leaving bags or other objects, dining, etc; on the contrary, classrooms had been self-consciously elevated to the level of "teachers' place" only. (…) *Seito hikaejo*, being as well a place for students to meet, was also the place for waiting, being on alert for the next class»[16].

As we can see, those structures weren't principally meant to give students' a place to accomplish some special activities, but just a place to spend time, during the break between classes.

5.3.2.4. The "students' waiting areas" in Meiji Era *Number schools*

Before the compilation of those laws, with the construction of the first five *Number schools* campuses, that would then become the basic model for the Japanese campuses (see §2.5.3.), the *seito hikaejo* were already been introduced in high school planning. Miyamoto (1989) noticed that in all those five "proto-campuses", the facilities considered to be the common basis were: the "main building", the science and chemistry experiments laboratory, and the students' dormitory; the other facilities varied depending on the school. Interestingly, the richer and more established First School, linked to the Tokyo Imperial University, didn't have, at first, a *seito hikaejo*, while the remaining four schools had it, even if built with an inexpensive wooden structure[17]. However, it reported that the reasons for this are that, at the time of the establishment of the *Number schools*, it was necessary to provide more classrooms for the preparatory curriculum courses (because of the newly established educational system, very few students were already in

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[13] The same mutual influence between universities and schools has been seen in § 4.1. and §2.5.3.

[14] Ministry of Education, Act no. 27, "Jinjō chūgakkō setsubi kisei", article 3, 15.12.1891 (明治 27 年 12 月 15 日　文部省令第 27 号「尋常中學校設備規則」第三条).

[15] Architecture Sector, Account Division for the Secretariat of the Minister of Education, "Gakkō kenchiku-zu setsumei oyobi sekkei taiyō, comma 27/33, 2.4.1894 (明治 28 年 4 月 2 日　文部大臣官房会計課建築掛「學校建築図説明及設計大要」コマ番号 27/33), http://dl.ndl.go.jp/info:ndljp/pid/1078704 [accessed 14.3.2023].

[16] Kita (1986), p. 103 (translation by the author).

[17] Miyamoto (1989) p. 99.

possess of a high school degree); and while the First School had students enrolled in both preparatory and normal courses, the remaining four schools only had preparatory ones. Therefore, in the First School more classrooms were built, and when the preparatory course system was abolished in 1894, the surplus buildings' functions were changed in memorial hall, *seito hikaejo*, etc[18].

The position of the *seito hikaejo* was, in the Second, Fourth and Fifth Schools, very important (Fig. 18). In their consecutive composition of symmetric buildings placed in a row, it was the second one, behind the "main building", and it consisted in one isolated structure with a single room. The position of the students' dormitory inside the campus was also crucial, often closing the row of buildings: there it can be noticed a will of the planners and of the Ministry of Education to realize some sort of collegiate life in the school.

5.3.2.5. "Students' waiting areas" in prewar universities

However, with the raising of status of *Number schools* into Imperial Universities, the dormitories were abandoned or moved out (§2.5.4.) and the *seito hikaejo* became a "surplus" building, not very important to the university.

With the intensification of the military activity of the second half of Meiji Era, students' campus life was characterized by a strong emphasis on military and physical education; therefore, the athletic field (*undōjō*), became the main stage for students' common activities. Another decisive factor was the introduction of technical education-based universities, in which planners gave priority to more classrooms and laboratory facilities rather than to waiting rooms. However, even without a dedicated building, Japanese university students began to form cultural and sportive associations, to redact university journals and reviews, to form some kind of semi-official associations parallel to the institutional education system[19]. It can be stated that university students' community was present with a strong identity, but quite self-governed, similarly to the continental European universities.

After the University Act (大学令) of 1919, many universities are reported having one or more *seito hikaeshitsu*, as Tōhoku Imperial University[20], or the campus of Tokyo

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[18] *Ibid.*, p. 104.

[19] See, for example, Gakushūin University's extracurricular activities association, "Hōjin-kai": in the Mejiro campus there weren't dedicated welfare facilities, but the students were active in many fields. See Sugiyama and Ito (2011) and https://www.gakushuin.ac.jp/ad/kikaku/english/history/ [accessed 15.4.2020].

[20] See Tohoku University Archives photo gallery (東北大学関係写真データベース), http://webdb3.museum.tohoku.ac.jp/tua-photo/index.php [accessed 15.3.2023].

Fig. 62 Sproul Plaza, University of California at Berkeley (design by Vernon DeMars, 1957).

Source: Robinson (2016).

Commerce University (present Hitotsubashi University), erected between 1927 and 1935. The planning of this university was also conducted by the Ministry of Education, and, this time, the students-related facilities were relatively more: two *seito hikaeshitsu*, and two "*seito shūkaijo*" (students' assembly area); moreover, there is a still existing professors' assembly area. However, these facilities were simple wooden constructions with no other function except for the containment of students during free time. Moreover, as Kikata (2004) explains, these were placed behind the main concrete building complex with respect to the central square[21] - in summary, they were nothing to compare with the Anglo-Saxon Students' Union buildings.

5.3.3. After World War II

In the postwar period, a new typology of students' welfare facility emerged in Japan, by the nomenclature of *gakusei kaikan* (students' assembly hall), quite more similar to the Western "students' union buildings" than to the pre-war Japanese *seito hikaejo*.

5.3.3.1. A new international postwar trend: students' activities buildings as the main "plaza" of the campus

As Muthesius (2000) wrote, in the years across World War II,

the vast majority [of the institutions of higher education] also built facilities in the center of the

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[21] Kikata (2004), p. 155.

campus for further aspects of the social and recreational life of the students. In Anglo-Saxon countries, these are usually called "students unions", built and financed by the university, but often administered by semi-autonomous student organizations. (…). However, their complexity increased during the postwar years; a great variety of 'campus centers' were created which catered for further cultural purposes[22].

The postwar increment in complexity to which Muthesius refers came together with the application of the modernist architectural style to university buildings. In this, a turning point is represented by the students' union buildings and open spaces that forms the complex of Sproul Plaza in the University of California at Berkeley, designed by the architect Vernon DeMars in 1957 (Fig. 62). This students' union, that was «complete with a large cafeteria, ballroom, lounge, bookstore, and bowling alley; rooms for billiards, art, band practice, and clubs; and two generous outdoor plazas»[23], finds in its volume and shape composition, inspired from Venice's Piazza San Marco, a new ideologic model for this typology: students are citizens, and the students' activities center is for the campus what a square is for a Renaissance city[24].

Other universities started to give to the students' union an even more central role inside the campus. It is the case of the Falmer House, the most representative building of the University of Sussex (design of Basil Spence, 1960-62), that is a quadrangle structure dedicated to the most disparate students' common activities. In the campus equilibrium, for the first time a students' union building became the hearth of the plan, rather than some memorial hall or some institutional monument[25]. A few years later, in 1964-65, the central square composed mainly by the students' center buildings that characterizes the University of Illinois at Chicago Circle was built.

5.3.3.2. The rise of the student protest movement

As mentioned in §3.2., in countries adopting the French university model there wasn't the tradition to build students' welfare buildings. This, with the explosion of the Student Movement, caused the massive occupation and self-management of the traditional classroom buildings, often revolutionizing functions and intrinsically criticizing university's unexpressed spatial potential. An extreme example of this is represented by the occupation of the Politecnico di Milano, where, during 1971 protests, students of the architecture faculty occupied the classrooms and used them to house homeless people[26].

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[22] Muthesius (2000), p. 20.

[23] Robinson (2016), p. 237.

[24] *Ibid.*, p. 243.

[25] See Muthesius (2000), p. 113.

[26] See Benevolo (1974).

On the other hand, where the students' activities center was present, protesting students largely made profit of it. At Berkeley, the famous Free Speech movement soon found its home in Sproul Plaza; and it is surprising that it was the university itself that equipped them with the best possible place for this purpose. Falmer House[27] and students' center of Chicago Circle[28], too, became naturally the student movement's stages. In short, Student Movement has been an inevitable phenomenon, and universities could choose whether to be condescending or not by giving it a natural outlet through the students' activities center building. These considerations are fundamental to understand the policy of Japanese universities towards the construction of students' activities buildings, also because the Japanese movement was even earlier and more aggressive than those in the overseas countries.

5.3.3.3. Japanese postwar *gakusei kaikan*

The prewar *seito hikaejo* (students' waiting area) that the Ministry of Education listed among the requirements for junior high school buildings, was not mentioned in university construction standards. However, they were *de facto* largely built in many of the campuses, as we saw. The first law concerning the new postwar university system, *University standards* (大学基準, 1947), too, didn't mention them[29]. It was with the University Establishment Standards of 1956 that the *gakusei hikaeshitsu* (students' waiting room, synonym of *seito hikaejo*) was for the first time indicated among the necessary features of the university[30].

Despite the fact that no description nor minimum surface was provided, during the postwar period the *seito hikaejo* evolved, from the prewar single-room ambient of a quite non-defined typology of student facility, into the *gakusei kaikan* (students' hall) typology. Its spaces basically consist of: "club rooms" to be assigned to each university club; an auditorium or meeting room; a relax or study area; sometimes, an administration office (where the building is managed by students) and a private or cooperative shop, plus several additional services.

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[27] See Gilson, E., "Memories Vietnam War protest at University of Sussex", The Argus (web page). https://www.theargus.co.uk/news/16043245.memories-of-vietnam-war-protest-at-university-of-sussex/. [accessed 15.3.2023].

[28] See "Student Life at Illinois: 1960-69", Student Life and Culture Archives at the University of Illoins Archives (web page). https://archives.library.illinois.edu/slc/research-education/timeline/1960-1969/ [accessed 15.3.2023].

[29] General Meeting of the Association for University Standards, "Daigaku kijun", 16.12.1947, art. 10.2. (昭和 22 年 12 月 16 日　大学基準協会総会決定,「大学基準」, 10・2).

[30] University Establishment Standards (1956), art.37.
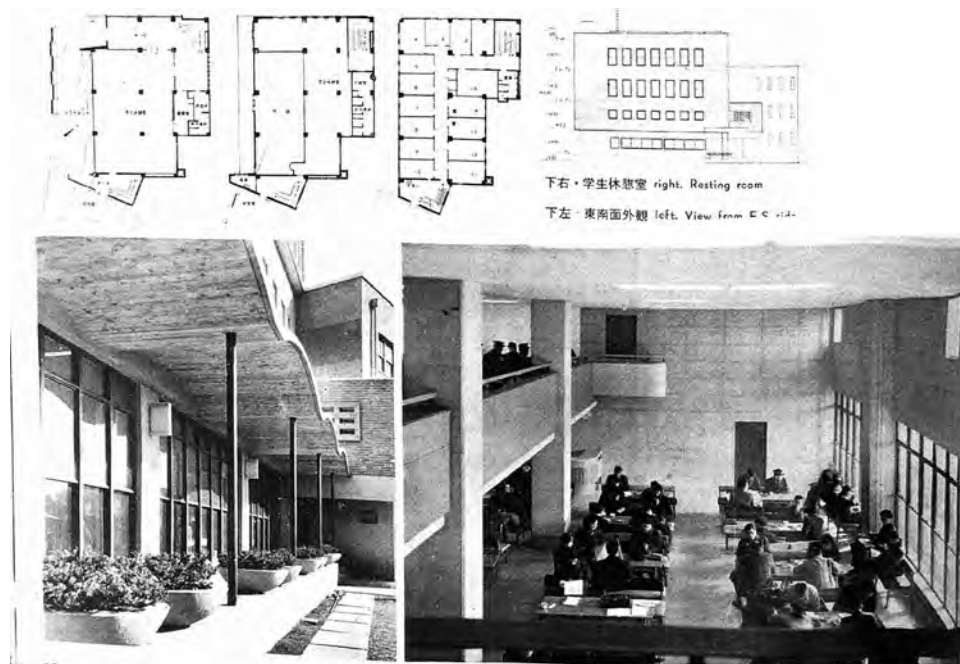
Fig. 63 Plans, elevation, views of the access and of the great hall of the First *Gakusei Kaikan*, Waseda
University (design by Sugiura Tomoe et al., 1954). Source: Kenchiku Bunka (1955-99).

There is an ambiguity about the first Japanese *gakusei kaikan*. Two architects were said
to be the first to be appointed in the design of such new building type from zero: W. M.
Voeris, with the Raph E. Diffendorfer Memorial Students' Union of the International
Christian University (designed since 1956, completed in 1958)[31], and Ōta Minoru with
the Clark Memorial Hall of the Hokkaido University (design 1956, completed in 1959,
Fig. 69)[32]. Bothe of these two buildings were conceived by strongly USA-influenced
universities. However, the most ancient Japanese *gakusei kaikan* found in this research
is Waseda University's First *Gakusei Kaikan*, completed in 1954 (Fig. 63), and designed
by the university's planning team headed by Sugiura Tomoe[33].

There has been a visible difference of approach between national, public and private
universities concerning the construction of *gakusei kaikan* buildings. While national and
public universities' funds are more independent from students' fees and have as their
main interlocutor the Ministry of Education, private universities are in a certain way
forced to listen more to the students' needs and requests. For national universities,
buildings constructed at the lowest cost were enough; but, on the other hand, in private

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[31] See Takazawa and Yamazaki (2019), pp. 30-66. The chapter is titled "The first *gakusei kaikan* in
Japan".

[32] The building is presented in Kenchiku Bunka (1960-160).

[33] The building is presented in Kenchiku Bunka (1955-99).
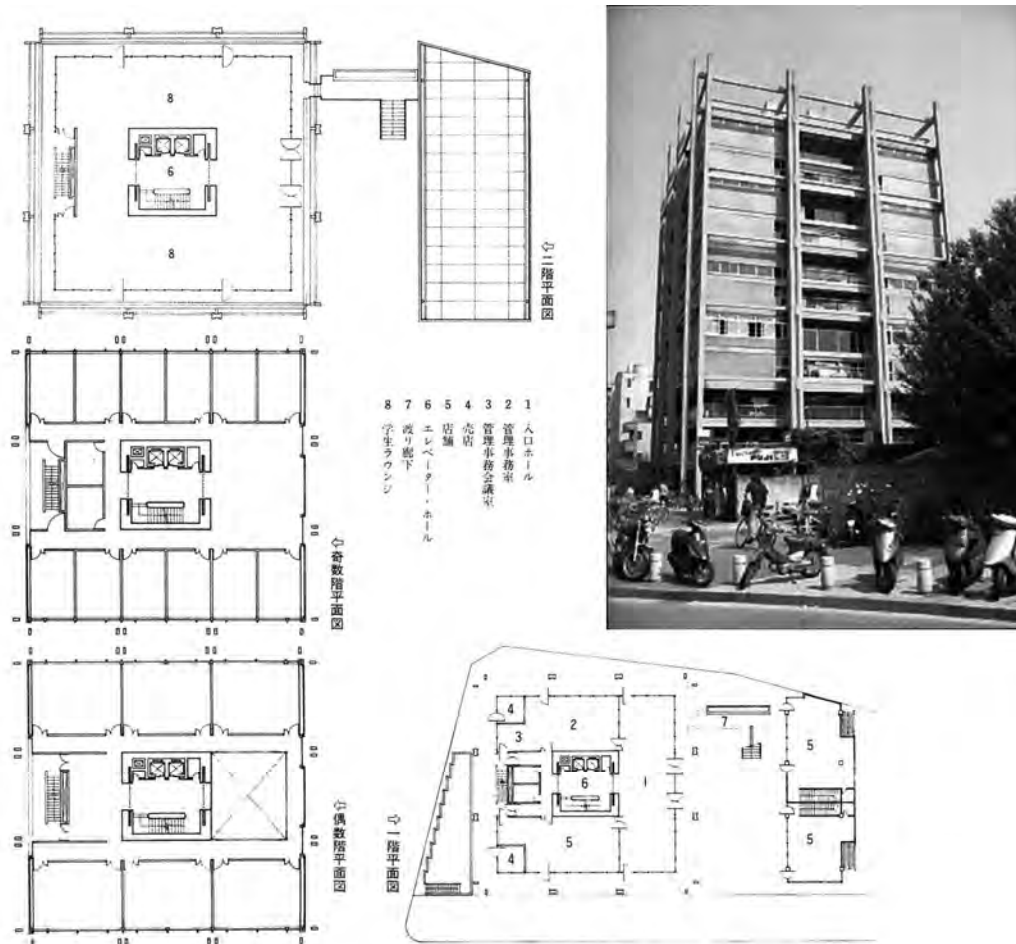
Fig. 64 Plans and external view of the Second *Gakusei Kaikan*, Waseda University (design by Take Motō,

1965). Source: Kurita (1971 b).

universities, to possess new and inviting facilities as the *gakusei kaikan* was also a way to increase enrollments.

5.3.3.3.1. Private universities

The approach for what concerns private universities can be well exemplified by Waseda University's two *gakusei kaikan* buildings. The 11th university president Tsukasa Shimizu, in an interview regarding the student riots of the 1960s, revealed the history that lies behind their construction and the problems it caused:

> The first origin of the so-called "first Waseda conflict" that happened in January 1966, was the
> problem of the second *gakusei kaikan*. Actually, this is a problem that is deeply rooted in the
> university's history; the first *gakusei kaikan* was completed in June of 1954[34].

That is, some years before the university standard law. It was a modern and well divided building, with an important position inside the campus (Fig. 63).

> Everything began with the fact that at that time, the university decided to design and realize a

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[34] Ōzaki (1991), p. 33 (translation by the author).

building for the students, with the function of students' welfare facility. At that time, the interest

of the students for those welfare facilities was really high[35].

From these words it can be assumed that Waseda University decided to build the *kaikan* in response of some kind of pressure from the students. Waseda's problem started because of the requests of the students to be able to self-administrate the building, and to realize a dining hall with food prepared by themselves. The self-administration issue reemerged over the years, but even knowing the problematic nature of such facilities, the university decided the construction of a second *gakusei kaikan*. This was four times larger than the first: an eleven-stories concrete building, designed by Take Motō, and completed in December 1965 (Fig. 64). The first two floors were dedicated to common activities and lounge, and in the remaining floors there was a room for each university group[36]. Again, issues concerning the requests of the self-management of the students towards the new building became a major trigger of the protest, that exploded with violence in 1966 and in 1969. The *gakusei kaikan* suffered large damages from the conflicts, and from then on university closed it for many years, allowed it to reopen in the 90s, and then dismantled it, together with the first *kaikan*, in 2001.

It is reported that the idea to build the International Christian University's Diffendorfer Memorial Students' Union came from the university's founders, especially the protestant missionary Ralph E. Diffendorfer, who wanted since 1949 a «church house», i.e., a building, adjacent to the church but equally if not more important, where students could live in a communitarian spirit what learned in church:

> «We are not interested in having only a chapel for expressing the teachings of Christianism (…).
> By declaring how a church must be in a first-class modern city, we want to give a big opportunity
> to touch the possibilities of a great church to all the students who are going to graduate and go
> away»[37].

This «church house» (教会会館, *kyōkai kaikan*), was a sort of community center, well linked to the dormitories and cafeterias of this very typical *College-derived Campus*. In facts, while still under planning, it changed name to *gakusei kaikan* in 1950 in the campus masterplan, and after the death of Diffendorfer and several vicissitudes, in 1956 the studio of W. M. Vories started designing a modernist building, sited in the most central area of the campus. Representatives of the students' union were called to give opinions about the design and their proposals were approved and integrated into the

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[35] Ōzaki (1991), p. 33 (translation by the author).

[36] See Kurita (1971 b), pp. 200-201.

[37] From a letter of Ralph. E. Diffendorfer to W. M. Vories, 1949.10.26, cited in Takazawa and Yamazaki (2019), p. 46.

Fig. 65 Meiji University Ikuta campus in the 1960s. The *gakusei kaikan* is the building indicated by the arrow.

Source: Meiji University https://meijinow.jp/meidainews/news/9753 [accessed 15.3.2023]

Fig. 66 Meiji University Izumi campus in the 1960s. The *gakusei kaikan* is the building indicated by the arrow.

Source: Meiji University https://meijinow.jp/meidainews/news/9753 [accessed 15.3.2023]

Fig. 67 Meiji University Izumi campus' *gakusei kaikan* (design by Horiguchi Sutemi, 1960). Source: Kurita

(1971 a)

final design[38]. The still existing building had club rooms, a bookshop, a bar counter, a barbershop, and many large spaces for students' free socialization.

Other worth-noting examples of a private university approach are Meiji University's four *gakusei kaikan* buildings, all of them designed by one of the fathers of Japanese modernist architecture, Horiguchi Sutemi, between 1960 and 1967, in three university campuses. In Ikuta campus, the *kaikan* was a two-stories simple building, placed in a quite decentral position, consisting basically of large spaces for the students' recreation (Fig. 65). The complexity of the design increased with the building in Izumi campus, of 1960 (Fig. 66, Fig. 67); it was a fundamental element of the campus equilibrium, a two-stories luminous hall, open to the central square. This building was showed in architecture publications[39] and it is possible to suppose that it has been taken as a model, especially from public institution, for the future designs of standard student halls, which present many similarities.

However, it was soon demolished because of the construction of the dining hall; and a second, five-stories *kaikan*, larger and complete with rooms for clubs and various groups, was again designed by Horiguchi in 1967. Its hidden position is compensated by its multiple entrances at the first, second and third floors, that create a connection with other facilities[40]. Moreover, a fourth *gakusei kaikan* was completed in the Surugadai campus, in 1966[41]. They all present white and luminous lounges, whose modernity contrasts with the presence of a small Japanese style tea room in each of them. Particular attention was dedicated to the design of the stairs, which create visual unity between the floors. Horiguchi tried with these *kaikan* to create a pleasant environment, going beyond the mere satisfaction of the area requirements.

Another worth mentioning private *gakusei kaikan* is that of Kōnan Women's University, designed by Murano Tōgo in 1962-65 (Fig. 68). Its glass curtain walls contrast with the white finishing of the other facilities, and its frontal position, mediating between the campus and the view of Kōbe city and the sea, shows the importance accorded to students' extracurricular activities. It is made of four floors all left almost without partitions, for the free gatherings of students rather than for club activities, which are hosted in

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[38] See Takazawa and Yamazaki (2019), pp. 58-60.

[39] See Kurita (1971 a), pp. 146-147.

[40] See Hayakawa Architects, "Meiji Daigaku Izumi kōsha gakusei kaikan" (明治大学和泉校舎学生会館) (web page). http://www14.plala.or.jp/masao-hayakawa/p-meidai-izumi-gakuseikaikan.html [accessed 15.3.2023].

[41] See Hayakawa Architects, "Meiji Daigaku Surugadai kōsha gakusei kaikan" (明治大学駿河台校舎学生会館) (web page). http://www14.plala.or.jp/masao-hayakawa/p-meidai-surugadai-gakuseikaikan.html [accessed 15.3.2023].

Fig. 68 Kōnan Women's University view. The gakusei kaikan is in central position. Photo by the author, 14.2.2022

separate, minor buildings.

Those examples showed a commitment of the private universities in providing rather expensive students' activities buildings, commissioning renowned architects, and locating them in rather central positions within the campuses.

5.3.3.3.2. Public universities

Kim et al. (1995) describes that, in the postwar national universities, the priority was given to lecture room buildings and experiment laboratories rather than on buildings for students' welfare, which comprehend cafeterias, shops, infirmary and circle rooms; also, the university settlement guidelines did not mention the minimum area requirements for these functions, resulting in a various and late development[42].

The first university to include a building entirely for students' welfare was Hokkaidō University, which was based since its origins on the American model. An interesting building called Clark Memorial Student Hall, modern and polyfunctional as the American Students' Unions, was designed starting from 1956 and completed in 1959. Its two stories, with a floor area of almost 6000 m², comprehended an auditorium, a large hall, and several spaces for club activities (Fig. 69). The designer Ōta Minoru reported that «at the time, the reference and documentations for a student center were inadequate, so the entire contents had to be conceived from the beginning»[43], with a survey of the contents of students' circles scale, number and activities. He reports also that the construction fees were covered almost entirely by donations, from inside and outside the country[44]. However, Hokkaido University's case appears as rare and fortunate, and quite "American", and had little influence over other Japanese universities.

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[42] Kim et al. (1995), p. 79.

[43] Kenchiku Bunka (1960-160), p. 22 (translation by the author).

[44] *Ibid.*

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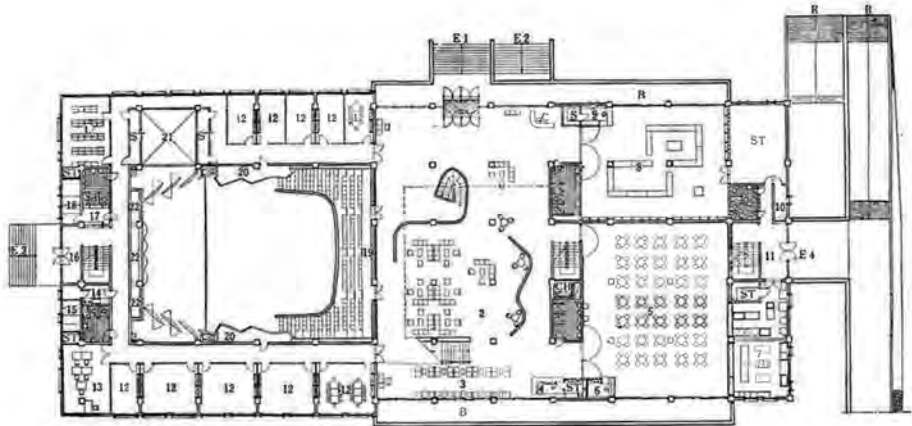
Fig. 69 Hokkaido University, Clark Memorial Students' Hall (design by Ōta Minoru, 1956-59). Source:

Kenchiku Bunka (1960-160).

An example of a national institution such as Nagoya University can maybe clarify better the mentality of campus planners and university committees of the postwar period towards the *gakusei kaikan*. In the first plan of this relatively late campus, redacted by Hirokawa Seizaburo in 1942, a little hill along the main axis of the campus, next to the Kagamigaike Pond, was chosen as the site for a building called *kyōin-gakusei shūkaijo* (教員学生集会所, "assembly area for students and teachers")[45]. The beautiful and central location, easily reachable from all the classroom buildings, would surely have provided to it a main role inside the campus' life rhythms. But, after the war, this plan was heavily changed: first, the president of the faculty of engineering argued that placing the new engineering building next to the existing one, that is, in the area occupied by the little hill, would have been more reasonable for some functional and esthetic issues, and suggested to build the facility somewhere else[46]. After this, the issue of the assembly

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[45] See Kikata (2004), p. 234.

[46] See Nagoya University (1995), pp. 401-402.

area reappears in the recordings of the Facility Management and Planning Committee, and subsequently in the Meeting of Faculty Presidents in 1959, that is three years after the new university standard law. The recordings show that the head of Nagoya University Student Affairs received the following advice from Mr. Nishida, head of the Student Affairs at the Ministry of Education:

> As for the fundamental guidelines, it has been thought to build a "student hall" or a sort of *gakusei kaikan*, targeting the students of the faculty of liberal arts, 2000 people. Depending on the situation of the model cases, we could then extend the target to other faculties. At this stage, we are thinking that it must be something that would become the linking place for school and education, the place of the formation of the personality, the place of the fraternization between students. Accordingly, please propose the assignment of every space for what regards dining halls, lounges, meeting rooms, conference rooms, healthcare-related rooms, etc.; and please present a concrete and factual plan regarding their maintenance and administration policy[47].

Despite this inspired suggestion, Nagoya University's faculty presidents didn't seem to be condescending with it, and repeatedly changed the position where the *gakusei kaikan* had to be built, willing to find for it a site where students couldn't disturb classes and research activities[48].

The chosen site, indeed, is at the northern end of the campus, cut off from the campus main traffic. The Facility Management and Planning Committee accepted a representant of the Students' Life Association to assist to the planning discussions, but with the order to present anticipatedly claims and wills[49], and the results were, in addition to the *gakusei kaikan*, the cultural circles rooms building and the physical education boarding house, located in the eastern green area[50]. The *gakusei kaikan*, that was already built in 1962 (Fig. 70), was a two-stories concrete building, with basic architectural features, dedicated mainly to assemblies and meetings, complete with a

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[47] From handwritten recordings conserved in Nagoya University Archives (名古屋大学文書資料室). "Contents of the Meetings of Faculty Presidents (January 1958-December 1962)" (学部長会議事内容(Ｓ 33．1 月～Ｓ 37．12 月)), 9.2.1959. Translation by the author.

[48] See Nagoya University (1995), pp. 520-521.

[49] From handwritten recordings conserved in Nagoya University Archives (名古屋大学文書資料室). "Records of the Facility Management and Planning Committee 8.7.1952-21.12.1963 (整備委員会記録 昭 27～38 年 1952 年 07 月 08 日～ 1963 年 12 月 21 日), 20.7.1959.

[50] Nagoya University, *Gakusei kaikan no shiori*, unknown date (名古屋大学：学生会館のしおり，発行年 不明).
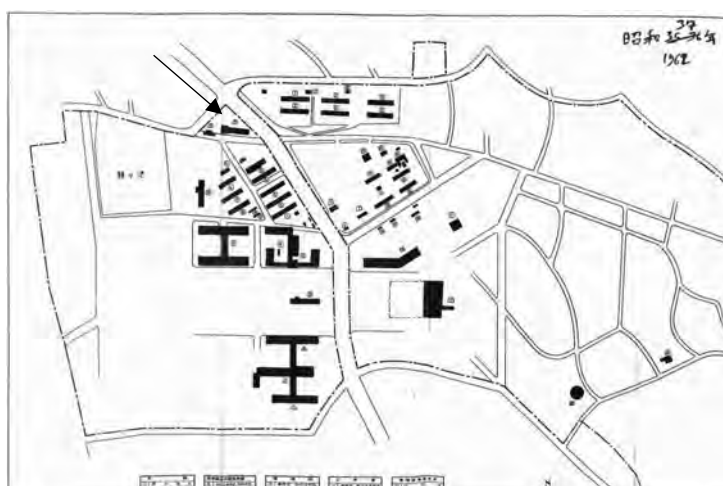
Fig. 70 Nagoya University state of campus construction in 1962. *Gakusei shūkaijo* (学生集会所, "place for students' gatherings") is ind icated by the arrow. Source: Nagoya University, *Nagoya daigaku gaiyō 1962* (名古屋大学概要昭和 37 年), courtesy of Nagoya University Archives

Fig. 71 *Gakusei kaikan* of Nagoya University (built between 1959 and 1962). Source: Nagoya University, *Gakusei kaikan no shiori*, unknown date (名古屋大学：学生会館のしおり，発行年不明). Courtesy of Nagoya University Archives

dining hall and two shops[51]; it presents some similarities with the first *kaikan* of 1960 in Meiji University Izumi campus (Fig. 71). It would then become a sort of headquarter during the later protest period, and is one of the rare cases of still existing postwar examples of this typology.

In short, Nagoya University case shows that the guidelines indicated by the Ministry of

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[51] *Ibid.*
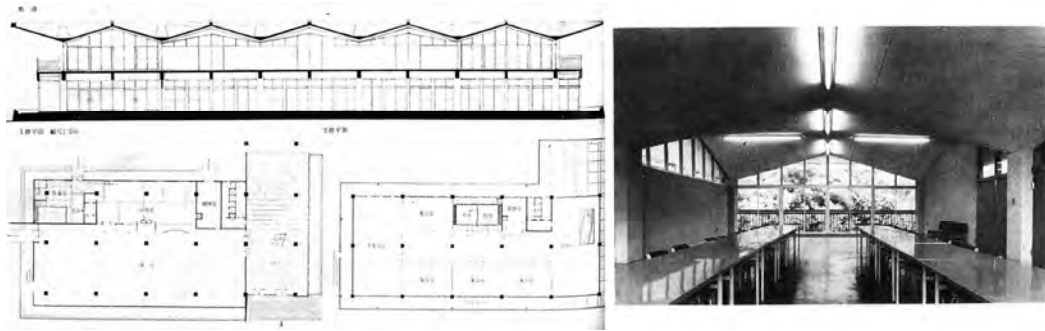
Fig. 72 Kumamoto University *Gakusei Kaikan* (design by Nakano Taku, 1964-65). Source: Shinkenchiku

(1965-9)

Education were followed, and students' requests were to some extent satisfied, but no extra effort was made by the institution to valorize this facility, from the arrangement and the architectural point of view.

Later, municipal and prefectural universities soon developed a standard typology of *gakusei kaikan*, consisting in a two or three-stories concrete building, with dining hall at the first floor, meeting room/lounge at the second, and, depending on the case, rooms for club activities. Kumamoto University (Fig. 72, Ōsaka City University Sugimoto campus, or Nagoya City University Takiko campus' *gakusei kaikan* well exemplify this standard. The case of Aichi Prefectural University of Fine Arts and Music campus, which was designed as a whole by Yoshimura Junzō in 1966-70, presents a quite standard-type *gakusei kaikan*, but an interesting feature is that it directly faces the university's president office, representing a bipolar equilibrium between students and institution[52].

5.3.4. The role of *gakusei kaikan* in Japanese campuses

Let's now conclude this paragraph. In the postwar period, students' activities centers evolved in the USA and in the UK aiming to become the central "square" of a campus conceived as a city. In Japan, private universities were the avant-garde in the development of the new typology called *gakusei kaikan*, and produced worth-noting buildings; in public universities, even if the Ministry of Education inserted the students' welfare areas in the university standards and offered advises regarding its concrete purpose, target and functional composition, it found some resistance at the practical act, and was conceived from the beginning as a basic standardized facility, except for some virtuous cases. The collected data doesn't consent to make a general statement about the Student Movement relation with the *gakusei kaikan* facilities, but it can be noted that riots happened independently from the presence or absence of them, and from their

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[52] During the Student Movement era, the students even opposed to the construction of a building which could have covered the view of the president office. Apprehended in a hearing with prof. Suizu Isao of Aichi Prefectural University of Fine Arts and Music, 7.5.2019.

architectural quality: considering what learned in the following §6.2.3.1., this is explained by the fact that students used often the open spaces of the campus as a place for social gathering and sending of sociopolitical messages. However, where present, *gakusei kaikan* became naturally a house for the student community, and this avoided the permanent student occupation of other educational facilities, that is still today a normal phenomenon in other countries[53].

A large part of these facilities was closed or demolished after the escalation of the Student Movement and its repression; surely, almost nowhere students were left independently able to manage their own building. Buildings for sports, recreational or cultural club activities are still a constant in campuses, but the focus has been moved from the "assembly" to the "function". In facts, Kim et al. (1995) studied the state of affairs of *gakusei kaikan* at the end of "Planification Era" and, dividing *daigaku kaikan* (大学会館, university hall, or union) into typologies based on the main function (cafeteria or assembly), concluded by saying:

> In the years Shōwa 30s [(1955-64)], except for the "cafeteria-centered type", *daigaku kaikan* with assembly facilities were built uniformly everywhere; in the Shōwa 40s [(1965-74)] the "cafeteria-assembly mixed type" number grew; in the Shōwa 50s [(1975-84)] the "cafeteria-assembly mixed type" and the "cafeteria-centered type" examples are more numerous.[54]

And, again, summarizing the results of a survey on students' usage:

> The present [(1995)] *daigaku kaikan* are built as incomplete parts of multifunctional facilities or facilities for extracurricular activities, but, hereinafter, if one considers their fulfillment, it is necessary to build facilities featuring general functions as cafeteria, café, shop, bookshop, and also small and large assembly rooms and music rooms. In addition, if the *daigaku kaikan* is to be rethought as *gakusei kaikan*, even if in Japan there is plenty of problems to solve from the viewpoint of management, there is a demand for training gyms, rooms for conversation and entertainment, TV or video rooms, rooms where one can nap, shower rooms and bathrooms, which students could use freely.[55]

Lately, more attention is posed on spaces for "active learning" in groups, with the possibility of free space usage, the "learning commons"[56]. Finally, most of the new services for students, as "career guiding rooms" or shops, appeared at the time of "liberalization era", with the necessity of universities to attract students in competition

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[53] In Italian institutions like Sapienza University, for example, students' associations occupy permanently a classroom in almost every faculty building.

[54] Kim et al. (1995), p. 87 (translation by the author).

[55] *Ibid.*, pp. 87-88 (translation by the author).

[56] These are places not only for study, but also for conversation and relax. See Kusukawa (2021).

with other institutions.

5.4. Conclusions of Chapter 5

In this chapter the peculiarities of the architectures in Japanese "massification era" campuses were analyzed. It is important to remember that, as described in § 3.2., around the same time universities all over the world were worried primarily about the growing number of students and the questions on what kind of space could host a so gigantic community. *Campus* became by that time the most popular space typology; however, each country developed their own interpretation of it, based on their traditional typologies (*Palaces* evolved into interconnected megastructures, *Diffuse universities* into multiple *Campuses* for multiple universities, etc.). Japan, instead, did not change much its traditional (even if relatively new) typology: it did not develop megastructures nor utopian plans, but followed the same basic principle of "non-residential", "small-scaled", "enclosed" places. However, two major changes were introduced.

1) The first is the shift to rational architecture, and to more limitative conditions of position and construction budget. This encouraged the search for the optimal learning environment for the higher possible number of students: a matter of architectural planning. As we saw, the relationship between the lecture room indoor environment and the natural environment has been strongly pursued, through various planning methods, enabling cross ventilation, natural lighting, possibility of direct outdoor access. All of this was realized taking into account the limits given by the site, whether narrow and overcrowd, or characterized by a difficult topography.

2) Another change that occurred was that universities started being responsible for the students' extracurricular activities, i.e., for their community, a keyword of the postwar campus architecture all around the globe. In Japan, it translated into the insertion in the campus of a special facility, the *gakusei kaikan*. These were derived namely from the pre-war "students' waiting areas", but became a more complex building type after receiving the probable influence of American campuses. It is important to note that Japanese architects started designing modernist buildings for students' assemblies at the same time as, if not earlier than, American examples (Berkeley's Sproul Plaza is posterior to Waseda's First *Gakusei Kaikan*).

These two characteristics contribute to increase the list of sustainable ways of creating a comfortable higher education environment in limiting conditions, and hopefully could become useful sources of knowledge.

However, it is now necessary to consider the value of these architectures in the contemporary era. Realistically speaking, both the above points became nowadays outdated:

1) the advent of air conditioning made many of the postwar Lecture Room Buildings obsolete for the contemporary era, so that many of the valuable university architectures of that period have already been demolished and substituted;

2) and, as we saw, *gakusei kaikan* became soon considered as dangerous and unmanageable places, and universities soon regained control over the places for the free time of the university community.

Are modernist Lecture Room Buildings destined to disappear, or their conservation is possible? This topic is addressed in the Supplementary chapter at the end of the present thesis.

Once left without a place to freely assembly, where during the decades did the university community gather and spend time in? This topic is addressed – among others – in the following chapter.

Chapter 6. THE PECULIARITIES OF JAPANESE UNIVERSITY COMMUNITY BETWEEN THE CAMPUS AND THE SURROUNDING SOCIETY

6.1. Introduction

In this chapter, the research focuses on the relationship between campus planning and the community formed by students, professors and personnel, especially for what concerns their socialization and coexistence, and its role within the larger social context. In § 2 it was understood the historical context of Japanese campuses, which housed a non-residential but protected and enclosed community. In § 3 it was highlighted the pressure for realizing a more interconnected faculty structure, and the importance given in University Establishment Standards to open spaces for students' rest etc.; also, the three eras of the postwar university vicissitudes, the last one of which is the "liberalization era", are introduced. In § 4 it was grasped the scale of the exodus of campuses from urban centers, discovering the large number of campuses positioned in the "edge" between city and natural environment, which may indicate the necessity of a balance between a protected environment and an openness towards the city. In § 5.3. it was analyzed one aspect of the university community in the postwar period, i.e., the rise and decline of facilities for students' gatherings, called *gakusei kaikan*, which represented the way for Japanese universities to provide a fitting environment for their student community's life. However, after the explosion of the Students' Movement, their importance decreased in favor of facilities for specific and more fragmented purposes as circle activities, group learning, shops.

6.1.1. Purpose of the research

Considering the above premises, and finally arriving to the contemporary "liberalization era" and its context, it is necessary to understand the following questions:

1) Where did and do university community actually socialize, inside and outside the campus?

2) What are the contemporary concerns about university community, in the "liberalization era" of the return to city centers?

Once clarified these questions, the aim of this chapter is also to find campus planning examples capable, at once, of responding to the new challenges without betraying the Japanese peculiarities seen hitherto.

This chapter is structured along the following paragraphs, each one responding to the conclusions of the previous one: § 6.2.: Survey on the places used by students to socialize, in different eras; § 6.3.: Analysis of the contemporary debate regarding the "openness of campuses"; § 6.4.: Comparation with northern Italy's contemporary university space planning; § 6.5.: Case studies of Japanese campuses capable of responding to the new challenges without betraying the Japanese peculiarities; § 6.6.: Survey on the actual use of the case studies.

The research methods used for each section of the present paragraph are various;

therefore, it has been decided to describe each method in the corresponding paragraph.

6.2. Questionnaire "A": Survey on the places inside and outside campuses used by students to socialize, in different eras.

Firstly, it is necessary to understand the actual changes in the university community life and the environments where it takes place, from the postwar era up to now. There are several studies regarding students' *ibasho* (whereabouts), which is the favorite place within the campus where students spend their lonely time. For example, Yamazaki, Uemura and Hata (2018) crossed the psychological profile of students with their favorite place to spend time when alone[1]. However, it was not found in the existing literature a comparison between different generations of students' preference of *ibasho*, and particularly for socialization scopes.

6.2.1. Method of the research

In order to answer this question, we realized a questionnaire titled "*Where*, in the university campus, do you remember to have most socialized with friends and professors? Comparing the place of university community in each era"[2] (hereinafter, Questionnaire "A"). The target of this questionnaire was any person who graduated from a university or a *Tanki daigaku* in Japan, of any age. In order to avoid a too homogeneous pool of interviewees, the questionnaire has been distributed to university professors, university and library personnel, members of charity organizations and clubs, professionals and other private citizens. The survey was accomplished from September 2022 to January 2023.

The contents of the questionnaire are divided into the following sections:

A) University application year, university and campus nomenclature, faculty/department;

B) Socialization between students (belonging to circles etc., number of students with whom there was friendship, self-evaluation of the social atmosphere);

C) Places of socialization between students (places where most time have been spent in company of other students; places where most time have been spent doing extracurricular activities; places where casual rencounters were more frequent);

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[1] Yamazaki, Uemura, Hata (2018), p. 1028. As a result, they found that: students who feel lonely prefer library; students who enjoy being alone prefer places outside the campus or common spaces, «because they do not mind other people watching them»; students who prefer the company of others spend their time alone in spaces as piano or computer room

[2] Original title in Japanese: "大学キャンパスのど̇こ̇で友人と教授と交流した思い出があるか？・各時代での「大学コミュニティーの場」を比べる・". See Appendix.

Tab. 12 Summary of the respondents to Questionnaire "A"

Respondents' year of enrollment 回答者の入学年	Surroundings type of the target campus アンケート対象キャンパスの周辺分類				Total 計
	Urban 都市周辺	Edge エッジ周辺	Rural 地方周辺	Unknown 不明	
Massification era (1946-1975) 大衆化時代（1946～1975年）	6	2	1	0	9
Planification era (1976-1995) 計画的時代（1976～1995年）	16	6	5	1	28
Liberalization era (1996-present) 自由化時代（1996年～現在）	12	5	5	0	22
Total 計	34	13	11	1	59

D) Socialization with professors (belonging to *zeminar*, self-evaluation of the presence or absence of socialization with professors; places where most time have been spent with professors outside classes);

E) Evaluation of campus environment (convenience, beauty, learning and research
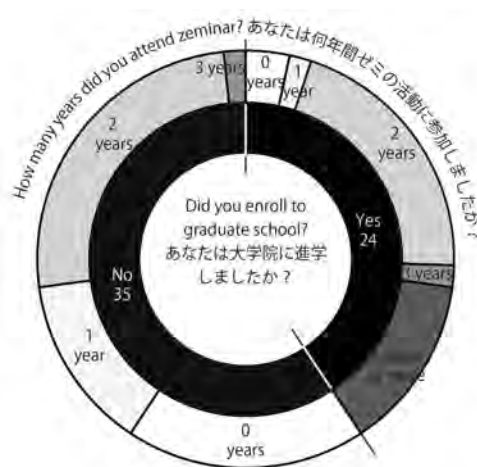
Fig. 73 Questionnaire "A", Graduate School enrollment ratio and duration of *zeminar* activities
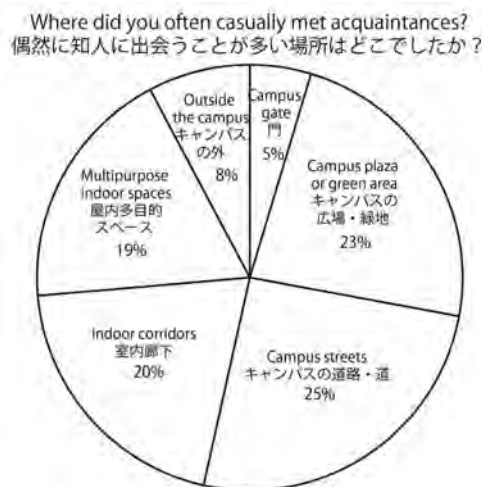
Fig. 74 Questionnaire "A", Answers to "Where did you often casually met acquaintances?"

functionality, sports or extracurricular activities functionality, possibility of socialization), and free additional thoughts.

6.2.2. Numeric overview of the answers

The total number of respondents is 59 (36 women, 23 men). As shown in Tab. 12, there have been difficulties in obtaining answers from university alumni enrolled during the "Massification era" (see § 3.5.5.). Moreover, in general, the small number of respondents versus the variety of their experiences as student and of the campus attended does not allow a proper statistical analysis. However, the survey revealed to be enough detailed and varied to make possible the deduction of some trends.

6.2.2.1. The places of students' socialization

At first, it is useful to look at the results without distinction of enrollment year or attended university. As shown in Tab. 13, as the place where the respondents, from all the ages and all the universities, most spent their time with other students, cafeteria resulted being the most cited (22.9%); then, in order, lecture room (11.8%), campus' open spaces (11.1%), a cafe or restaurant outside the campus (10.5%), room for students' circles activities (10.0%). The largest part of the remaining answers cited other indoor places inside the campus, as *zeminar* room, gym, drafting or laboratory room (for art,

Tab. 13 Questionnaire "A", places of socialization (general overview without distinction of frequency and respondent's data)

Question 項目	In campus, indoor places キャンパス内・室内	In campus, outdoor places キャンパス内・屋外	Outside the campus キャンパス外
Places where you often spent time with other students 他の学生とよく過ごしていた場所	Cafeteria 食堂 22.9% Lecture Room 教室 11.8% Circle Room 部室 10.0% Zeminar Room ゼミ室 9.4% Others その他 14.1%	Plaza, Green Area 広場・緑地 11.1% Others その他 3.1%	Cafe, Restaurant 店舗 10.5% Dormitory, friend's house 寮・友人の家 4.3% Others その他 4.3%
100% (170 か所)	Total 計 68.2%	Total 計 13.5%	Total 計 18.2%
Places where you often gathered with other students in order to accomplish circle or *zeminar* activities 学生団体やゼミの集まり・活動をよく行っていた場所	Zeminar Room ゼミ室 19.4% Lecture Room 教室 16.3% Circle Room 部室 15.3% Cafeteria 食堂 7.1% Others その他 14.3%	Athletic Field グラウンド・コート 6.1% Others その他 4.1%	Cafe, Restaurant 店舗 7.1% Others その他 10.2%
100%(98 か所)	Total 計 72.4%	Total 計 10.2%	Total 計 17.3%
Places where you spent time with professors, outside classes 授業以外での教師との交流の場所	Zeminar Room ゼミ室 35.1% Teacher's Research Room 教員の研究室 23.4% Lecture Room 教室 7.8% Cafeteria 食堂 5.2% Others その他 11.7%		Cafe, Restaurant 店舗 11.7% Teacher's house 教師の家 3.9% その他 1.3%
100%(77 か所)	Total 計 83.1%	Total 計 0.0%	Total 計 16.9%

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design and engineering faculties).

The places where students most gathered in order to accomplish circle or *zeminar* activities were in order: *zeminar* room (19.4%), lecture room (16.3%), room for students' circles activities (15.3%), and, again, cafeteria (7.1%), or cafes etc. outside the campus (7.1%).

The *gakusei kaikan* was cited often in the answers of both the above categories, but always mentioned indirectly as a function within it (circle room, cafeteria, free hall). However, it appears that casual socialization happens mainly in places with other specific functions, as the cafeteria or the lecture room; instead, group activities are accomplished more in places with that proper function as circle rooms or *zeminar* rooms, but still lecture rooms, cafeteria, restaurant etc. are used for these purposes, too. In-campus outdoor places occupy respectively only 13.5% and 10.2% of the total places mentioned.

6.2.2.2. The places of socialization between students and teachers

Fig. 73 shows the ratio of respondents who enrolled in Graduate School and the duration of their attendance at *zeminar*. The respondents' most cited place of extra-class socialization with professors are the *zeminar* rooms (35.1%) and the teacher's research room (23.4%); 11.7% cited also restaurants or cafes placed outside the campus. In-campus outdoor places were never mentioned.

6.2.2.3. The places of casual encounters

Fig. 74 shows, instead, that in-campus outdoor places are where people most casually encounter each other: campus streets, campus plazas or parks, campus gate together formed 53% of the answers, while indoor rooms or corridors counted 39% and places outside the campus 8%.

6.2.3. Summary of the answers by enrollment year

Here we summarize the trends and differences between respondents who attended university during the "Massification era", the "Planification era" and the "Liberalization era". In order to draw the right conclusions, the spatial characteristics of the campus at the time of the respondent's enrollment have been verified through the analysis of GSI old aerial photos and other historical material found on university websites, compared and considered; however, the great variety of campuses and the small number of respondents prohibited to understand clear links between campus's spatial configuration and user's socialization. Instead, a general outlook of the answers and free comments allowed to grasp some rough, semi-undefined trends, which are described below.

6.2.3.1. Massification era (1946-1975)

In the free comment section, one respondent who attended Waseda University from 1969 wrote:

Tab. 14 Questionnaire "A", answers of respondents enrolled at university during the "Massification era"

Row labels (top to bottom):

Evaluation of campus environment キャンパス環境の評価
- Possibility of socialization 学外団体との交流しやすさ
- Extracurricular functionality 課外活動促進機能の充実
- Learning/research functionality 教育・研究機能の充実
- Beauty (architecture, nature) 美しさ（建築・自然）
- Convenience (distance etc.) 利便性（距離等）

Where did you often spend time with teachers besides classes? 授業以外で教師と過ごした場所
- Place 3 場所3
- Place 2 場所2
- Place 1 場所1

Socialization with teachers 教師との交流
- Socialization besides classes 授業以外での交流経験
- Familiarity with the prof. 教授への親しみ

Enrollment to graduate school 大学院進学の有無

Where did you often casually met acquaintances? 偶然に知人に出会うことが多い場所
- Outside the campus キャンパス外
- Indoor multipurpose spaces 屋内多目的スペース
- Indoor corridors 屋内廊下
- Campus streets キャンパス街路
- Campus plaza/green area キャンパス広場・緑地
- Campus gate 門

Where did you often gather for students' circles or zeminar activities? サークルやゼミ活動のためによく集まっていた場所
- Place 5 場所5
- Place 4 場所4
- Place 3 場所3
- Place 2 場所2
- Place 1 場所1

Where did you often spend time with other students? 他の学生とよく過ごしていた場所
- Place 5 場所5
- Place 4 場所4
- Place 3 場所3
- Place 2 場所2
- Place 1 場所1

Self-evaluation: social experience as a student 大学生社交（自己評価）
- Mutual help in learning 勉学面での助け合い
- Social atmosphere 学内全体の社交的雰囲気

Number of close friends 親しい友人数
- Other universities 他の大学
- Other faculties 他の学部
- Same faculty, diff. dep. 同じ学部・他の学科
- Same department 同じ学科

Respondent's year of university enrollment 継続者の入学年	Gender 性別	University name 大学名	Campus name キャンパス名	Campus surroundings キャンパス周辺状況
1961	男性	南山大学	名古屋	Urban
1965	男性	慶応義塾	日吉三田	Urban
1966	男性	京都市芸	聖護院	Urban
1967	男性	名工大	名古屋	Urban
1969	女性	早稲田	早稲田	Urban
1973	女性	大阪芸大	芸術の森	Edge
1974	男性	名古屋学院	瀬戸	Rural
1974	女性	金城学院	守山	Edge
1975	男性	法政大学	千代田	Urban

"Massification era" (1946-1975) 大衆化時代（1946〜1975年）

Legend 凡例

- 5/5, 4/5, 3/5, 2/5, 1/5
- In-campus indoor places: キャンパス内屋内場所
- In-campus outdoor places: キャンパス内屋外場所
- Off-campus places: キャンパス外場所
- Yes / No
- Few times a month 月数回
- Few times a week 週数回
- Every day ほぼ毎日
- More than 11 11人以上
- 6-10
- 1-5
- 0

«It was a time when the student movement was so intense that it is hard to imagine now: about half of my four years at the university were spent in barricades blockaded by activist students, and the university was locked out in response, so there was no normal class format. When the university was locked down, we held open-air class meetings in a nearby park, consulted with

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friends about reports and borrowed materials from them at their lodgings, and kept in touch with each other by leaving notebooks at the coffee shop where the clubs hung out. I think this is not a common answer»[3].

This testimony compensates for the low number of respondents of the "Massification era", and highlights the impact of the Students Movement on the students' life of that time.

5 out of 9 respondents who attended university during the "Massification era" spent time with other students or did extracurricular activities in in-campus outdoor places nearly every day, and an overall look shows the high incidence of off-campus places in different sections of the questionnaire (Tab. 14). However, the evaluation of the social atmosphere and of the mutual help between students is lower than other eras.

6.2.3.2. Planification era (1976-1995)

From the "Planification era", the evaluation of "goodness of the social atmosphere between students" has an increase and is high in almost all of the 28 answers, also in "Rural" and "Edge" campuses. In cases where the evaluation of the socialization with teachers is high, respondents mentioned often they spent time with their teachers in cafes or restaurants outside the campus. On average, respondents who attended "Rural" campuses spent more time in outdoor spaces than respondents from "Urban" campuses. However, overall, a tendency to socialize in in-campus indoor places is clearly visible (Tab. 15). Also, respondents from the 1970s-early 1980s cited more places where they socialized than respondents of later periods.

Free comments explained some interesting circumstances. Between respondents who socialized outside the university, a student of Nanzan University from 1985 «attended circle activities in another university»[4]; a student of Aichi Shukutoku University from 1983 «spent most of the time skiing, preparing the annual university festival and doing a part-time job: it was a fulfilling student life»[5]. Regarding socialization in classrooms or *zeminar* rooms, it is useful to report the following comments. A student of Nihon University, Surugadai campus (which is one of the rare examples of *Diffuse university* typology in Japan, being located in separate buildings near to each other, but immersed in the urban center of Tōkyō) from 1976 wrote: «Common space was scarce. Classrooms were fixed in departments (groups), so they were always available (even outside of class)»[6]. A student of Tokyo University of the Arts from 1979 wrote: «Being a place for

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[3] Translation by the author. The respondent attended Waseda University Faculty of Education, Waseda campus, from 1969 to 1973.

[4] *Idem*.

[5] *Idem*.

[6] *Idem*. The respondent attended Nihon University Department of Architecture from 1976.

Tab. 15 Questionnaire "A", answers of respondents enrolled at university during the "Planification era" (legend as in Tab. 14)

arts, the university was not as directly involved in serving the students as it is today. The students spent most of their time working in the atelier, and interacted only during

Tab. 16 Questionnaire "A", answers of respondents enrolled at university during the "Liberalization era"

(legend as in Tab. 14)

Row labels (left column, top to bottom):

- **Evaluation of campus environment** キャンパス環境の評価
  - Possibility of socialization 課外活動から得られる社会性
  - Extracurricular functionality 課外活動施設の充実
  - Learning/research functionality 教育・研究機能の充実
  - Beauty (architecture, nature) 美しさ（建築、自然）
  - Convenience (distance etc.) 利便性（距離等）
- **Where did you often spent time with teachers besides classes?** 授業以外で教師と過ごした場所 — Place 3 場所3, Place 2 場所2, Place 1 場所1
- **Socialization with teacher** 教師との交流 — Socialization besides classes 授業以外での交流の可能性, Familiarity with the prof. 教師との親しさ
- Enrollment to graduate school 大学院進学の有無
- **Where did you often casually met acquaintances?** 偶然に知人に出会うことが多い場所 — Outside the campus キャンパス外, Indoor multipurpose spaces 屋内多目的スペース, Indoor corridors 屋内廊下, Campus streets キャンパス街路, Campus plaza/green area キャンパス広場・緑地, Campus gate 門
- **Where did you often gather for students' circles or zeminar activities?** サークルやゼミ活動のために集まっていた場所 — Place 5 場所5, Place 4 場所4, Place 3 場所3, Place 2 場所2, Place 1 場所1
- **Where did you often spend time with other students?** 他の学生とよく過ごしていた場所 — Place 5 場所5, Place 4 場所4, Place 3 場所3, Place 2 場所2, Place 1 場所1
- **Self-evaluation: social experience as a student** 大学時間交流（自己評価） — Mutual help in learning 勉強の助け合い, Social atmosphere 学生同士の親睦雰囲気
- **Number of close friends** 親しい友人数 — Other universities 他の大学, Other faculties 他の学部, Same faculty, diff. dep. 同じ学部・他の学科, Same department 同じ学科
- Campus surroundings キャンパス周辺分類
- Campus name キャンパス名
- University name 大学名
- Gender 性別
- Respondent's year of university enrollment 回答者の入学年

Legend as in the previous table. 凡例は上記の表を参照

"Liberalization era" (1996-present) 自由化時代（1996年〜現在）

Year	University	Campus	Surroundings	Gender
1996	名市大	北千種	Urban	男性
1996	名市大	北千種	Urban	女性
1997	京都産業大	神山	Rural	女性
1997	早稲田	早稲田	Urban	男性
1997	東京理科大	野田	Edge	男性
1998	国際基督教大	三鷹	Edge	女性
1999	南山大学	名古屋	Urban	女性
2001	近畿大学	東大阪	Urban	男性
2001	中京大学	八事	Urban	男性
2002	近畿大学	奈良	Rural	男性
2002	南山大学	名古屋	Urban	女性
2003	静岡文芸大	浜松	Rural	男性
2003	岐阜県大	柳戸	Rural	女性
2005	愛知県大	長久手	Rural	女性
2005	京都工繊維	松ヶ崎	Urban	女性
2006	慶應義塾	三田	Urban	女性
2007	早稲田	所沢	Edge	男性
2008	滋賀県大	彦根	Edge	女性
2011	京都造形大	瓜生山	Edge	女性
2017	愛知淑徳	八事	Rural	男性
2018	愛知県大	長久手	Rural	女性
2019	名市大	北千種	Urban	男性

the time they spent there»[7]; a similar response was given by a student of Aichi Prefectural University of Fine Arts and Music: «Since the classrooms were separated

only by partitions, it was very nice to be able to freely see the work of other classrooms and grades». A comment which summarizes the loss of importance of outdoor places was written by a student of Tottori University from 1988: «In the research room, you have your own desk and your own place. There, there is close interaction within the community to which you belong. With friends that you happen to meet on campus, the interaction is limited to talking while walking to your destination. There is no environment where you can sit down and talk, and both parties tend to shy away from inviting each other to take time to socialize»[8].

6.2.3.3. Liberalization era (1996-present)

Respondents who attended university during the first part of the "Liberalization era" and respondents who attended after 2002 differ greatly (Tab. 16). The formers' answers did not differ much from the answers of the previous era. Instead, from 2002 circa it can be noticed a sudden average decrease in the "number of close friends", and in the evaluation of the campus according to the "possibility of socialization". Also, even if most of the answers say that the social atmosphere was satisfying, two respondents gave it the minimum evaluation, which was given two times by the "Massification era" respondents, too, but never by the "Planification era" ones.

Another difference between the two periods of the "Liberalization era" is that, while the older students mostly mentioned few in-campus indoor places, unexpectedly when considering the above results, answerers who attended university after 2002 mentioned more places for social interaction. In this, there is another similarity with the "Massification era". However, the newer students spent their social time in many places but with a lower frequency (few times a week or a month) than older students; moreover, they cited outdoor places only as "sports ground", "parking lot" or "smoking point", instead of plazas or green areas, which totally disappeared from the answers.

Regarding the older students' preference of indoor places, a student of Chūkyō University from 2001 wrote: «I have been to cafeterias at various universities, and it seems to me that medium-sized cafeterias and cafes were more used by students to gather than cafeterias that were too large»[9]. Instead, regarding the use of outdoor places by the newer students, a student of the "Rural" Aichi Institute of Technology Yakusa campus from 2017 wrote: «Since there were only two smoking areas on campus, they were always crowded and not a place to take a break»[10].

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[8] *Idem*. The respondent attended Tottori University Faculty of Agriculture from 1976.

[9] *Idem*.

[10] *Idem*.

6.2.4. Conclusions from the Questionnaire "A"

We can draw the following conclusions.

1) Socialization between students happened mostly in cafeterias, laboratories (*zeminar* rooms or ateliers), classrooms. Between respondents who gave the maximum evaluation to "social atmosphere", the ratio of off-campus places of social interaction is minor than in other respondents.

2) Socialization between students and teachers happened mostly in laboratories, teacher's research room and off-campus cafes.

3) During the "Massification era" students spent more time outdoor and outside the campus, had a larger number of friendships, but not everybody was satisfied by the social atmosphere.

4) The university community characteristics of students from the "Planification era" and from the first part of the "Liberalization era" until 2002 are mostly similar[11]. These respondents, attending university at some point of time from 1976 to 2001, appear to be the happiest towards socialization and campus life, and met each other frequently in few, mostly in-campus indoor places.

5) After 2002, the number of friends and the frequency of meetings decreased, and in-campus plazas or green areas were never mentioned.

Under this light, the efforts of 1950s-60s' architects in order to realize learning environments linked to the outdoor space appear to have had a link with the characteristics of the "extrovert" university community of that time. However, because especially after 1980 the university community started preferring indoor environments, the open spaces of the campuses were emptied of their importance, becoming only places of casual meetings, instead of places to spend time in. This accentuated lately: nowadays, students socialize inside buildings, and in buildings with other purposes than the postwar *gakusei kaikan*. It is also noteworthy that University Establishment Standards were recently modified to allow under special circumstances to not feature outdoor spaces.

Therefore, this could be the reason which lies behind the crisis of the postwar Japanese campus, which will be analyzed in the following paragraphs: the enclosed environment comprehending private open spaces has lost its original purpose of hosting the community. Instead, there is a growing interest towards *Palaces* and *Diffuse universities*,

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[11] Interestingly, 2002 is the year of the the repeal of the *Kōgyō (jō)-tō seigen-hō* (see § 2.6.7.2.), and 2004 is the year of the *Daigaku hōjin-ka* (shift of national universities' management from the Ministry of Education to autonomous juridical bodies), meaning a concrete start of neo-liberalism in Japanese universities.

which have the necessary indoor environment for the community – because, as we saw, students gather naturally in cafeterias, lecture rooms, laboratories – and are linked to the city, as the ideologists of the future university strongly recommend. Is there no need of *Campuses* anymore?

6.3. Criticism towards the enclosure of campuses in the contemporary debate
6.3.1. The problem addressed in this paragraph: the *enclave* nature of Japanese campuses is changing

In the previous chapters, we noticed that a common characteristic of the majority of the Japanese campuses is the physical separation from the surroundings: they are enclosed in material fences and are only accessible through punctual gates; furthermore, 35% of campuses stand on hillside sites (§ 4.2.1.) [12]. Japanese campuses are still rather separated from their context, causing critics of the *status quo* to refer to them as *closed utopias* or more commonly as *ivory towers* meant to train the tomorrow dominant class in absence of external influences[13]. Ministry of Education is now looking to the *Campuses* in USA which after the Massification shock sprawled and became indistinguishable from cities, and Japanese scholars of campus planning are studying old European models of *Palace* or *Diffuse university*, as Bologna, Salamanca, Sorbonne, drawing as a result that campuses must now open their boundaries and become public spaces which carry on the task of "contribution to society". Already practiced strategies are: Satellite Campuses, which are single buildings placed in the most central urban areas; possibility of public use of campus facilities, parks and roads; university-industry collaborative research facilities. The ideal tendency appears to be that of mixing completely urban and academic environment.

However, it is necessary to question whether this melting with the city is applicable or not to Japanese education, which has traditionally been characterized by a strong community identity of students and teachers. As Campos and Luceño (2020) declared, «the university community can see its limits dissolved, expanding its scope towards the urban fabric»[14]. In fact, a sudden change in campus permeability in order to obtain a

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[12] This paragraph is adapted from a part of a previous peer-reviewed paper of the author: Vecchi and Suzuki (2021 b).

[13] «Today, utopias with the higher degree of completeness are those realized in places with controlled conditions, as university campuses, theme park, shopping malls.». Maki, F., *Tadayou modanizumu*, Sayusha, 2013, cited in Tsunekawa (2020), p. 62. See also *Ibid.*, p. 63 (translation by the authors).

[14] Campos and Luceño (2020), p. 107.

"cultural contamination"[15] as in Bologna University, in Japan would necessarily bring a loss of such identity, in a similar way to the phenomenon of gentrification.

6.3.2. Method of the research

For this reason, it is necessary to investigate how Japanese university campuses can reach the desired openness while maintaining their *genius loci* and community identity. In order to do so, we will first briefly introduce various scholars' positions regarding the concept and role of university community and its relationship with society.

6.3.3. Positions of university planners and scholars towards "university community"

The heart of the problem referred to in the previous paragraph is the relation between university community and surrounding society, or, in other words, the conception of the campus as a private, public or common place. We here define *university community* as the positive relationship between one university's students, teachers and personnel, who share the final purpose of education.

6.3.3.1. The "first position": priority to the university community

Japanese private universities put great emphasis on the importance of common spaces for students' community. For example, according to Tanioka Fumiko, the characteristics of a «student-centered campus» are the central position of court and student services, and the possibility of student access to any of its parts: «Only [this kind of] student-centered type campus deserves the name of community»[16]. Such a community idea is primarily defined by its inner relationship, rather than by its function.

6.3.3.2. The "second position": university community functional to regional society

On the other hand, national universities tend to consider university communities as subordinated to a vaster purpose. For example, USA-educated architect and professor Kurata Naomichi states: «Universities are one of the main communities that constitute the regional society»[17]. In a similar way, the future strategies for higher education discussed by the Central Education Council in 2018 state that university must become «the core of regional society»[18]. Those national guidelines admittedly inspired the adoption, in masterplan strategies of many public campuses, of newly designed industry-university collaboration research facilities, reorganization of campus boundaries, citizen free-access facilities, etc. However, it is noticeable that national university campuses often dedicate only the most hidden and narrow areas of their sites to students' services

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[15] From an interview with vice rector of Bologna University Riccardo Gulli, 24.9.2020.

[16] Tanioka (2004), p. 71 (translation by the author).

[17] Kurata (2020), p. 13 (translation by the author).

[18] Chūō Kyōiku Shingikai (2018), p. 10 (translation by the authors).

facilities[19].

As it can be noticed, Japanese "private" and "national" ideas of university communities and their aim appear to be different. Regarding this, architect and former university rector Yamamoto Riken asserted:

> «Starting point of Japanese universities and European universities is different. In Japan, the actor who initially started to form universities was the state government. (…) Government developed super-elite universities as Tokyo University, Kyoto University and so on; they trained the super-elite from all over Japan and those became the future bureaucrats. (…) For this reason, they are born as gated communities. This is why they have no relationship with their surroundings. Instead, those universities that trained a reality that wasn't the super-elite, and tried to form people who are active into the society, were private universities, that were born later. (…) Their aim is different and so is their structure»[20].

Regarding this, then why, on one hand, do Japanese private universities seem to consider campus as an enclosed common-but-not-public space, and, on the other hand, national universities, which are supposed to be built for the elite, are now putting more emphasis on the "contribution to society" role of the campus? According to Yamamoto, "contribution to society" is not being intended as a relationship between university and local community, but rather as a call to universities to participate in the effort towards national interests[21].

6.3.3.3. The "third position": university community and city community in dialogue

From the reported opinions, it seems that there is an architectural dilemma: should we keep a protected and autonomous environment (university community separated from city community) or should we eliminate the barriers and differences between campus and surroundings (university community functional to regional society)?

Reasonably, there is a third option, that of strengthening commonality and community identity while opening to the outside (university community in dialogue with city community); it can be described by the following words of the Education scholar Satō Manabu: «A good school architecture must have a strong concept, which is linked to the formation of a community. The keys of that are publicness and commonality»[22].

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[19] See, for example, Nagoya University campus, where faculty deans decided to build *gakusei kaikan* far from each faculty building (§ 4.3.3.3.2.). Engineering or Agriculture-based national campuses, especially, have insufficient students' services: see Kim et al. (1995), p. 97. Of course, there are national university exceptions with more central services, like Tsukuba University and Ryūkyū University.

[20] From the authors' interview with Yamamoto Riken, 13.4.2021. Authors' database.

[21] *Ibid.*

[22] Satō (2020), p. 17 (translation by the author). We translated *kōkyōsei* (公共性) with publicness, and

6.3.4. Positions of citizens, students and university supervisors towards "campus openness" according to the existing literature

Several studies have been dedicated to the topic of social exchanges between campus community and surrounding society, and their analysis makes clear that this purpose is not yet largely shared, at least at the time of the surveys.

For example, from the point of view of citizens, Lee et al. (2001) conducted a questionnaire targeting owners of shops surrounding the campus of Waseda University and found that citizens were, of course, eager to have students using their shops, but were lowly interested in using university facilities, or did not know such possibility[23]. The mutual social interaction happened mainly in annual events, and citizens expressed the wish of being able to use the university library or gym; on the other hand, the authors conclude by stating that there is need of university dormitories in the campus surroundings[24].

Regarding students' opinions, Otani and Mishima (2004) asked students of Saga University their thoughts about campus plans, and report that «transformation of the campus into a public park» and «dismission of walls and fences in favor of vegetation etc. for realizing permeability» were contrasted[25]. In the same way, part-time professors were positive towards opening issues, while full-time personnel showed a conservative approach[26].

Moreover, regarding university management, Fujimori et al. (2013) realized a questionnaire targeting university supervisors regarding the use of campus open spaces for self-initiative of students and socialization with citizens, and found an overall lack of understanding[27].

In the most recent years, however, most of the prized new constructions within campuses invariably feature "openness", through freely accessible services and a transparent or inviting look[28]; moreover, completely boundary-free new campuses[29], and single *Palaces*

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kyōdōsei (共同性) with commonality.

[23] Lee et al. (2001), p. 179.

[24] *Ibid.*, pp. 181-182.

[25] Otani and Mishima (2004), p. 109.

[26] *Ibid.*, p. 110.

[27] Fujimori et al. (2013), p. 4.

[28] For example, see the university buildings introduced in Architectural Institute of Japan (ed.), *Selected Architectural Designs 2023*, (*Journal of architecture and building science Architectural Institute of Japan* supplement), 2023 (in Japanese and English).

[29] For example, Kyushu International University Hirano campus (2000), Ritsumeikan University
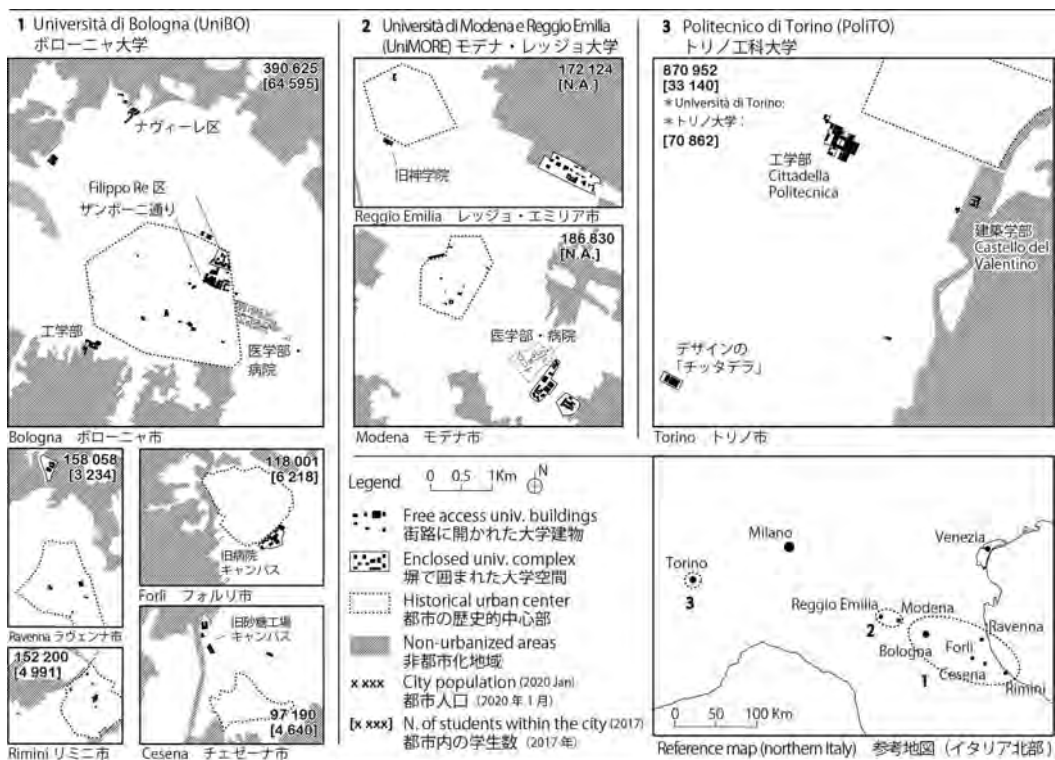
Fig. 75 Planimetries of university facilities of Bologna University, Modena and Reggio Emilia University,

Politecnico di Torino
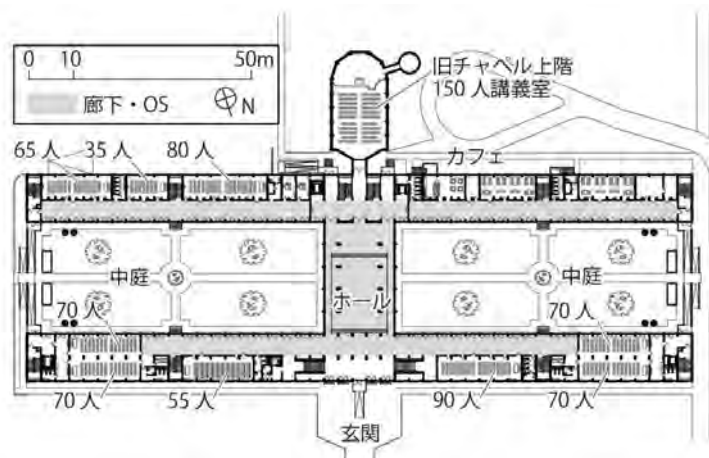
Fig. 76 1st floor plan of the ex-Seminar of Reggio Emilia, converted into a university facility in 2021.

featuring public parks or plazas[30] became numerous. In summary, it appears that many architects and university planners followed the directions of the "second position", trying to beat with these concretizations the negative opinions of citizens and university community users.

Ōsaka Ibaraki campus (2015), Aichi Gakuin University Meijō Park campus (2020).

[30] For example, Nihon Fukushi University Tōkai campus (2014), Aichi University Nagoya campus (2017), Tokyo International University Ikebukuro campus (2023).

Fig. 77 Plaza inside the *Palace-derived Campus* "Cittadella" of Politecnico di Torino before and after the
revitalization project. Courtesy of Politecnico di Torino

6.4. Comparation with contemporary trends in northern Italy's university space planning

As stated above, lately the enclosed *Campus* typology is been criticized in Japan. This led, besides the surveys on the feasibility of campus opening introduced in the previous paragraph, also to a search for different models among foreign university spaces. Especially, various studies as the exhaustive Yamasaki et al. (2009), or the

programmatic Tsuchida (2020) and Yasumori (2020) analyzed in the latest years the traditional *Diffuse university* of Bologna, and took it as a model to follow in Japan in order to realize the "opened campuses".

However, the traditional space typology of Italy faced the "Massification era", too, and passed through some drastic changes. Since the 1980s-90s, many large universities began to disperse to rural areas, so that new "regional universities" and, rare case in Italy, private universities began to appear. As a result, in 2006, in the face of a total of 90 universities in the country, 277 cities hosted at least one university course[31]. Dispersing to the suburbs and rural areas allows to take advantage of the large area and the ability to reuse former public facilities, industries, monasteries, etc., which are historically characterized by large spaces and enclosed boundaries. For this reason, the *Campus* typology began to appear in Italian university spaces, in a similar way as in Japan, with the reconversion of old samurai residences into higher education facilities.

Author has therefore analyzed the contemporary strategies in the planning of university spaces in 1) Bologna University, 2) Politecnico di Torino, 3) Modena and Reggio Emilia University (Fig. 75), in the study referred to in the bibliography as Vecchi and Suzuki (2021 a).

Here, we only report the conclusions of the study, which has been based on on-site visits and, especially, on interviews with planners and masterplan responsible: Riccardo Gulli, vice-rector of Bologna University; Alberto Manfredini, architect of the renovation of the old Catholic Seminar building which was converted into a University of Modena and Reggio Emilia facility; Carlo DeRegibus, PR responsible for the masterplan of Politecnico di Torino. All the interviews took place between September and October 2020.

6.4.1. Conclusions from the interviews

Based on the three interviews, the future strategies in the northern Italian university masterplans can be summarized as follows[32].

1) Both *Campus* and *Diffuse university* spaces are often located on the borders between non-urbanized areas and on the periphery of the historical center (Fig. 75). Thereby, it can be read that universities play a role in mediating between urban zones.

2) The decentralization to rural areas and the development of the *Campus* typology was forced by the overcrowding of classrooms in urban centers. The university space is not changing into the Anglo-American model of the *College-derived Campus*, segregated from the city; rather, these Italian *Campuses* follow the traditional concept of "functional complementarity with the city", which will remain a characteristic of new university

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[31] See Lazzaretti and Tavoletti (2006), p. 124.

[32] This paragraph is a translation of the conclusions of Vecchi and Suzuki (2021 a).

spaces in the future. In facts, the new *Campuses* reduce the number of services necessary for student life within the university space, thereby making it easier for students to flow out to the city.

3) Urban institutions and businesses are actively participating in the provision of buildings and sites that can be converted to university facilities for functional changes and student welfare services, as well as in donations for maintenance. The university contributes to society by establishing faculties in response to local needs, joint research centers for industry-university cooperation, and the revitalization of the historical center of the city through student residency.

6.5. Japanese Campuses as dialoguing *enclaves*: six examples

The questionnaire reported in § 6.2. has clarified the decrease in the university community's usage of in-campus open spaces after the 1980s circa. This, together with the return of campuses to city centers of the "Liberalization era", has put the *Campus* typology in a critical situation: do universities still need gates, fences, private plazas and parks? The debate extends to the nature of university community. Among the three positions regarding it, described in § 6.3., the third one, that of university community in dialogue with city community, appears to be the one which more takes into account the peculiarities of the Japanese *Campus*, and, at the same time, makes possible a progress towards the opening of university spaces to the society. An unreasoned importation of the *Diffuse university* model as in Italy or France would mean to suddenly abandon the positive effects the enclosed *Campuses* have on university community: in facts, as stated in § 6.2.2, more than 80% of the places used by students to socialize are inside the campus, and the students which were happier with the social atmosphere spent on average more time inside the campus. Examples of contemporary northern Italy university spaces described in § 6.4. are based on a mutual sharing of spaces and functions between the university and the city. However, they have in common with the Japanese university only the characteristic of "commuting students"; their scale is way larger than the average Japanese university, and their space is more permeable and culturally "contaminated".

6.5.1. Method of the research

For these reasons, we searched for some Japanese examples of campuses built after the "Massification era", which at once are open to the surrounding society and still maintain a peculiar environment for the community made of students, professors and personnel. The collected examples are six (Fig. 78). The study has been based on the analysis of design reports and interviews with prized architects Yamamoto Riken and Makishi Yoshikazu, who not only testified their design intentions, but also helped in

1. Saitama Prefectural University campus
Local public / Saitama / 1999 / 102,091 m²

2. Future University Hakodate campus
Local public / Hokkaidō / 2000 / 166,433 m²

Hakodate City view

3. Nagoya Zōkei University, Nagoya campus
Private / Aichi / (2022) / 20,364 m²

Nagoya Castle

4. Sapporo City University, Geijutsu no Mori campus
Local public / Hokkaidō / 1991 / 167,616 m²

5. Okinawa Christian University campus
Private / Okinawa / 1991 / 30,259 m²

6. Okinawa University campus
Private / Okinawa / 1956 / 12,251 m²

X. Campus name
Government type / Prefecture / Campus foundation year / Land area   500 m

Fig. 78 Planimetries of the six case studies

understanding the Japanese university space debate from an original point of view.

6.5.2. Case studies

The first three examples considered are designed by the previously cited architect Yamamoto Riken, born in 1945. Saitama Prefectural University campus has been completed in 1999, and Future University Hakodate campus in 2000. In 2019 Yamamoto has been appointed to be the new rector of Nagoya Zōkei University, and he directed the

Fig. 79 Saitama Prefectural University campus, aerial view. Image data: © Google, ©2008 ZENRIN, © Landsat/Copernicus.

construction of its new Nagoya campus, which opened in 2022 (Fig. 78, no. 1, 2, 3)[33].

The fourth example is designed by Seike Kiyoshi (1918-2005) and Okuyama Kenji, born in 1943. It is Sapporo City University Geijutsu no Mori campus, built from 1986 to 1991 (Fig. 78, no. 4).[34]

The fifth and sixth examples are designed by Makishi Yoshikazu, an Okinawan architect born in 1943. They are Okinawa Christian University campus (1985-87) and Okinawa University campus (buildings completed gradually in 1985, 1989, 1999 and 2010). (Fig. 78, no. 5, 6).

To answer the question on why these six campuses could represent a possible solution to the above described "third position", it is necessary to consider them according to the following common topics.

6.5.3. Campus site position and surroundings

Two of these campuses are sited in Japan's extreme north, and two on its extreme south. Especially, since the northern ones, number 2 and 4, are local public universities, the

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[33] The interview took place when the building was under construction. In April 2022, at the time of the opening of the new campus, Yamamoto resigned as university rector and, at the present time, it is uncertain whether his ideas regarding the unity between the architectural project and the curriculum program will be realized.

[34] This campus was initially built for Sapporo City Specialized College (a non-university post-secondary course school), and it changed its use to the present one in 2006.
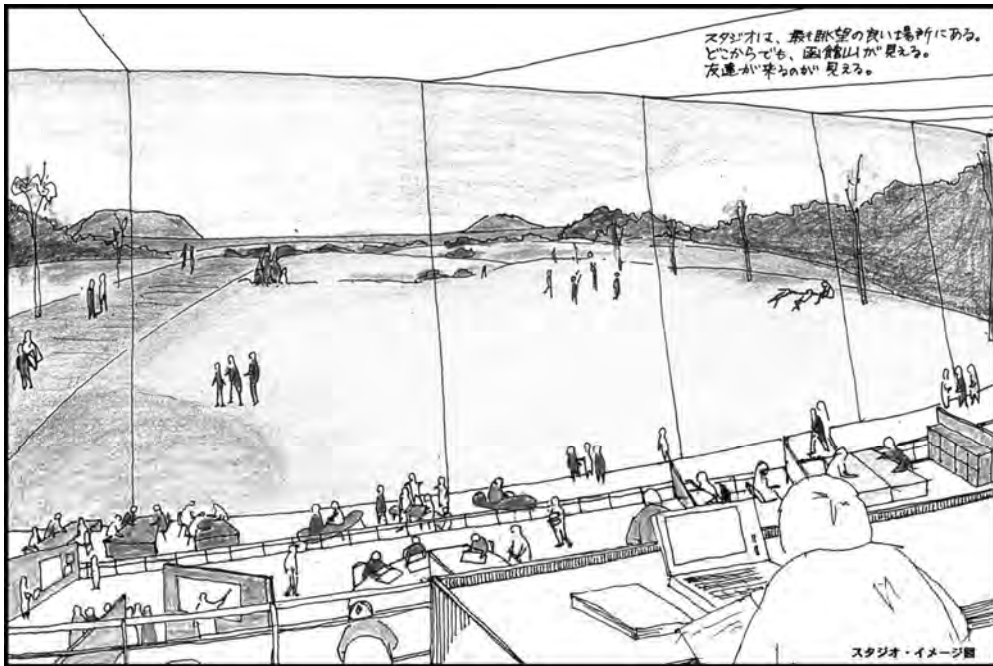
Fig. 80 Future University Hakodate campus: sketch showing the view towards outside. The caption reads: «The studio is in the position with the best view. From everywhere Hakodate is visible. Coming friends are visible» (translation by the authors). Courtesy of Riken Yamamoto Design Factory.

ambitiousness of their architecture can be explained as a mean of the local government to attract the young generations' university choice, in spite of their remoteness from the main metropolises. The only two campuses which are completely surrounded by an established urban environment are number 3 and 6. Numbers 1, 2 and 4 stand in the border between urbanized and non-urbanized areas, which is an extremely common campus position in Japan.[35] This allows planners to distinguish between a front (a more public zone, adjacent to the urban settlement), and a back (a more private and recollected zone). Number 6, Okinawa Christian University, instead, was established in what was, at the time, a solitary hill outside the city of Naha: «The surroundings were open fields».[36]

6.5.4. Campus scale

None of the six considered campuses overpass 170,000 m² of land area, which is the minimum amount of land that an average national university campus possesses[37]. Number 3, 5 and 6, which are private universities, are among the narrowest campuses in Japan. Local public universities can have access to local government's terrain, so to a

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[35] See § 3.2. Of the 681 analyzed campuses, 138 stand in completely non-urban areas, 306 in urban areas, and 237 on the border between urban and non-urban areas.

[36] From the authors' interview with Makishi Yoshikazu, 21.4.2021. Authors' database.

[37] Author's database.
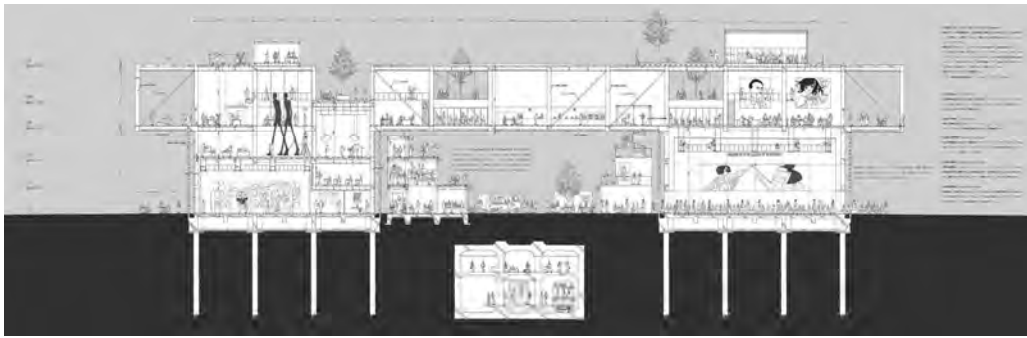
Fig. 81 Nagoya Zōkei University Nagoya campus: section sketch. Courtesy of Riken Yamamoto Design Factory.
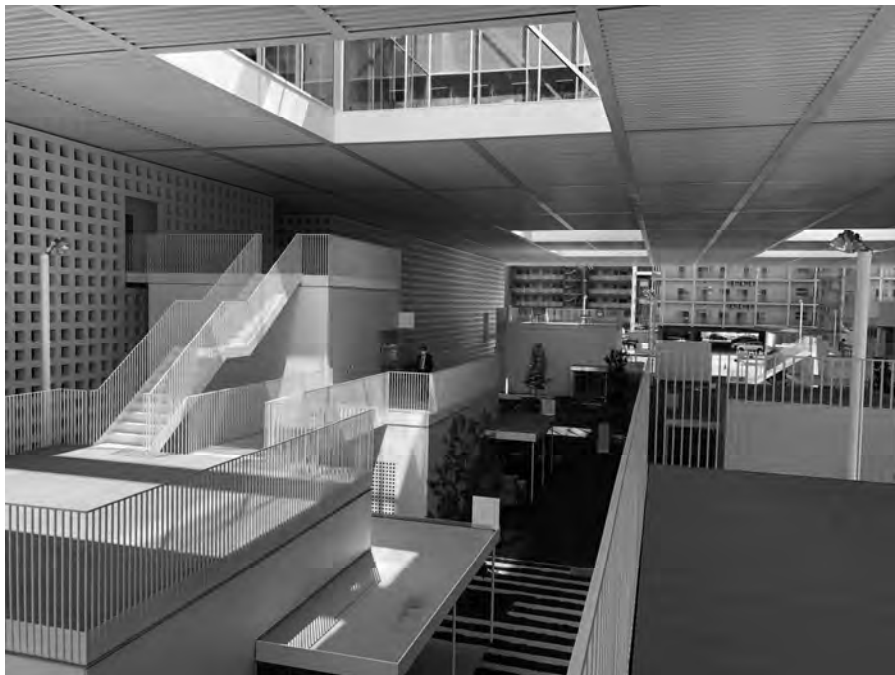
Fig. 82 Nagoya Zōkei University Nagoya campus: view of the Art Arena. Photo by the author, 6.4.2022.

greater availability of land than private ones; however, in number 1, 2 and 4, which are local public universities, buildings are grouped close to each other, causing most part of the land to be empty. Number 4, Sapporo City University campus, is characterized by a forest left to its natural state through the building arrangement. Therefore, a first consideration is that it is plausible that the following described characteristics were made possible by the limited scale, that, in some cases, was chosen on purpose.

6.5.5. Architectural configuration and balance between commonality and publicness

All of the three campuses designed by Yamamoto (number 1, 2, 3), are single megastructures «where there is always the consciousness of being under one roof, also in an abstract meaning»[38].

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[38] Yamamoto, interview 13.4.2021 (Translation by the author).

Fig. 83 Sapporo City University: view from the main access with the beginning of the 150m long Skyway.

Photo: courtesy of Kaku Satoru, 2021.
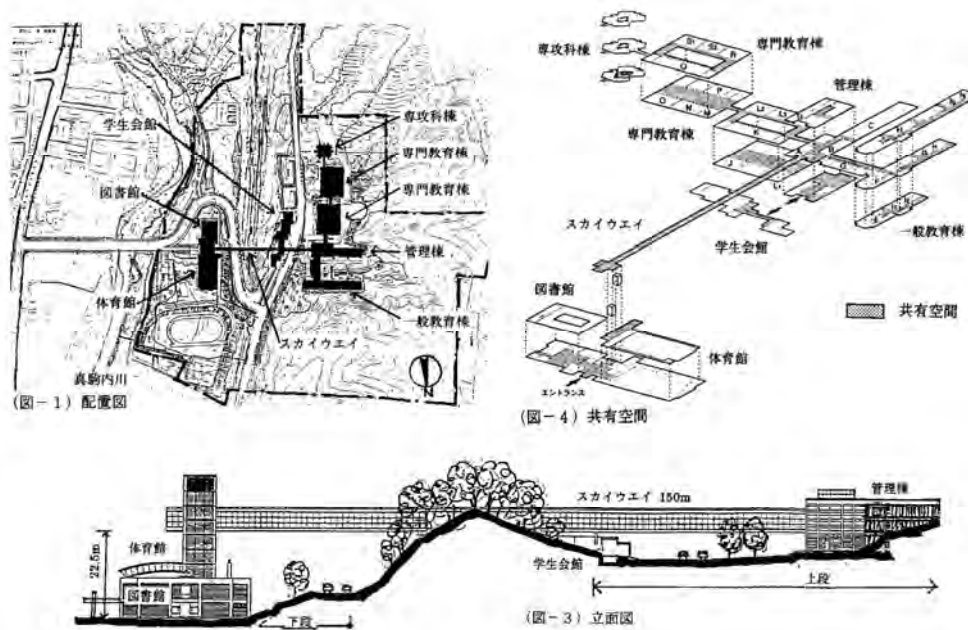
Fig. 84 Sapporo City Specialized College: plan, schematic axonometry and north elevation. Source: Okuyama

(1999).

«As an architect, I feel the necessity of creating campuses where everybody shares the same space. Another issue is which kind of relationship between such space and the outside have to be built, (…) and I think that design of such relationship is a particularity of my architecture office. Basically, in the buildings that I design anybody is free to enter»[39].

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[39] *Ibid.*

Saitama Prefectural University campus is a single structure composed by two 4-storey longitudinal blocks which enclose an 80 meters wide single-storey Media Gallery, dotted by a labyrinth of small courts, giving the overall impression of a traditional campus' negative image (Fig. 79). On the deck floor above the Media Gallery is a garden which can be freely accessed by citizens; even so,

> «if you enter here, the space is totally different from the surroundings. [In this project] we chose a
> way to do which makes people say: 'I entered in Saitama Prefectural University', a place where
> the rules, the behaviour or attitudes are different from outside»[40].

The same design philosophy is brought also in number 2 and 3 campuses: in Future University Hakodate a single box-shaped building of 100 per 100 meters is adapted through section adjustments on a gentle slope, at the centre of a green site of 160,000 m², from which a scenic view of Hakodate city and its gulf is possible (Fig. 80). The slope allows a staggered placement of labs and research rooms, in front of which a single giant-scale space consents the free choice of places for learning activities. All the surfaces directed to the campus entrance and the city, from room partitions to the exterior box façade, are transparent: «People from outside can see what professors are teaching, and, if they are interested, they can enter to assist»[41].

Nagoya Zōkei University's site overlooks the main monument of the city, Nagoya Castle. Since subway runs under its axis, construction in the central strip is limited; but the architect managed to take advantage of this limitation by creating there a public passage called Art Arena, the centrepiece of the new campus (Fig. 81, Fig. 82).[42] Art Arena is surrounded on the ground floor by the most public services, such as the library, the gym, shops, students' galleries, the multipurpose hall. The squared upper floor covers the whole area and contains the learning sites, organized again in a single room space.

Seike and Okuyama's Sapporo City University site is characterized by a harsh topography, with an upper and lower level dramatically divided by a long and narrow hill. Thus, designers «placed the library and the gym in the [lower] approach level, with the intention of realizing openness through setting facilities for citizens and their lifelong-learning»[43]; in the upper level, instead, are all the educational facilities, the *gakusei kaikan*, and the administration. The latter ones are hence hidden by the hill, but a 150m long suspended passage called Skyway unites the two levels, inviting for sure

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[40] *Ibid.*

[41] *Ibid.*

[42] The declared design references are Milan's Galleria Vittorio Emanuele II, Paris' *passages*, Moscow's GUM. *Ibid.*

[43] Okuyama (1999), p. 131 (translation by the authors).
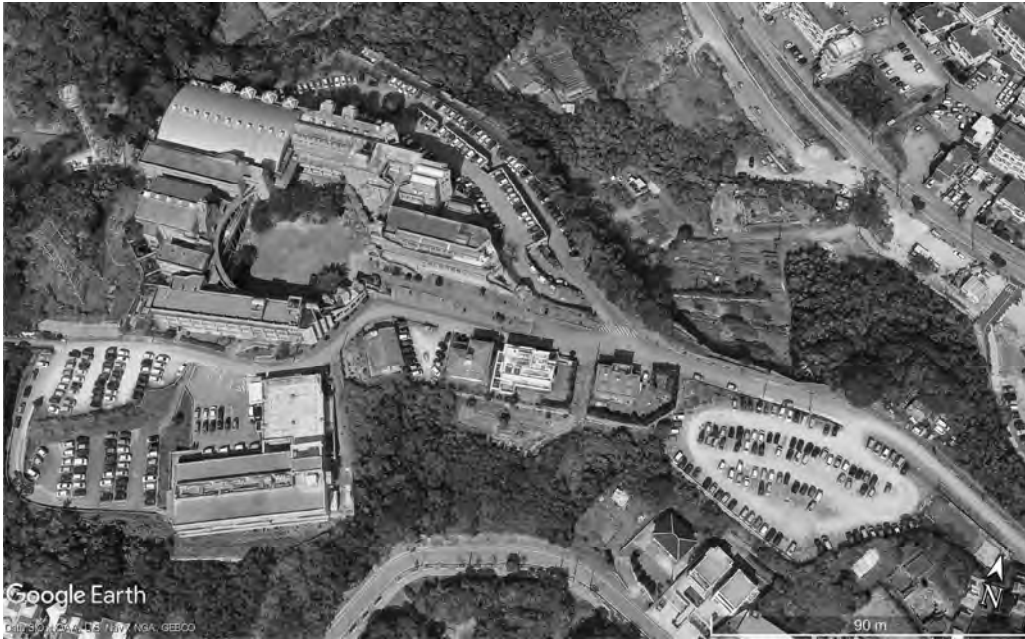
Fig. 85 Okinawa Christian University: aerial view. Image data: © Google, ©2008 ZENRIN, ©

Landsat/Copernicus.
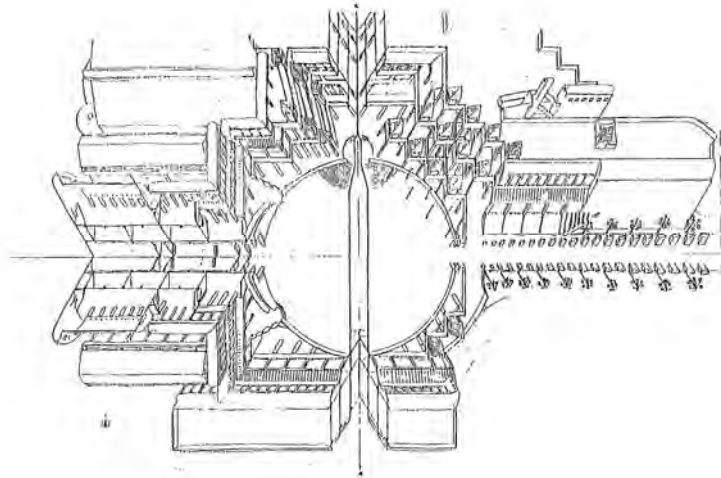
Fig. 86 Okinawa Christian University: study drawing which mixes plan, section and axonometric. Courtesy of

Makishi Yoshikazu.

visitors to reach the more hidden and private area through this scenic solution (Fig. 83, Fig. 84). The more private facilities are not placed around an outdoor court or plaza because of the northern climate of Hokkaidō where the campus is located; however, the indoor common spaces «occupy 40.5% of the total area», while the average in high schools is 18.5% and in universities is 25%.[44]

Makishi's Okinawa Christian University concrete architecture appears as a fortress

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[44] *Ibid.*, p. 132.

Fig. 87 Okinawa University: aerial view. Image data: © Google, ©2008 ZENRIN, © Landsat/Copernicus.

Fig. 88 Okinawa University view. Source: Japan University Accreditation Association

from the outside, with tall buildings which densely occupy the whole site; on the inner side, instead, buildings open towards a central circular grass plaza (Fig. 85). The sense of circularity and recollection around this void is enhanced by the external corridors that run all around it, gradually rising to the axially positioned chapel. Inspiration for this plaza are traditional Okinawan assembly rooms with their front court for people's common prayers, *gusuku* castles, the court of the Shuri Castle and even San Pietro square (Fig. 86Fig. 87).[45] Despite the closed environment, the entire square and the access road from the east is designed in such a way as to give a glimpse of the curious

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[45] Makishi (1990), pp. 18-20.

interior and entice one to enter. Furthermore, «there is no gate and anyone can enter inside the court»[46].

Okinawa University campus is the result of many construction eras. The first campus built in 1956 was too narrow and the only three buildings were considered too small for the 3000 students[47], therefore, «the Ministry of Education ordered that the building and land area should be enlarged, otherwise the institution would have been dissolved»[48]. Due to the limited budget, architect Makishi completed the substitution of the old facilities and the new constructions one by one, in a span of 25 years. Furthermore, due to the gradual and difficult purchase of new areas surrounding the original site, the current campus boundaries extend on the two sides of a public street, which, enriched by a grass plaza, became the central axis to which all the buildings face (Fig. 87, Fig. 88). This has made necessary an open dialogue with the local community, which freely uses this crossing. Despite the confused construction history, the peculiarity of the façades provides the necessary awareness of spatial difference to the casual visitor. The plaza and the various semi-external spaces set at the ground floor of each building enable students' gatherings and common activities: music/dance societies can practice there even in rainy days, and «of these spaces, the one nearest to the main approach has been used several times as public sit-in demonstration place»[49].

In summary, all of the six examples are designed to be different environments from the surroundings, and not to be melted with the city. They maintain their spatial identity through the single couverture (number 1, 2 and 3), the hidden or semi-hidden disposition of the facilities (number 4 and 5), or simply through the particularity of the architectural style (number 6). Within this recollected space, indoor or outdoor common spaces are central. Physical barriers still exist, but the access is not controlled in 5 of them (number 1, 2, 3, 5, and 6).

Visits from the exterior are encouraged by two main mechanisms: visual relationship (number 2, 4 and 5, which are those campuses which maintain a distance from the urbanized area) and incorporation of public roads, parks, public facilities or plazas (number 1, 3, 4 and 6, which are those campuses englobed in, or adjacent to, urbanized areas). Particularly, being number 1, 4 and 6 located in peripherical areas of Japan, where urban services are scarce and citizen dispose of few free-gathering places, campuses themselves compensate for this lack.

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[46] Makishi, interview.

[47] About Okinawa University previous architecture, see Makishi (2008).

[48] Makishi, interview.

[49] *Ibid.*

6.5.6. Considerations on the environment for student community

All of these campuses feature a place for students' extracurricular activities (clubs); the smallest campuses (number 3, 5 and 6) had to renounce to outdoor sports facilities, but gym is maintained. Also, great emphasis is given to unspecific purpose common areas, as mentioned above. However, the main innovation consists in a characteristic that is common to all of the displayed campuses, that is, the absence of division between different faculties members, or, in other words, the shared use of the totality of classrooms, research rooms and common facilities.

The clearest example is Saitama Prefectural University, which have curriculums in Nursing and Social Welfare. Because «teaching medical techniques and health care methods is of course important, but establishing a relationship between the health care and welfare system and everyday life is even more vital»[50], students and teachers of the two faculties are encouraged to share the above-mentioned Media Gallery.

In a similar way to Yamamoto Riken, Makishi Yoshikazu asserted during the interview:

> «What I especially cared about Okinawa Christian University campus plan is that there are two faculties, English and Pedagogy, and a Ministry of Education-style campus would be composed by a building for English faculty and one for Pedagogy faculty, connected by some corridor; however, I decided to act differently. I gave breath to this campus: the 800 students from both faculties can freely go around the [circular] corridor, and, while walking, they can look at the nature and talk to each other (…). For example, if English students spend time only with other English students, they won't get to know the world. Instead, if they are mixed with Pedagogy students, they would influence each other»[51].

In addition, students' community is inserted in the surrounding community, but in a different way from the official *contribution to regional society* concept, as Yamamoto Riken expressed with the following words:

> «I think that what matters in university is self-government. I think it is important to have self-government made by students and teachers, but nowadays, in Japan, administration by the state is very strong. Students who oppose the state are not brought up and this is stronger now than it used to be. What I tried to do in [Hotakubo] Housing was to bring inside a collective housing a sort of self-government (…), as in Italian *comune*. (…) And I think that the university of the future must become something that is united with its *comune*. In Vietnam or in Korea there are communities similar to *comune* too, and universities are made within those. Depending on the community, the method of making universities would be different»[52].

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[50] Klauser and Yamamoto (1999), p. 104.

[51] Makishi, interview (translation by the authors).

[52] Yamamoto, interview (translation by the authors).

6.5.7. Conclusions from the analysis of the six cases

It is evident that the above introduced campus examples could not represent the most exhaustive response to the need of better universities in Japan: their scale is rather small and the presence of a single designer is a fortunate condition, relatively rare in the richness of Japanese university space scenario. Also, the reported planners' ideals have their material counterpart in the remote and depopulated Japanese areas need to stem the exodus of students towards larger cities; for this reason, geographic competition can also be interpreted as one of the motors of such conspicuous design investments. However, they are successful architectural planning which represent a concretization of the above-reported "third option", that of a student community not elitist nor abstract, but well defined and still open, dialoguing with the larger society. Hence, we can draw the following conclusions.

1) The small scale was a favorable condition to the formation of the university community, mainly because it allows designers to individuate a strong and central common space, hierarchically dominant on the specific functions.

2) The location of the campus and the surrounding environment modify the mechanism of student-citizen dialogue: in urban areas, the mechanism works through making university spaces freely available to citizens; in rural areas, through visual connection and curiosity. In both cases, citizens are aware of entering a different environment, with a specific identity, that each designer concretized in three-dimensional solutions: Yamamoto's *one roof*, Seike's *skyway*, Makishi's *circular environment*.

3) The shared use of all campus facilities by all students, irrespective of faculty affiliation, is not only a means of increasing awareness of community, but also an educational manifesto, aimed at the need for universality in human knowledge.

In synthesis, a peculiar or separated campus environment is not an objection to the "openness to the context" auspicated by the global academia, which is already realized in the West, but still to be fully accomplished in Japan.[53] This is because a specific and somehow delimited community represents the place of individual growth and, if in dialogue with the context, it gives birth to the students' sense of solidarity towards the nearest and furthest society. As the Italian educator Giovanni Riva wrote:

> «The dimension of "accompaniment" of education is a "sine qua non" of education itself. Only then does education bring to the forefront the problem of solidarity, telling us that it is in the self»[54].

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[53] See Campos and Luceño (2020), p. 106.

[54] Riva (1994), p. 10 (translation by the authors).

Fig. 89 Nihon Fukushi University Tokai Campus: aerial view (design by Nihon Sekkei, 2014). Image Data: ©
Google, ©2008 ZENRIN, © Landsat/Copernicus.

6.6. Questionnaire "B": Survey on the places for students' socialization and social interaction with citizens in four selected campuses

To verify the validity of the "dialoguing enclave" campus planning type, we conducted a second questionnaire targeting students actually studying in three of the six case studies (Sapporo City University Geijutsu no Mori campus, Nagoya Zokei University Nagoya campus, Okinawa University campus) and in one of the modern *Palace* typologies which can be related to the mainstream contemporary campus planning approach, i.e., Nihon Fukushi University Tōkai campus. The latter is a single building featuring a front public park, without walls and completely accessible to citizens (Fig. 89).

6.6.1. Method of the research

Questions of Questionnaire "B" are identical to those of Questionnaire "A", plus the following additional ones (questions 16-18, see Appendix):

16) "How often do you see non-affiliated people inside the university grounds except for the 'open campus day'[55] and university festival days?".

17) "Please indicate whether you had social interactions with non-affiliated people who visited the university for the following purposes: use of library; use of gymnasium/athletic field; use of cafeteria; use of plaza or park; participation at university events; participation to university learning activities (courses etc.); visit to students' exhibitions or research presentations; casual visit".

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[55] An event where high school students and their parents can visit the campus and collect information about university courses.

Tab. 17 Questionnaire "B", Places of socialization in Sapporo City University (32 respondents, 119 answers)

Places where you often spent time with other students / 他の学生とよく過ごしていた場所

Place 場所	Almost everyday ほとんど毎日	Few times a week 週数回	Few times a month 月数回	Total 計
Clover Hall (Cafeteria) クローバーホール（食堂）	12	6	1	19
Atelier アトリエ	0	9	1	10
Large lecture room 大講義室	4	4	0	8
Lecture room 教室	5	3	0	8
Break corner 休憩所	1	2	0	3
"A" Bldg. Plaza A棟プラザ	2	0	0	2
Arena (gym) アリーナ（体育館）	0	1	1	2
Community Room コミュニティルーム	0	0	1	1
Club room 部室	1	0	0	1
While moving 移動中	1	0	0	1
Bus stop 登下校のバス待ち	1	0	0	1
Plaza 広場	0	1	0	1
Gym of Soen campus 桑園キャンパスの体育館	0	1	0	1

Places where you often gathered with other students in order to accomplish circle or zeminar activities / 学生団体やゼミの集まり・活動をよく行っていた場所

Place 場所	Almost everyday ほとんど毎日	Few times a week 週数回	Few times a month 月数回	Total 計
Arena (gym) アリーナ（体育館）	0	1	5	6
Atelier アトリエ	0	5	0	5
Large lecture room 大講義室	0	3	2	5
Lecture room 教室	1	1	2	4
"A" Bldg. Plaza A棟プラザ	0	3	0	3
Zeminar room ゼミ室	0	1	1	2
Community Room コミュニティルーム	0	0	1	1
Clover Hall (Cafeteria) クローバーホール（食堂）	0	1	0	1
Tennis court コート	0	0	1	1
Gym of Soen campus 桑園キャンパスの体育館	0	1	0	1
Teacher's research room 教員の研究室	0	1	0	1
Research room 研究室	0	1	0	1
Parking used for events 駐車場（イベント開催場）	0	0	1	1

Places where you spent time with professors, outside classes / 授業以外の教師との交流の場所

Place 場所	Responses 解答
Teacher's research room 教員の研究室	14
Empty lecture room 授業後の教室	3
Online オンライン	3
"A" Bldg. Plaza A棟プラザ	3
Atelier アトリエ	2
Zeminar room ゼミ室	2
Career Support Room キャリア支援室	1
Teacher's house 先生の作業用の家	1
Clover Hall (Cafeteria) クローバーホール（食堂）	1
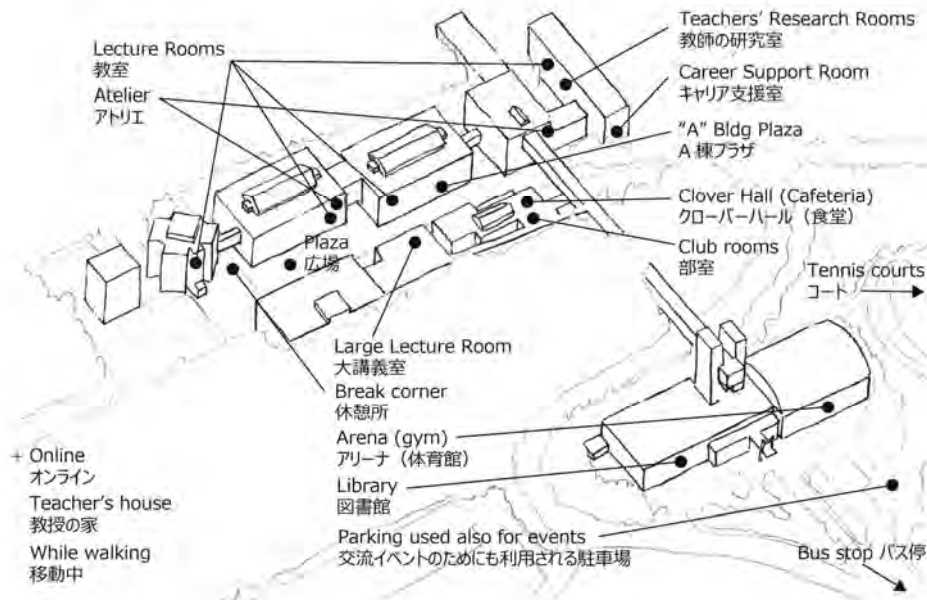
Fig. 90 Sapporo City University Geijutsu no Mori campus sketch, with positions of places cited by respondents

18) "Do you agree in making the university campus accessible to non-affiliated citizens? Please explain the reasons of your answer (optional)".

The questionnaire was realized through the collaboration of professors, who gave their availability to ask their students to answer.

6.6.2. Numeric overview of the answers and disclaimer

We collected 34 answers from design students of Sapporo City University, 15 answers from economics and humanities students of Okinawa University, 20 answers from the economics students of Nihon Fukushi University. Unfortunately, we could collect only 3 answers from design students of Nagoya Zokei University: the data is still showed below

Tab. 18 Questionnaire "B", Places of socialization in Nagoya Zokei University (3 respondents, 15 answers)

Places where you often spent time with other students 他の学生とよく過ごしていた場所				
Place 場所	Almost everyday ほとんど毎日	Few times a week 週数回	Few times a month 月数回	Total 計
Studio (atelier) スタジオ（アトリエ）	2	1	0	3
Izakaya, café etc. 居酒屋・カフェなど	0	0	2	2
Cafeteria 食堂	0	1	0	1
Gym 体育館	0	0	1	1
Grass 芝生	0	0	1	1

Places where you often gathered with other students in order to accomplish circle or *zeminar* activities 学生団体やゼミの集まり・活動をよく行っていた場所				
Place 場所	Almost everyday ほとんど毎日	Few times a week 週数回	Few times a month 月数回	Total 計
Studio (atelier) スタジオ（アトリエ）	0	2	0	2
Lecture room 教室	1	0	0	1

Places where you spent time with professors, outside classes 授業以外での教師との交流の場所	
Place 場所	Responses 解答
Studio (atelier) スタジオ（アトリエ）	2
Lecture room 教室	1
Izakaya, café etc. 居酒屋・カフェなど	1
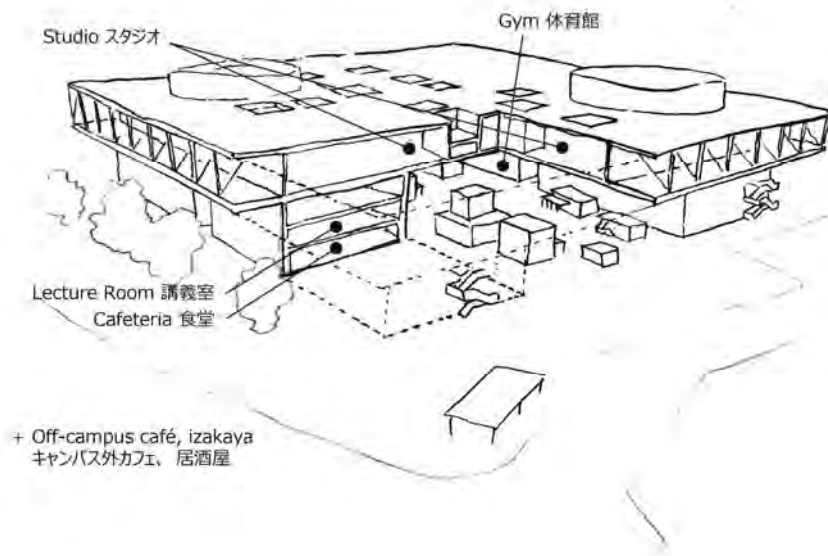
Fig. 91 Nagoya Zokei University Nagoya campus sketch, with positions of places cited by respondents

but the small number of respondents must be taken into account.

There are some events which may have influenced the answers. The Covid-19 pandemic caused the ceasing of students' commuting to campus in most part of the years 2020 and 2021, until spring of 2022. However, the questionnaires were conducted in a span of time from June 2022 until June 2023, when students had restarted campus life. Yamamoto Riken resigned as Nagoya Zokei University rector in 2022, just before campus opening. Okinawa University students experienced some conflict due to political demonstrations organized by activists who came from other prefectures, in the public road which crosses the campus; this conflict may have an impact on the students' opinion.

6.6.3. The places of socialization

As seen in §6.2., students of the "Liberalization era" tends more to use after-class lecture rooms for sociality, and the campuses object of this second questionnaire do not make exception. However, in Sapporo City University students use the Clover Hall (cafeteria and multipurpose space) and "A" Building Plaza (multipurpose space) the most; design ateliers become naturally also places for spending time with friends (Tab. 17, Fig. 90).

Tab. 19 Questionnaire "B", Places of socialization in Okinawa University (15 respondents, 51 answers)

Places where you often spent time with other students 他の学生とよく過ごしていた場所				
Place 場所	Almost everyday ほとんど毎日	Few times a week 週数回	Few times a month 月数回	Total 計
Lecture room 教室	2	3	0	5
Plaza 広場	1	1	1	3
Gym 体育館	0	2	1	3
Cafeteria 食堂	0	1	2	3
In front of Univ. Coop 生協前	0	1	1	2
Library 図書館	0	2	0	2
Self-learning room 自習室	1	0	0	1
Corridor 通路	1	0	0	1
PC room PC室	0	1	0	1
Parking 駐車場	0	1	0	1
Benches in front of Main Bldg. 本部ベンチの前	0	0	1	1
Chairs under stairs 階段下の椅子	0	0	1	1

Places where you often gathered with other students in order to accomplish circle or zeminar activities 学生団体やゼミの集まり・活動をよく行っていた場所				
Place 場所	Almost everyday ほとんど毎日	Few times a week 週数回	Few times a month 月数回	Total 計
Lecture room 教室	1	6	3	10
Gym 体育館	0	1	0	1
Plaza 広場	0	1	0	1
Corridor 通路	0	1	0	1
In front of the main gate 正門前	0	1	0	1

Places where you spent time with professors, outside classes 授業以外での教師との交流の場所	
Place 場所	Responses 解答
Lecture room 教室	6
Corridor 廊下	3
Teacher's research room 教師の研究室	2
Lift エレベーター	1
Gym 体育館	1

Fig. 92   Okinawa University campus sketch, with positions of places cited by respondents

Socialization with professors happens mostly in research rooms. Because of the prohibitive Hokkaidō climate, few outdoor places are cited. This campus is quite classical in its functions, and overall, the postwar model is conserved, with the exception of a free-use *gakusei kaikan*, which is reflected in the comment of one student: «in order to accomplish extracurricular activities we must fill a form and this is inconvenient». In facts, extracurricular activities are accomplished especially in gym, ateliers and lecture rooms.

Nagoya Zokei University students take advantage of the non-partitioned, and wide "studio" placed at the 4th floor, for socialization with other students and teachers and

Tab. 20 Questionnaire "B", Places of socialization in Nihon Fukushi University (20 respondents, 57 answers)

Places where you often spent time with other students / 他の学生とよく過ごしていた場所

Place 場所	Almost everyday ほとんど毎日	Few times a week 週数回	Few times a month 月数回	Total 計
Lecture room 教室	3	5	1	9
Cafeteria 食堂	0	6	1	7
Community Lounge コミュニティラウンジ	1	2	0	3
Breakroom 休憩室	1	2	0	3
Entrance Hall エントランス	0	1	0	1
Front plaza キャンパス前の広場	0	1	0	1
University Coop 生協	0	1	0	1
Library 図書館	0	1	0	1

Places where you often gathered with other students in order to accomplish circle or zeminar activities / 学生団体やゼミの集まり・活動をよく行っていた場所

Place 場所	Almost everyday ほとんど毎日	Few times a week 週数回	Few times a month 月数回	Total 計
Lecture room 教室	0	6	7	13
Community Lounge コミュニティラウンジ	2	1	0	3
Corridor 廊下	0	0	1	1

Places where you spent time with professors, outside classes / 授業以外での教師との交流の場所

Place 場所	Responses 解答
Lecture room 教室	10
Community Lounge コミュニティラウンジ	3
Teacher's research room 教師の研究室	3
Corridor 廊下	1

Fig. 93   Nihon Fukushi University Tokai campus sketch, with positions of places cited by respondents

zeminar activities (Tab. 18, Fig. 91). Nearby *izakaya* and cafes are also cited.

Students of Okinawa University are those who most meet up in the in-campus open spaces: this can be of course due to the hot climate, but also to the availability of several repaired corners equipped with chairs and benches. Empty lecture rooms are used also for extracurricular activities, and corridors which envelope the plaza connecting the different buildings are used for social purposes too (Tab. 19, Fig. 92).

Students of the *Palace* typology, Nihon Fukushi University Tokai campus, meet each other for social intercourses and extracurricular activities mostly in empty classrooms and in the ground floor cafeteria and multipurpose spaces. Being professors' research rooms inaccessible to non-authorized people and located in the tallest floors, socialization with professors happens most in classrooms. The long corridors of this building are almost not cited as places for socialization (Tab. 20, Fig. 93).

Tab. 21 Questionnaire "B", answers to "Where do you often casually meet acquaintances?"

Where did you often casually meet acquaintances? (multiple answers) 偶然に知人に会うことが多い場所はどこでしたか？（複数回答可）		Campus gate キャンパスの門	Campus plaza or green area キャンパスの広場・緑地	Campus streets キャンパスの道路・道	Indoor corridors 室内廊下	Multipurpose indoor spaces 屋内多目的スペース	Outside the campus キャンパスの外
Campus キャンパス	N. of respondents and answers 回答者数・回答数						
Sapporo City University Geijutsu no Mori Campus 札幌市立大学芸術の森キャンパス	34 people, 69 answers	8 / 12%	3 / 4%	8 / 12%	26 / 38%	18 / 26%	6 / 9%
Nagoya Zokei University Nagoya Campus 名古屋造形大学名城公園キャンパス	3 people, 8 answers Insufficient data データ不足	0 / 0%	1 / 13%	2 / 25%	2 / 25%	2 / 25%	1 / 13%
Okinawa University Campus 沖縄大学キャンパス	15 people, 31 answers	5 / 16%	7 / 23%	6 / 19%	8 / 26%	3 / 10%	2 / 6%
Nihon Fukushi University Tokai Campus 日本福祉大学東海キャンパス	20 people, 29 answers	2 / 7%	1 / 3%	3 / 10%	14 / 48%	6 / 21%	3 / 10%

6.6.3.1. The places of casual encounters

Tab. 21 shows especially two interesting facts. The first is that students of Sapporo City University and Okinawa University, where a clear campus entrance is present, stated that they often meet acquaintances at campus' gate, an option which was almost not selected even in questionnaire "A", by former students of several universities. The second is that corridors were cited as places of casual encounter in the *Palace* typology more than in the "dialoguing enclave campuses" – which is natural considered the spatial configuration. Okinawa and Nagoya Zokei, for their interconnected and circular environment, create chances of casual encounter almost in any part of the campus, while Sapporo City (for the cold climate) and Nihon Fukushi (for the single-building configuration) channel students' paths in indoor corridors.

6.6.4. Differences of evaluations in each campus

Tab. 22, Tab. 23 and Tab. 24 show that, besides the 3 students of Nagoya Zokei University which evaluated the most highly almost any field, students of Sapporo City University Geijutsu no Mori campus are the happiest towards students' social atmosphere (average: 4.29/5), socialization with teachers, campus environment (except for "convenience"), and, despite the defiled position at the edge of Sapporo city, students often saw generic citizens enter the campus, and socialized with them in many occasions, especially during university events and students' graduation work exhibitions.

Okinawa University students gave on average a lower evaluation of the socialization with teachers and campus "beauty", but considered social atmosphere between students quite well (average: 3.80/5). They also state that external visits from citizens happen "sometimes", but few of the students had ever socialized with visitors.

Nihon Fukushi University (*Palace* typology) students evaluated the social atmosphere

Tab. 22 Questionnaire "B", average values of students' evaluations

Campus キャンパス	N. of respondents 回答数	Social experience as a student 大学生間交流 (0~5 points)		Socialization with teachers 教師との交流 (0~5 points)		Evaluation of campus environment キャンパス環境の評価 (0~5 points)					Socialization with citizens 市民交流	
		Social atmosphere 学生同士の雰囲気	Mutual help in learning 勉強の助け合い	Familiarity with the professor 教師との親しみ	Socialization besides classes 授業以外との交流の有	Convenience (distance etc.) 便利さ (距離等)	Beauty (architecture, nature) 美しさ (建築・自然)	Learning/research functionality 教育・研究機能の充実	Extracurricular functionality 放課後活動機能の充実	Possibility of socialization 学生同士の過ごしやすさ	Do generic citizens often enter the campus? 関係者以外の人はキャンパスに入ることが あるか? (0~4 points *)	Do you agree in opening campus to citizens? キャンパスを市民に開けるのに賛成ですか? (0~5 points)
Sapporo City University Gejutsu no Mori Campus 札幌市立大学芸術の森キャンパス	34	4.29 /5	4.28 /5	3.85 /5	3.18 /5	1.50 /5	4.32 /5	3.94 /5	2.88 /5	3.35 /5	2.68 /4	4.03 /5
Nagoya Zokei University Nagoya Campus 名古屋造形大学名城公園キャンパス	3 Insufficient data データ不足	4.33 /5	4.33 /5	3.89 /5	3.24 /5	3.67 /5	4.50 /5	4.00 /5	3.33 /5	4.33 /5	3.33 /4	4.67 /5
Okinawa University Campus 沖縄大学キャンパス	15	3.80 /5	3.73 /5	2.80 /5	2.80 /5	3.13 /5	2.93 /5	3.07 /5	3.00 /5	3.20 /5	2.40 /4	3.60 /5
Nihon Fukushi University Tokai Campus 日本福祉大学東海キャンパス	20	3.40 /5	3.70 /5	3.45 /5	2.55 /5	3.37 /5	3.68 /5	3.74 /5	2.53 /5	3.44 /5	1.95 /4	4.17 /5

* besides university festival and "open campus day". 1: not at all 全くない 2: only few times 設回(か)ない 3: sometimes 時々ある② 4: normally 普通にある

as the lowest (average: 3.40/5) and pointed out that, even if there is familiarity with professors, there are few chances of spending time besides classes with them. Also, despite the presence of a public park as the campus entrance, students stated that generic visitors are seen only few times; however, especially during university events some students interacted with citizens[56].

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[56] Nihon Fukushi University professors are very active in promoting cooperation with local associations,

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Tab. 23 Questionnaire "B", overview of part of the answers (Sapporo City)

Okinawa University and Nihon Fukushi University students' evaluations are similar; however, Okinawan students have on average more friends outside the university and evaluated the social atmosphere and mutual help in learning with slightly higher score. It is interesting to notice that social atmosphere evaluation is on average lower in the campuses which are the most "mixed" with the urban environment. Nagoya Zokei University seems to be an exception, but the respondents' number is insufficient to risk

communities etc.

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Tab. 24 Questionnaire "B", overview of part of the answers (Nagoya Zokei, Okinawa, Nihon Fukush)

an explanation for this.

6.6.4.1. Answers at: "Do you agree with opening the campus to citizens?"

The average values of the answers to: "Do you agree with opening the campus to citizens?" show that the majority of the interviewed university students have a positive opinion. The lower score is from students of Okinawa University (3.60/5), who also are those who less actively had social exchanges with the quite numerous visitors. Nihon Fukushi University students, even if they do not meet often external visitors, on average agreed with opening campus services (4.17/5). A close analysis of Tab. 23 and Tab. 24 reveals

that the most negative opinions came from some students of these two campuses who never had social exchanges with visitors.

It can be meaningful to read some of the written reasons of the scoring (all translations by the author).

Respondents who gave positive score:

Sapporo City University Geijutsu no Mori campus:

«Because the university itself aims at opening to the region»; «It is a splendid structure and I wish other people could use it»; «High school students who wish to enroll could come to see freely, and the campus' vitality will increase»; «The university was built with Sapporo citizens' taxes»; «Because the university itself aims at opening to the region»; «It is more fun when it is lively».

Nagoya Zokei University Nagoya campus:

«Because the most one meets several people, the most it is better for university learning»; «Because we can exchange information»; «Because I like to meet local people».

Okinawa University campus:

«Because there is useful information regarding qualifications, examinations and job hunting»; «Because I want other people to see the situation of our university»; «Because social exchange with locals is necessary».

Nihon Fukushi University Tokai campus:

«Due to the nature of Tokai campus, students' circles activities are difficult; so, if we could socialize with citizens even a little, the campus atmosphere will become more exciting»; «Being an institution of higher education, our university must provide chances of learning for many people»; «If local people use our library, there will be many chances of learning»; «Because it is necessary a place for social exchange in the city».

Respondents who gave negative or neutral score:

Sapporo City University Geijutsu no Mori campus:

«Because it is not so wide as a campus»; «Because there have been bomb threats etc.»; «There are many instruments and materials for design assignment, and their management must be considered, but I fundamentally agree».

Okinawa University campus:

«Because there are many suspicious people in the neighborhood»; «If cafeteria and library crowd it is a trouble for me»; «Because I am worried that there will be incidents».

6.6.5. Conclusions from Questionnaire "B"

Through this questionnaire we aimed at verifying whether the "dialoguing enclave campuses" were both comfortable for students' community and actually working in encouraging social exchange with local citizens. The collected data, however, showed discontinuous results: answerers studying in Sapporo City and Nagoya Zokei showed

major appreciation for social atmosphere and campus opening; however, answerers from Okinawa on average disagreed more on opening and evaluated poorly the campus environment and the socialization with teachers.

On the other hand, some characteristics can be deduced. The articulation in *Campus* typology of all of the three "dialoguing enclaves" is well evaluated from the point of view of communitarian activities, and places of socialization spreads from classrooms and cafeterias to open spaces and corridors. The absence of spaces dedicated to extracurricular activities and freely accessible is missed by students, who in exchange cannot help but using empty classrooms. The use of campus surroundings by students is cited only few times, but it is present.

Sapporo City, with its quite classical organization by functions and prevalence of indoor environment, is considered on average as beautiful and functional; also, surprisingly, it attracts the visit of citizens even in its semi-remote, "edge" position. Seike and Okumura's design of the public-private mediation and of the common indoor space proved to be effective and desirable. Nagoya Zokei, from what one can assume from the only 3 respondents, have several visitors on its Art Arena, above which its all-floor Studio is fully used as the place of the community. Okinawa's central plaza on which all the buildings face is not only a reference for the community but also a mean to enrich all other environments. This enables students to socialize and meet in many informal places, rather than in one gathering area. The attitude towards external visitors is more negative on average than in other campuses (for security reasons, as it appeared from the comments), but citizens do visit the campus.

Instead, students of the *Palace* typology Nihon Fukushi, despite the openness of the campus and their positive opinions on the opening, had little social exchanges with local citizens. The social atmosphere evaluation is the lowest; the use of empty classrooms to socialize and the fact that corridors are only places of casual encounters marks a significant difference with the *Campus* typology.

6.7. Conclusions of Chapter 6

This chapter, based on the hearing of users, scholars and designers, is structured according to an interconnected discourse, so that each paragraph's premises derive from the precedent paragraph's conclusions. For details, we invite the reader to look at each paragraph's conclusion; for sake of summarization, we report here the results.

From the end of World War II until present days, there has been a change especially in the use of open spaces by the students' community and a decrease in the use (and provision) of facilities built for the explicit purpose of gathering – both of which, during the period of the Student Movement, resulted in a use of space as a mean of sending

social-political messages rather than a simple accomplishment of extracurricular activities. This is thought to have prepared the way for the recent growing interest towards university space typologies such as *Palace* and *Diffuse university*, which do not feature private open spaces and appear to better suit the direction of "contribution to society" of the "liberalization era". However, this change would mean to abruptly abandon the spatial configuration developed since now in Japan. Recent Northern Italy examples of spaces without barriers and accessible to anyone, while seen with admiration by proposers of the planning reform, show some incompatibilities with the Japanese established culture and spatial configuration. We therefore proposed an alternative to the total openness: campus plans mindful of the positive effects of an enclosed environment for students' community and still accessible from the surroundings. We defined such campus plans as "dialoguing enclaves" and described their spatial composition and design components through interviews with their designers. Although there is need of a larger pool of respondents, the second questionnaire showed that students who study in three of these campuses are on average happier with its social atmosphere than those who study in one of the new-generation *Palace* spaces; in addition, non-affiliated visitors' accesses to the university space of the three case studies happen more normally than in the *Palace* case.

We can conclude by saying that the students' community does appreciate the *Campus* typology; and that absence of barriers in the university space does not imply a major openness to society. There is no reason, therefore, for giving up the environment for the university community: society and university can dialogue and still maintain their respective roles and identities. With the help of educators more than architects, such dialogue can enrich the educational experience of students and the mission of the university.

Chapter 7. CONCLUSIONS

7.1. Results

The results of this study are summarized as follows.

1) Peculiarities of the prewar Japanese university space:

Since Meiji era, along with Palestine, China and Thailand, Japan was one of the few nations where the university educational model was shaped by comparing and picking up several features of plural existing models; in addition, as in these regions, its university space was one of the first examples of *Campus* typology developed in absence of the Anglo-Saxon "collegiate life" influence. Particularly, the variety of university spaces in Japan possessed collectively characteristics which are close to the *Palace-derived Campus* typology (for typology classification, see § 2.3.): each faculty had its own zone and buildings, and, despite the small-scaled and enclosed, *enclave*-like environment, students commuted from and to the surrounding city, similarly to continental European universities.

2) Peculiarities of the postwar Japanese university space:

After the war, however, campuses became increasingly separated from the cities and, like Anglo-American universities, focused more on services to students; a slow process led to the integration of several faculties in one site, and to a major flexibility in the definition of the functional and spatial boundaries of each faculty. However, faculty division remained, and students continued to commute and not living on campus. Open spaces were maintained as mandatory requirements. As a result, postwar Japanese universities created a unique *Campus* type that partially differed from each of the existing university space typologies (different from both *College-derived Campus* and *Palace-derived Campus*).

3) Response to the massification of universities:

In response to the massification of universities, the number of universities increased numerically, maintaining the prewar small scale and enclosed environment, which, contrarily to Western countries, was still human-scaled. On the other hand, this proliferation of new institutions also brought with it many challenges. In particular, regional laws and inter-university competition from the 1960s forced planners to locate campuses on extra-urban, narrow and steep sites; there was also the need to build lecture halls and welfare facilities for large numbers of students in a limited area, all of this while respecting and evaluating the presence of plazas or green areas; universities were asked to provide also specific places for students' extracurricular activities.

3.1) Spatial configuration

The architectural design plans of postwar Japan facing these challenges are summarized in Chapters 4 and 5. In response to the issues of creating an environment able of accommodating open spaces in hilly terrains, this study individuated four

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planning/realization methods, three of which respect the original topographic features of the site and account for 64% of all hillside campuses (Chapter 4.2.). In response to the need of new buildings for university lectures, this study described several experimental architectural designs that sought to match the learning environment and the outdoor space, while considering the moving of a large number of people, through innovative solutions regarding the mutual position of corridors and lecture rooms (Chapter 5.1.). In response to the new requirement of postwar universities to provide space for extracurricular activities, this study analyzed the evolution and decline of the *gakusei kaikan* typology, with its modernist architecture for student gatherings (Chapter 5.2.). These are outstanding achievement in postwar Japanese architectural planning of universities, and are worth reevaluating.

      3.2) University community:

In addition, one important characteristic that is not found in other types of buildings is that, despite the "closed" and protected environment of Japanese campuses, students commute. The nature of this "commuting community" has changed since the postwar period, especially for what concerns the relation to the city, student gatherings, and places for interaction on campus, but it always requires a balance between closeness and openness, revealed in the tendency of occupying "edge surroundings" sites (Chapter 4.6.). In the recent years, the role of open spaces for students' socialization is diminishing, questioning the entire necessity of *Campus* typology; in addition, the closeness of Japanese campuses is being criticized in favor of a new ideal, that of the "opened campus", where social interchanges between university community and surrounding society can happen. However, as the six "dialoguing enclaves" campus planning suggest, there is no need to renounce to the *enclave* peculiarity in order to realize a valuable social exchange between communities (Chapter 6.3.).

7.2. Considerations

Finally, the author proposes some considerations on the results.

      1) The importance of postwar Japan campus planning experience for world regions where university massification is currently in process:

In those regions where the university system is currently developing or is going to develop/massify, there is need for: environments capable of giving their community relief and peaceful coexistence; unexpensive and environmentally-minded ways of taking advantage of challenging site conditions; large and fresh places for lectures, in hot climates where one cannot rely on unlimited electric energy and air conditioning; places for students to meet and discuss. In a phrase, there is need for dignified but realistic university architecture.

Japan was a (re-) developing country in the years following World War II, and the planning achievements described in this thesis represent various possible references of campus planning for several Countries in the world. Hopingly, this study will contribute to spread such a treasure of knowledge that rarely leaves Japan[1].

        2) The ideal university space:

The word "university" derives from the Latin *universitas magistrorum et scholarium*, which in a narrow sense meant "corporation" or "gild" of masters and students, as described in §2.4.1., but which also recalls the root of "universality", "the whole of". The word "education" derives from the Latin *ex ducere*, i.e., pulling out something which is already inside: the human "core", or personality. The Japanese Minister of Education which greatly contributed to the postwar Basic Law on Education, Tanaka Kōtarō, was close to the original Western meaning of these two words when he conceived the purpose of education as the completion (or wholeness) of personality (*jinkaku no kansei*, 人格の完成). This is the criterion on which it is possible to criticize the existing university space models: do they enable an education of the student's personality in its whole?

Campus and *College* give students a protected place only for them, where it is possible to live an ideal and undisturbed learning life; however, they easily become excluding and elitist spaces for this same nature. *Palace* and *Diffuse University* make possible the participation of students to the political life of the city and, vice versa, the participation of the political life to the university matters; however, they reveal, in the absence of spaces other than lecture rooms and libraries, that their institutions care quite less of university community and human education.

Postwar Japanese campuses, instead, have the spatial potential to combine both positive sides: a protected place and a dialogue with the surroundings through students' commutation and semi-defiled position. We proposed six examples of "dialoguing *enclave*" campus plans in order to visualize this concept; but the postwar campuses in their entirety are, to some extent, "dialoguing *enclaves*". This is another, although quite theoretical, point which proves the importance of continuing to evaluate rightly campuses of Postwar Japan, also in the present-day campus crisis.

However, in order to do so, there is the need of:

a) rethinking the role of open spaces;

b) valuing the importance of postwar university architecture even when seemingly obsolete.

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[1] In a more or less conscious way, to find postwar Japan's planning elements which may be meaningful for developing countries was the "*file rouge*" which the author kept in mind in order to better choose the topics to address.

These are some of the future research goals the author wishes to address.

As a first step towards the last goal, in the Supplementary Chapter of this thesis the possibility and feasibility of postwar university campus' architectural conservation is explored, especially through the analysis of the conservation project of one campus in its entirety, that of Nanzan University.

Supplement: ABOUT THE FEASIBILITY AND NECESSITY OF POSTWAR CAMPUS ARCHITECTURAL CONSERVATION: THE CASE OF NANZAN UNIVERSITY
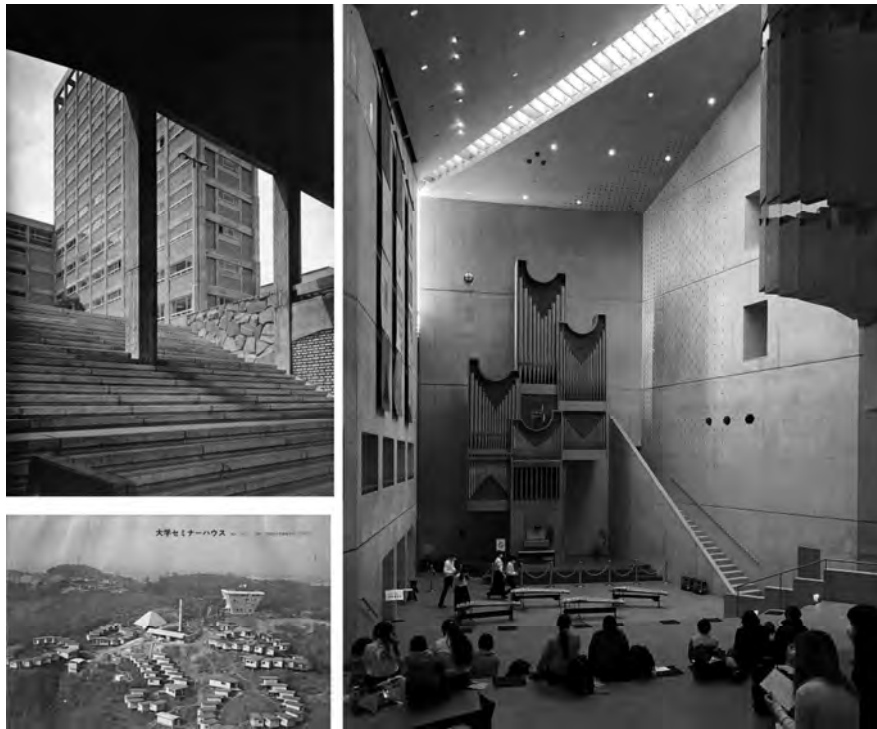
Fig. 94 Collage of postwar university architecture: left/above: Waseda University Toyama Campus (design by Murano Tōgo, 1962-63), source: Kenchiku Bunka (1962-6); left/below: Inter-University Seminar House (design by Yoshizaka Takamasa, 1965), source: Kenchiku Bunka (1965-230); right: grand hall of the Osaka University of the Arts (design by Takahashi Tei-ichi, 1964-86), photo by the author, 15.12.2021.

S.1. Introduction

S.1.1. Context: the concept of 'authenticity' and the struggle for conservation of modernist architecture in Japan

It is renown that Asian and European attitudes towards conservation of architecture are different[1]. In Asia, the partial or total reconstruction, the substitution of parts, etc., have been inevitable because of the organic nature of materials and of the high frequency of disasters. Because of these commonly accomplished drastic interventions, the word "authenticity", which is one of the fundaments of architectural restoration, had to be rethought by the international academy in order to include into the category of conservation Asian practices which, otherwise, would have been accused of deliberately disrespecting conservation of original materials. This led to the ICOMOS Nara Document on Authenticity (1994), according to which authenticity depends «on the

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[1] The present chapter is adapted from a 2022 study of the author, referred to in the bibliography as Vecchi and Suzuki (under submission), and presented at the international symposium "La città universitaria di Roma diventa patrimonio architettonico", Sapienza University (Italy), 22-23.09.2022.

nature of the cultural heritage, its cultural context, and its evolution through time»[2], and

«Authenticity judgements may be linked to the worth of a great variety of sources of information [such as] form and design, materials and substance, use and function, traditions and techniques, location and setting, and spirit and feeling, and other internal and external factors»[3].

After this document, international awareness changed, and a sign of this can be seen in the enlisting of "traditional skills, techniques and knowledge for the conservation and transmission of wooden architecture in Japan" in UNESCO Intangible Cultural Heritage of Humanity of December 2020.

Japanese government manages the conservation of buildings through various lists of Cultural Properties (文化財), and indicates the guidelines for the restoration process, guidelines that, especially for old wooden buildings, contemplate the possibility of the *kaitai shūri* (解体修理), a reparation and substitution of damaged parts accomplished after a previous total dismantling of the building[4].

It is also noteworthy that, while starting from the 1990s modern buildings from Meiji era (mainly brick-made eclectic style architectures) have been added constantly to the lists of Cultural Properties, consisting of 11.886 registered properties and 343 "important" registered properties in 2018, examples of post-World War II modernist architecture registered were still only 550[5]. More specifically, in 2018, the 50 years requirement limited the eligible buildings to these built before 1968. However, the 1950-1960s decades coincided with a construction boom, which is also not proportionally represented in Cultural Properties[6]. Associations as DoCoMoMo Japan are actively promoting the preservation of important modernist buildings consistently with the Madrid Document 2011 of ICOMOS; however, since there is no legal obligation to conserve them, owners of many valuable works of renowned postwar architects have since now largely preferred demolition and *tatekae*, or "scrap and build". As Kurakata (2007) stated,

old architecture can now be part of a 'brand', with beautiful words such as 'tradition' and 'memory' that can be used to describe its commercial value; but 'historic architecture' often refers only to the pre-war period and its style. Postwar modernist architecture is not very old, and its clear contrasts do not enhance the latest design fashion. For developers and local authorities, modernist

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[2] Larsen (1994), §13, p. 47.

[3] *Ibid.* This document was developed through the Japanese government initiative with the support of UNESCO, ICOMOS and ICCROM.

[4] See Agency for Cultural Affairs (1999).

[5] See Kingendai (2018), p. 1 (2018 data).

[6] See Agency for Cultural Affairs (2021).

architecture is not much of a 'selling point'[7].

When facing postwar history, the tendency to cancel rather than to conserve emerges clearly, as in the case of Nagoya Castle, which is currently object of a discussed demolition plan of the 1958 concrete reconstruction in view of rebuilding the previous wooden donjon[8]. Sometimes, when demolition meets the opposition of the citizens that are fond of old buildings, as in the case of the Chūnichi Building in Nagoya – designed by Takenaka Corp. in 1966, demolished in 2019 – or the Shin-Kabuki Theatre in Ōsaka – designed by Murano Tōgo, 1958, and demolished in 2015 – the newly built skyscrapers incorporated parts of the previous façade or recurred to design resemblance with the previous exteriors, aiming to a sort of formal justification to economic speculation.

S.1.2. Demolition of postwar university architecture

Many valuable campus architectures have been realized in the postwar period. As references related to campuses and university facilities built in the early postwar period, we already mentioned Hōsei University Ichigaya campus designed by Ōe Hiroshi in 1955-62 (Fig. 55), Meiji University Izumi campus and Ikuta campus designed by Sutemi Horiguchi in 1955-65 (Fig. 50, Fig. 65, Fig. 66, Fig. 67), Nanzan University campus designed by Antonin Raymond in 1964-66 (Fig. 46), Aichi Prefectural University of Fine Arts and Music campus designed by Yoshimura Junzō (Fig. 46, Fig. 52), Waseda University Nishiwaseda campus designed by Andō Katsuo in 1967 (Fig. 53).

Many other famous architects realized astonishing pieces of architecture for universities: we may mention Murano Tōgo (Konan Women's University campus, Waseda University Toyama campus, various buildings in Kansai University), Maekawa Kunio (Gakushuin University campus), Takahashi Tei-ichi (Ōsaka University of the Arts campus, Tokyo Metropolitan University Minamiōzawa campus), Yoshizaka Takamasa (Inter-University Seminar House), Maki Fumihiko (Nagoya University Toyoda Hall, Risshō University Kumagaya campus, Keio University SFC campus), etc.

Especially, as seen in §3 and 4, harmonious relationship with the site's topography, students' facilities for extracurricular activities, distribution of classrooms and corridors in order to obtain the maximum natural illumination and ventilation were the main design challenges and ideas experimented in this period in Japan, which could represent a source of inspiration even for the contemporary world.

However, these exemplary buildings are not immune from the "scrap and build" trend.

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[7] Kurakata (2007), p. 114. Translation by the author.

[8] See Vecchi (2019). This plan, launched as a mean to attract tourists in one of the cities most affected by World War II bombings and therefore lacking historical monuments, has been opposed by several organizations and its realization is at this moment uncertain.

For example, Ōe's buildings in Hōsei University, some of the buildings of Murano's Waseda University Toyama campus, and some of the Horiguchi's buildings of Meiji University have already been demolished and replaced with new buildings (featuring "formal justifications" made of external resemblances with the pre-existing masterpieces).

As we saw in §3.5., construction of new campuses in new sites is becoming more and more rare after the beginning of 21st century. It seems that universities would have to continue using the same spaces in the future. Is "scrap and build" the only possible future of Japanese campuses?

S.1.3. Purpose of the research

The main aim of this chapter is to highlight sustainable strategies for the future of university campus planning in Japan through the introduction of Modern architecture conservation practices. Especially, this chapter brings to attention the case of the restoration of Nanzan University campus (2017-2021), maybe the first conservation plan to concern a postwar campus in its entirety.

S.1.4. Method of the research

The parts referring to architectural conservation practice are documented through various sources. The case of Nanzan University has been analyzed through various publications, field trips and, especially, interviews with the conservation plan designers, Takeda Shinpei and Hirose Kōji, project managers entrusted by Nihon Sekkei, which took place December 5th, 2021, online.

S.2. Postwar university architecture conservation in the world

Getty Foundation opened since 2014 the "Keeping it Modern" program, a system of funding for conservation projects having as object valuable works of Modern Architecture. Every year until 2020, an average of 10 projects from around the world were chosen as grant recipient, and they comprehend a vast range of architectures, from famous residences to museums. While African and Latin American architecture is well represented in the list, the only Eastern Asian examples are Tange Kenzō's Yoyogi Stadium (Japan), I. M. Pei's Henry Luce Memorial Chapel (Taiwan), Pierre Jeanneret's Gandhi Bhawan (India), Charles Correa's Sardar Vallabhbhai Patel Stadium (India).

However, it is interesting to notice that the category most represented is "university or higher education architecture", with 15 projects chosen in total (Tab. 25). In addition, 3 buildings for research centers, and 2 chapels placed within a university campus were selected. This could be explained by the fact that most of the institutions which apply for the grant are universities, and there could be interest in receiving material help for the conservation of their own buildings. Nevertheless, the fact that modernist university

Tab. 25 Modern architecture conservation projects recipient of the "Keeping it Modern" grant, 2014-2020.

University buildings are marked in grey. Based on Getty Foundation,

https://www.getty.edu/foundation/initiatives/current/keeping_it_modern/ [accessed 17.2.2023]

campuses are being valued so widely around the world may be a salutary stimulus for Japan to revalue its university spaces.

S.3. University architecture conservation cases in the Aichi prefecture

Whether the need to continue using existing university buildings represents a favourable condition or an obstacle to the emergence of virtuous practices in architectural conservation of valuable pieces of architecture, or of entire campuses, is not certain. The complexity of this challenge comprehends: the need to harmonize existing facilities to new functions of contemporary higher education, such as learning commons, active learning classes, or collaborative research facilities; the everchanging structure of the campus itself or of the surrounding environment, which may imply the adjustment of accesses and facility distribution; the shift in preference from countryside to urban campuses and the pressure of government for "open campuses"[9]; the updated standards of thermal and sound comfort; the anti-seismic norms.

However, despite these difficulties, some institutions have opted for a conservative approach to campus renovation. The case of three modernist university architectures located in Aichi prefecture, more precisely in the Nagoya surroundings, has been described by Kikata (2014)[10].

These are: the above-mentioned Toyoda Hall, the centrepiece of Nagoya University Higashiyama campus designed by Maki Fumihiko in 1960, renovated and implemented by Maki himself in 2006-07 and thereafter registered as National Tangible Cultural Property in 2011[11]; the Aichi Prefectural University of Fine Arts and Music campus (hereinafter PUFAM), designed by Yoshimura Junzō in 1966-70 and currently subject of a masterplan which will define use change and preservation of original buildings[12]; and finally the Nanzan University campus, at the center of the Raymond Renovation Project. They have been listed in the DoCoMoMo Japan register, considered «an effective way to recognize the importance of each of these three campuses at a time when there was no criterion with which to designate and preserve modern architecture»[13].

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[9] This topic and its practical consequences will be analyzed in § 6.

[10] Kikata (2014), pp.434-439.

[11] *Ibid.*, p. 434.

[12] The first masterplan has been published in 2011, and its new version is under redaction, under the guidance of professor Suizu Isao.

[13] Kikata (2014), p. 434.

S.4. The Raymond Renovation Project at Nanzan University

The specific case study of this paper regards one of the first examples of architectural conservation to have as its object a postwar campus in its entirety. This is the Nanzan University, located in the eastern part of Nagoya, designed in 1960 - 1964 by the office of the Czech American architect Antonin Raymond.

S.4.1.   Antonin Raymond's architecture

Raymond was born in Kladno (present Czech Republic) in 1888 and emigrated in the United States in 1910, where he started working for Cass Gilbert, and followingly moved to Taliesin with the wife Noemi for an apprenticeship under Frank Lloyd Wright. In 1919, when Wright was taking care of the Imperial Hotel project, Raymond accompanied him in Japan and decided to stay in the country, to start there his professional career as an architect. His studio, except few interruptions, kept working in the Country even after his death in 1976, and it is still active. Raymond's style evolved from Wright's influence, and developed to a declared inspiration to Le Corbusier[14], until he found his personal approach to rationalist architecture characterized by "honesty", "simplicity" and "directness", and therefore economic, useful and in harmony with the context. Among his disciples were two of the masters of Japanese modernism, Maekawa Kunio (1905-86) and, interestingly, Yoshimura Junzō (1908-97), who designed the previously mentioned PUFAM campus.

S.4.2.   Nanzan University campus history

Raymond was appointed as Nanzan's designer by the Catholic Divine Word Society (SVD) in 1960. The site is characterized by two hills and a valley and covers a surface of 139318 m[2]. Raymond thought that «the extremely attractive landscape and vegetation had to be conserved as much as possible»[15], and therefore left ridges and valleys of the topography free[16]: the "Main Street", a straight pre-existing lotting street on the ridge of the western hill, and the former baseball court, now "Green Area" along the valley. Thus, the most elevated Main Street ridge which runs in direction north-south serves as the axis along which all main facilities are perpendicularly distributed to receive a south-oriented classrooms, reaching the ground on both sides' slopes without topography changes, or taking advantage of the gradient to adapt the pace of the tiered lecture halls of the central "G Building"; four bridge-buildings cross the axis, forming a connected whole (Fig. 95).

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[14] Raymond (1973), pp. 117-120.

[15] *Ibid.*, p. 258.

[16] The planning method we defined as *Valley/ridge*. See § 3.5.

Fig. 95 Aerial view of Nanzan University campus in 1965. Courtesy of Nanzan University Archives

Clients gave Raymond «almost illimited freedom within a very limited budget»[17]. Therefore, renouncing to altisonant and symmetric monumentality, he opted for an economic but strongly characterized architectural language: exposed concrete structure with a homogeneous span, external walls painted in red and concrete brise-soleil; interesting concrete vaulted roofs feature the main facilities. The Main Street passage is protected from rain by independent canopies, while narrow lateral paths leave room for the existing vegetation, which has grown tall in the meanwhile. Wooden furniture, decorative tri-coloured cement floors, aluminium fixtures, precast concrete details in entrances and handrails, and mural paintings are the features of the interiors designed by Raymond together with his wife Noemi.

The design of this campus represents a mature work of the architect, with external resemblances to the previous International Christian University library (1959), but also to the Pondicherry Dormitory, the first concrete modernist building to be built in India, dating back to 1937-45[18].

The project for the Nanzan university received the Architectural Institute of Japan Work Prize in 1964 after the completion of the main building complex. At the same time, Raymond completed the SVD Seminar buildings and the expressionist concrete chapel in an adjacent site. His office continued signing further projects for educational facilities until the 1980s, especially adjusting the former baseball court to a gentle slope which converges in a representative new plaza. After the end of the collaboration with Raymond's studio, in 2009, the original Cafeteria Building was demolished and replaced

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[17] *Ibid.*, p. 257.

[18] *Ibid.*, pp. 149-153.
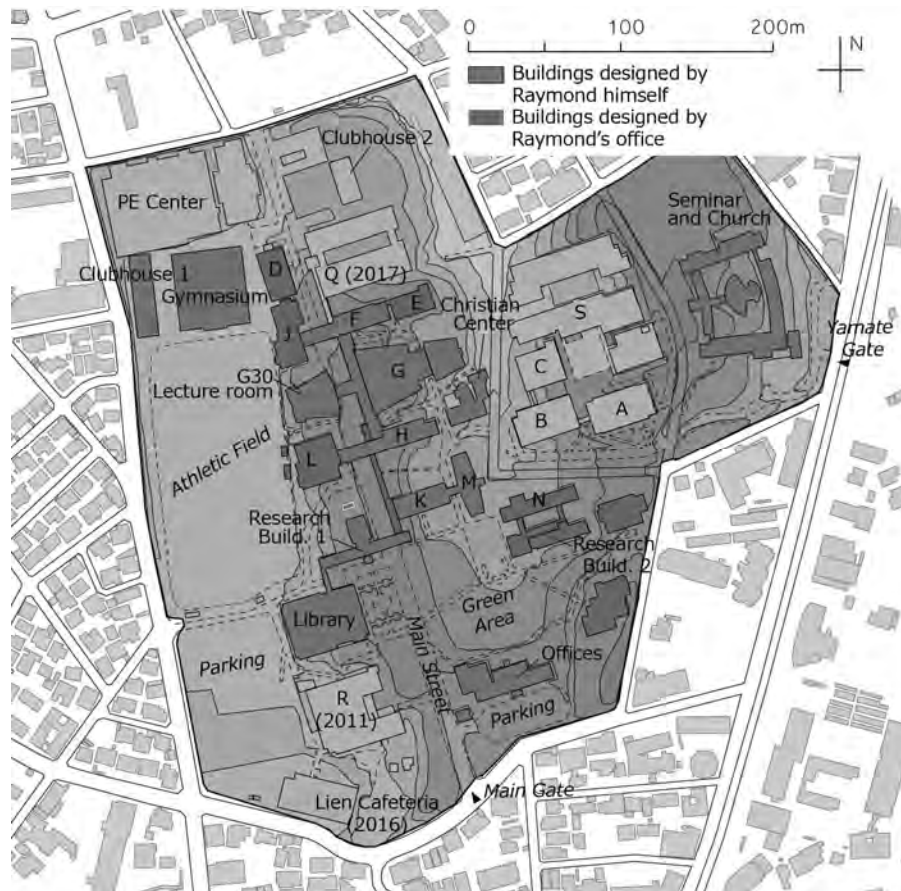
Fig. 96 Nanzan University campus and SVD Seminar site planimetry.

with the multipurpose and massive "R Building". Thereafter, with the foreseeable closure of another Nanzan University campus in Seto, the eastern hill was developed in order to house new facilities to merge the two campuses (Fig. 96).

Kikata, worried of the seemingly inevitable continuous addition of new buildings and their relationship with the old campus, wrote:

«It must be emphasized that the visual codes of the red concrete walls and *brise-soleils* are not the only characteristics of Raymond's original campus. Its significance must be understood from many angles»[19].

S.4.3. The renovation

As the university's headmaster Fukuda Naoto wrote,

«The occasion for large-scale restoration works came with the merging of the Seto campus. In view of the reorganization of the campus, in order to host 3500 new students by 2017, we embarked on the design of three new buildings and the refurbishment of the existing ones, to be furnished with the newest educational environment»[20].

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[19] Kikata (2014), p. 438.

[20] Cited in Nikkei Architecture (2021), p. 51. Translation by the authors.

Probably, one of these three buildings, designed by the Shimizu Corporation – the above-mentioned "R Building", built in 2011 and replacing Raymond's Cafeteria – initially was not part of the renovation project. The other two buildings – the new Cafeteria called 'Lien' built in 2016 and the Q Building built in 2017 – and the entire refurbishment process have been taken on by the same team composed by staff of two companies: Nihon Sekkei for baseline design, and Ōbayashi Corporation for as-built drawings and construction management. The whole process lasted from 2017 to 2021 and then renamed "Raymond Renovation Project" in order to be easily identified by the university users, alumni and general public. The project received consulting by Tahara Yukio, member of ICOMOS Japan National Committee and Board of DoCoMoMo Japan[21].

In 2003 the main architectural complex was included in the list 'DoCoMoMo Japan 100', but it has never been registered as cultural property by the Japanese government. Its conservation is therefore the result of a deliberate choice, not a consequence of the legislation. According to one of the project managers, Hirose Kōji,

> «The university building corresponds to the identity of the university, and the memories and history that have sedimented there have a very important role. I think it was also important that the client and the designers shared the same appreciation for the facilities of Nanzan University (…). In this sense, I think that university buildings are a heritage of historical architecture that should be preserved. What is peculiar of this project is that the government has had no role in the protection process, while the private sector has produced the effort to preserve the buildings. This is a very rare case»[22].

S.4.3.1. Specific interventions

The designers were asked to respect certain conditions:

> «1. to preserve the exteriors entirely; 2. to guarantee durability for at least 50 years; 3. to update the new technical plants efficiency to those of the "Q Building"; 4. barrier-free design; 5. to reduce changes in interior layout to the minimum; 6. to prioritise repair interventions in order to ensure consistency with the budget»[23].

Facing the task of achieving a conservation work, although ensuring continuative use, after accomplishing the degrade survey designers decided to act in line with the guidelines set by Agency for Cultural Affairs for the definition of the Conservation and Use Plan of Important Cultural Properties[24], and divided interventions in 'conservation',

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[21] The authors of this paper interviewed architects Takeda Shinpei and Hirose Kōji, project managers entrusted by Nihon Sekkei, on December 5, 2021, online.

[22] Excerpt from the interview of December 5, 2021.

[23] Koga et al. (2021), p. 866; translation by the authors.

[24] Agency for Cultural Affairs (1999).
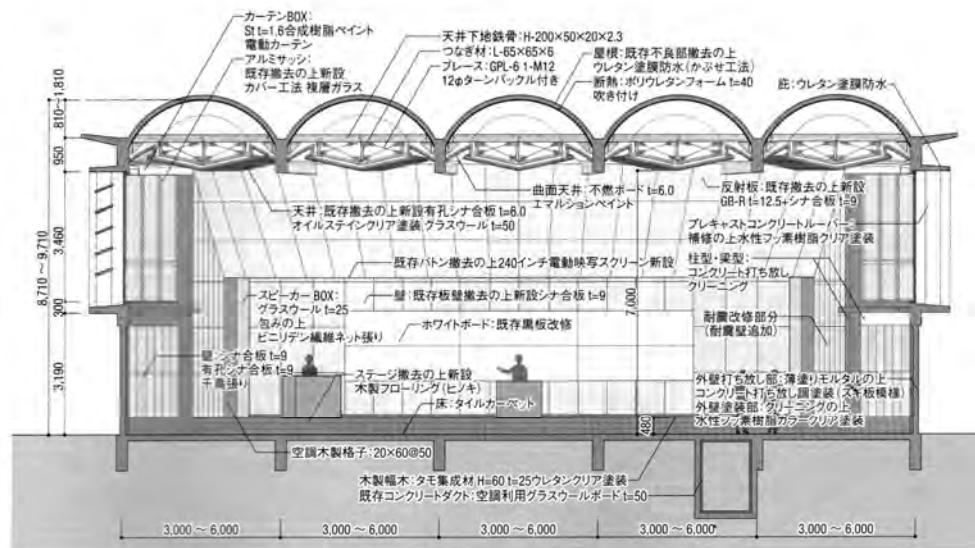
Fig. 97 G30 Building renovation, section study. Courtesy of Nihon Sekkei.

'maintenance', and 'others'[25]. These points became the basis of a specific plan based upon five basic principles:

Conservation interventions:

1. Elements to be conserved entirely, and particularly mural paintings and concrete reliefs designed by Raymond himself.

2. Elements to be restored in their shape, material, technique and colour, in particular the brise-soleil and the red concrete external walls.

Maintenance interventions:

3. Elements to be restored in their shape and colour but in new materials; especially aluminium fixtures and interior exposed concrete structures have been treated with materials and techniques equivalent to those used at the time of construction.

4. Elements requiring a cautious re-design, especially interior walls and ceilings.

Others:

5. Elements to be redesigned according to the client's discretion, such as toilets, plants and equipment required by a modern educational institution.

Points 3 and 4 were the ones that required major effort because of the difficulty of the design choices. For example, G30 and G buildings, the fulcrum of the campus, needed an anti-seismic consolidation above any other intervention. Hence, designers opted for the introduction of reinforced walls in some of the openings, reducing them drastically «looking for the solutions that could least compromise the spatiality of the whole»[26]. Also, the original roof composed by a sequence of concrete conic vaults was consolidated with

25 Koga et al. (2021), p. 866-867.

26 Takeda S., from 2021.12.5. interview.

steel crossing beams, then hidden by the new ceiling, which replicates the original one (Fig. 97).

Other choices regarded the degraded fixtures, which have been replaced with new products with better thermal behaviour but same appearance. In addition, most of the original coloured cement floors caused sound discomfort and have been preserved but covered with carpet tiles, in respect of the principle of reversibility. Moreover, the once dark glazed façade of the G Building corridor which houses the murals was replaced with clearer full-height glass screens «to enhance the view from Main Street into the interior of the two buildings and make it appear like a gallery of Raymond's murals»[27]. All external surfaces have been cleaned from the *patina* and partially repainted after a closer investigation to find the original colour (Fig. 98).

The treatment of exposed concrete deserves special mention. The disappearance in Japan of the wooden formworks that imprints the characteristic pattern on the concrete surface of modernist buildings represents an obstacle to the fairface of concrete surfaces. In the case of the aforementioned Toyoda Hall at Nagoya University, the designers opted for a handmade imitation of the wooden pattern, an imitation that, however, appears false and unnecessary at first glance. In Nanzan, the designers opted for the same technique but "with moderation"[28], so that the difference between the original surfaces and those that needed restoration could be appreciated. Notwithstanding, this technique needs further improvements according to the same designers[29].

S.4.3.2. Use issues

The possibility of completing repairs without interrupting educational activities was achieved through the collaboration among designers, who defined the works timetable organized according to importance, and university, which adjusted classes schedule[30]. In 2004, the construction of a new subway station in the neighbourhood caused the flow of users to change, diminishing the importance of the previous main gate. However, the problem had been already addressed by new lateral accesses realized before the renovation, such to reduce the influence of this on the conservation of the facilities to the minimum[31].

S.5. Conclusions of the Supplement: Nanzan case within the Japanese university

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[27] Koga et al. (2021), p. 870, translation by the authors.

[28] *Ibid.*, p. 686.

[29] *Ibid.*, p. 670.

[30] Takeda S., from 2021.12.5. interview.

[31] *Idem.*

scenario

As noted in the introduction of the present chapter, the conservation of architecture in Japan, although historically more flexible with regard to the issue of materiality, has been striving lately to conform to various internationally adopted principles. On the other hand, values that are rooted in the European culture - such as the conservation of *patina* - are certainly less shared. The Nara Document implies that, because authenticity is not only linked to materiality, the sense of newness and rebirth and the cancellation of time traces that feature Asian restoration practices, are not to be blamed as non-conservative.

Thus, although the Raymond Renovation Project may appear as an update to a "clean and smart" form of the old campus to a superficial reading, if one considers the necessity of making these facilities abreast of the times also in the technological and environmental field (a necessity that was a condition precedent to the choice of restoration), this project appears to represent, for being the first to consider a whole campus, relatively a quite rigorous intervention that has not eliminated any original element except when strictly necessary, and, where it has introduced new elements, it has done so with the objective of making Raymond's architecture and its spatial complex stand out, always maintaining the possibility of reversibility.

Differently from the mentioned cases of facadism or reconstruction – as in the case of the Shin-Kabuki Theatre, or in the proposed demolition and reconstruction plan of Nagoya Castle – where the imitation or avulse conservation of parts of buildings are not justified with the true necessity of repairing any damage except for those caused by the demolition itself, the Raymond Renovation Project was generated by the assessment of architectural values and by the necessity to continue using these buildings as living monuments; therefore, it may be fully recognised as a heritage conservation project.

The importance of this example for the future of campus planning in Japan is also evident, but a note has to be highlighted. Being Nanzan a campus in continuous evolution, in a neoliberal scenario of competition for students' application, modernity and comfort play a major role in the evaluation of educational architecture. For example, as the Rector Fukuda stated in his appreciation «Raymond's architecture is mysterious because, once restored and cleaned, it appears fully new»[32]. Thus, if the preservation of university buildings represents a true possibility for Japan's future, then it seems inevitable that the word 'novelty' ('renovation') should be included among its objectives. Otherwise, the interest of the parties involved and of the students – who are unfortunately seen as customers of the university – will be lost. This intolerance towards

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[32] Nikkei Architecture (2021), p. 51, translation by the authors.

oldness and almost frenetic wish of novelty, however, appears as a minor issue compared to the risk of demolition of modernist educational buildings.

Finally, is conservation of historical architecture a rational and feasible strategy for a sustainable future of university campus planning in Japan? Hirose answered pointing out that:

> The case of Nanzan is special because the value of the 'skeleton' of the whole campus was recognized by us and the owners, but not all cases are the same»[33].

In fact, while many campuses, especially those of national universities[34], are composed by disconnected and independent facilities, where the demolition of a single building would not cause damage to the totality of the environment,

> «Campuses with a clear 'skeleton' are rationally, functionally and economically better and their value as a whole can be assessed as worth preserving[35].

Therefore, in conclusion, it can be said that the composition of the Nanzan campus is the cause both of the initial decision and of the final success of the conservation process. A campus is more than the sum of its facilities; for this reason, the more it is conceived as a whole, the more it contains the potential to be conserved as a whole. Hopefully, when considering the possibility of preservation of modernist university campuses, the valuation of their 'skeleton', planning principles and significance will constitute the basis for their transmission to the future as a whole complex piece of the city, this would enable an international discover of the treasures of the Japanese experience in the struggle for magnificent educational environments with limited resources.

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[33] Hirose K., from 2021.12.5. interview.

[34] See Tsunekawa (2020), p. 62.

[35] Hirose K., from 2021.12.5. interview.

Fig. 98 G30 Building and Main Street before and after the renovation. Source: Nikkei Architecture (2021)

Fig. 99 Nanzan campus after the renovation. Photo by the author, 12.1.2022.

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APPENDIX

Attached Tab. 1 Campus database (divided in 13 pages)

University name	Government	Campus name	Prefecture	Site area (m²)	Difference of elevation (m)	Open spaces realization method	Simplified average gade of the site (SAGS)	Recorded campus planners or specific buildings' designers	Campus settlement year ▲:approxima-tion ●:different previous school	Surroundings type		
										Rural	Urban	Edge
Hillside campuses (difference of elevation >5m)												
1 愛知県立大学	公	長久手市	愛知	275,311.00	36	ConFol	7%	久米設計	1988	▨		
2 愛知県立芸術大学	公	長久手市	愛知	409,343.00	60	ConFol	9%	吉村順三	1966	▨		
3 愛知工業大学	私	八草	愛知	663,935.00	55	ValRid	7%	青島設計 (new)	1974	▨		
4 愛知産業大学	私	岡崎市	愛知	242,268.00	73	ValRid	15%	studio velocity	1992			▨
5 青森公立大学	公	青森市	青森	460,311.00	55	ConFol	8%	安藤忠雄	1993	▨		
6 芦屋大学	私		兵庫	54,362.29	56	ArtGro	24%		1964			▨
7 医療創生大学	私		福島	123,105.00	25	ValRid	7%		1981	▨		
8 宇部フロンティア大学	私		山口	38,833.46	20	ValRid	10%		▲2002		▨	
9 追手門学院大学	私	茨木寮威	大阪	139,278.06	30	C&F	8%		1966	▨		
10 大分大学	国	旦野原	大分	643,000.00	22	ValRid	3%		1969			▨
11 大阪大学	国	豊中	大阪	441,313.43	13	C&F	2%		1926			▨
12 大阪大学	国	箕面	大阪	140,600.00	17	C&F	5%		●1979			▨
13 大阪青山大学	私		大阪	68,305.00	39	C&F	15%		●1967	▨		
14 大阪教育大学	国		大阪	667,021.00	111	ArtGro	14%		1992	▨		
15 大阪経済法科大学	私		大阪	100,761.00	18	C&F	6%		1971	▨		
16 大阪芸術大学	私		大阪	314,000.00	26	ValRid	5%	高橋てい一、瀬島和世	1965	▨		
17 大阪薬科大学	私		大阪	59,259.53	25	C&F	10%		1996			▨
18 岡山学院大学	私		岡山	79,051.80	34	ValRid	12%		1972			▨
19 岡山理科大学	私		岡山	188,462.00	49	ValRid	11%		▲1964			▨
20 沖縄大学	私		沖縄	12,251.00	7	ValRid	6%	真喜志好一	1956		▨	
21 沖縄キリスト教学院大学	私		沖縄	30,259.00	20	ValRid	11%	真喜志好一＋新キャンパス設計室	1991	▨		
22 小樽商科大学	国		北海道	186,259.00	35	C&F	8%		1911			▨
23 鹿児島国際大学	私		鹿児島	201,904.00	36	C&F	8%		●1966			▨
24 鹿児島純心女子大学	私	川内	鹿児島	131,734.00	20	C&F	6%		2008	▨		
25 活水女子大学	私		長崎	27,822.20	33	ValRid	20%		1926		▨	
26 神奈川大学	私		神奈川	111,233.00	25	C&F	7%		●1930			▨
27 金沢大学	国	角間	石川	2,008,655.00	43	ConFol	3%		1989	▨		
28 金沢学院大学	私		石川	169,952.00	43	ConFol	10%		●1981	▨		
29 鎌倉女子大学	私		神奈川	52,524.00	11	ValRid	5%	清水建設	2003			▨
30 関西大学	私	千里山	大阪	315,683.23	30	ValRid	5%	村野藤吾	1922			▨
31 関西大学	私	高槻	大阪	477,499.49	123	ArtGro	18%		1991	▨		
32 関西国際大学	私		兵庫	36,700.00	9	C&F	5%		●1986	▨		
33 関西福祉科学大学	私	柏原	大阪	97,529.00	11	C&F	4%		●1942			▨
34 環太平洋大学	私		岡山	301,653.00	36	ValRid	7%	安藤忠雄	2009	▨		
35 吉備国際大学	私		岡山	72,832.97	77	ArtGro	29%		1990		▨	
36 九州大学	国	伊都	福岡	2,717,130.00	64	ConFol	4%	九州大学施設部＋石本建築事務所	2005	▨		
37 九州情報大学	私		福岡	56,960.00	11	C&F	5%		●1989	▨		
38 九州保健福祉大学	私		宮崎	230,324.00	29	C&F	6%		1999	▨		
39 九州ルーテル学院大学	私		熊本	28,835.00	8	ValRid	5%		●1924		▨	
40 京都大学	国	桂	京都	378,247.00	77	C&F	13%	昭和設計	2003	▨		
41 京都産業大学	私		京都	258,311.37	48	C&F	9%	日建設計	1964	▨		
42 京都女子大学	私		京都	175,493.00	28	ValRid	7%	佐藤総合（図書館）日建設計（D・E校舎）	●1914		▨	
43 京都市立芸術大学	公	京都	京都	62,670.73	18	ConFol	7%		1979			▨
44 京都精華大学	私		京都	201,409.00	23	ConFol	5%		●1968			▨
45 京都造形芸術大学	私		京都	66,151.00	106	ArtGro	41%	岸和郎, 隈研吾	●1977			▨
46 京都橘大学	私		京都	68,598.04	40	ValRid	15%		1967			▨
47 金城学院大学	私		愛知	264,072.00	23	ValRid	4%		1950			▨
48 倉敷芸術科学大学	私		岡山	263,878.00	42	C&F	8%		1995	▨		
49 くらしき作陽大学	私		岡山	160,038.00	17	C&F	4%		1996			▨
50 久留米工業大学	私		福岡	107,369.40	10	ValRid	3%		1966			▨
51 慶応義塾大学	私	日吉	神奈川	352,357.00	33	C&F	6%		1944			▨
52 慶応義塾大学	私	湘南藤沢	神奈川	313,009.00	17	ConFol	3%	槙文彦	1990	▨		
53 慶応義塾大学	私	矢上	神奈川	104,923.88	22	C&F	7%		1966			▨

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	University name	Government	Campus name	Prefecture	Site area (m²)	Difference of elevation (m)	Open spaces realization method	Simplified average gade of the site (SAGS)	Recorded campus planners or specific buildings' designers	Campus settlement year ▲:approximation ●:different previous school	Rural	Urban	Edge
					Hillside campuses (difference of elevation >5m)								
54	工学院大学	私	八王子	東京	230,000.00	35	ValRid	7%		1963			■
55	甲子園大学	私		兵庫	128,604.03	37	C&F	10%		1967			■
56	甲南女子大学	私		兵庫	78,122.93	49	ValRid	18%	村野藤吾	1964			■
57	神戸大学	国	六甲台1	兵庫	105,588.00	37	C&F	11%		1935		■	
58	神戸大学	国	六甲台2	兵庫	215,770.00	43	C&F	9%		1960		■	
59	神戸大学	国	鶴甲1	兵庫	68,347.00	9	C&F	3%		1966		■	
60	神戸大学	国	鶴甲2	兵庫	45,863.00	14	C&F	7%		1966		■	
61	神戸海星女子学院大学	私		兵庫	40,560.00	15	C&F	7%		●1955		■	
62	神戸学院大学	私	有瀬	兵庫	141,583.31	28	ArtGro	7%		1966		■	
63	神戸芸術工科大学	私		兵庫	114,138.73	23	ValRid	7%	昭和設計(new)	1989		■	
64	神戸市外国語大学	公		兵庫	130,000.00	13	ConFol	4%		1986		■	
65	神戸松蔭女子学院大学	私		兵庫	60,461.00	38	ValRid	15%		1980		■	
66	神戸女学院大学	私		兵庫	141,267.91	39	ValRid	10%	W. M. Voeris	1933		■	
67	神戸女子大学	私	須磨	兵庫	24,524.84	22	ValRid	14%		1966			■
68	神戸常盤大学	私		兵庫	24,702.26	25	ValRid	16%		●1967		■	
69	神戸薬科大学	私		兵庫	36,537.06	32	ValRid	17%		●1935		■	
70	高野山大学	私		和歌山	24,359.00	10	ConFol	6%	武田五一	1886	■		
71	公立はこだて未来大学	公		北海道	166,403.00	29	ArtGro	7%	山本理顕	2000	■		
72	国際仏教学大学院大学	私		東京	10,198.18	11	ValRid	11%	槇文彦	1996		■	
73	国際武道大学	私		千葉	179,542.77	27	C&F	6%		1984			■
74	埼玉医科大学	私	毛呂山	埼玉	178,000.00	51	ValRid	12%		▲1972			■
75	佐久大学	私		長野	24,067.00	9	ConFol	6%		2009			■
76	札幌学院大学	私		北海道	204,897.22	6	C&F	1%		1968		■	
77	札幌国際大学	私		北海道	119,676.00	16	C&F	5%		▲1969		■	
78	札幌市立大学	公		北海道	167,616.00	31	ValRid	8%	清家清	1991	■		
79	山陽学園大学	私	平井	岡山	39,390.00	17	ValRid	9%		▲1969		■	
80	志學館大学	私		鹿児島	21,836.00	14	C&F	9%		▲1965		■	
81	至学館大学	私		愛知	60,631.10	14	ValRid	6%		●1965			■
82	静岡大学	国	静岡	静岡	448,265.00	66	C&F	10%		1970		■	
83	静岡英和学院大学	私		静岡	27,810.00	16	C&F	10%		●1966		■	
84	静岡県立大学	公	草薙	静岡	201,838.00	37	ArtGro	8%	小林美夫,渡邊輝元	1989		■	
85	静岡理工科大学	私		静岡	196,999.00	20	C&F	5%	Studio Nasca	1991	■		
86	至誠館大学	私		山口	121,714.00	45	ConFol	13%		1999	■		
87	四天王寺大学	私		大阪	151,786.00	16	ConFol	4%		1967		■	
88	島根県立大学	公	浜田	島根	228,716.00	28	ArtGro	6%	Nissoken	2000	■		
89	淑徳大学	私		千葉	41,694.00	6	ArtGro	3%		1961		■	
90	純真学園大学	私		福岡	51,239.00	15	ValRid	7%		●1956		■	
91	松蔭大学	私		神奈川	41,652.00	17	ValRid	8%		1985			■
92	湘南医療大学	私		神奈川	14,440.00	16	ValRid	13%	類グループ	2015		■	
93	椙山女学園大学	私	星が丘	愛知	52,347.00	23	ValRid	10%		1962		■	
94	成安造形大学	私		滋賀	52,819.00	22	C&F	10%	吉村光弘	1993			■
95	星槎道都大学	私		北海道	26,035.00	11	ValRid	7%		1996	■		
96	聖心女子大学	私		東京	42,758.00	12	C&F	6%	Jan Letzel, 丹下健三	1908		■	
97	清泉女子大学	私		東京	25,692.00	22	C&F	14%		1938		■	
98	聖徳大学	私		千葉	50,393.52	19	C&F	8%		1966		■	
99	西南女学院大学	私		福岡	57,229.65	23	ValRid	10%	W. M. Voeris	1935		■	
100	清和大学	私		千葉	87,961.57	28	ValRid	9%		▲1967		■	
101	仙台白百合女子大学	私		宮城	15,526.00	16	C&F	13%		●1966		■	
102	総合研究大学院大学	国		神奈川	20,734.00	12	ConFol	8%		1995	■		
103	崇城大学	私		熊本	275,057.00	40	ConFol	8%		●1960	■		
104	太成学院大学	私		大阪	41,739.00	22	ConFol	11%		●1987	■		
105	大東文化大学	私	東松山	埼玉	249,606.36	26	ValRid	5%	日本設計	1967	■		
106	宝塚大学	私	宝塚	兵庫	34,409.00	46	ArtGro	25%	André Wogensky・Hiroshi Hasegawa	1983			■

University name	Government	Campus name	Prefecture	Site area (m²)	Difference of elevation (m)	Open spaces realization method	Simplified average gade of the site (SAGS)	Recorded campus planners or specific buildings' designers	Campus settlement year ▲:approximation ●:different previous school	Surroundings type		
										Rural	Urban	Edge
Hillside campuses (difference of elevation >5m)												
107 多摩大学	私		東京	48,387.00	27	ArtGro	12%		1989			▓
108 玉川大学	私		東京	612,524.00	20	ValRid	3%		●1929		▓	
109 多摩美術大学	私		東京	159,184.00	25	ValRid	6%	田淵 諭, 鹿島	1969			▓
110 筑紫女学園大学	私		福岡	77,986.00	56	C&F	20%		1975			▓
111 中央大学	私	多摩	東京	518,401.00	33	ArtGro	5%	久米設計	1977			▓
112 中京大学	私		愛知	78,581.00	8	ConFol	3%	三井住友建設	●1954		▓	
113 中京学院大学	私		岐阜	54,212.58	12	ConFol	5%		●1966	▓		
114 中部大学	私		愛知	376,631.41	28	ValRid	5%	高橋てい一	●1962			▓
115 中部学院大学	私		岐阜	73,823.00	15	ValRid	6%		▲1967			▓
116 都留文科大学	公		山梨	85,132.00	33	ValRid	11%		1966			▓
117 鶴見大学	私		神奈川	80,836.53	31	ArtGro	11%		●1953		▓	
118 帝塚山大学	私	東生駒	奈良	131,566.00	13	C&F	4%		▲1964			▓
119 帝塚山学院大学	私	泉が丘	大阪	27,604.00	5	C&F	3%		●1983		▓	
120 帝塚山学院大学	私	狭山	大阪	82,789.00	26	ConFol	9%		1966			▓
121 田園調布学園大学	私		神奈川	37,067.41	13	C&F	7%		●1967			▓
122 東亜大学	私		山口	62,934.00	39	C&F	16%		●1967		▓	
123 桐蔭横浜大学	私		神奈川	51,721.00	17	ValRid	7%		●1965			▓
124 東海学院大学	私		岐阜	107,363.10	18	C&F	5%		●1981			▓
125 東京家政学院大学	私	町田	東京	137,803.00	13	C&F	4%		1986			▓
126 東京基督教大学	私		千葉	152,456.00	9	ConFol	2%		1990	▓		
127 東京工科大学	私	八王子	東京	380,811.00	26	C&F	4%	片柳鴻	1986			▓
128 東京工業大学	国	すずかけ台	神奈川	225,244.00	31	ValRid	7%	谷口吉邦	1979		▓	
129 東京工芸大学	私		神奈川	149,942.00	29	ConFol	7%		1966			▓
130 東京純心大学	私		東京	49,167.00	33	ValRid	15%		●1967			▓
131 東京造形大学	私		東京	95,279.00	21	ValRid	7%	磯崎新	1990	▓		
132 東京都立大学	公	南大沢	東京	428,041.00	32	ConFol	5%	高橋てい一, 日本設計	1991		▓	
133 東京薬科大学	私		東京	210,351.00	19	C&F	4%	小林美夫	1976			▓
134 東北大学	国	川内	宮城	421,861.00	36	ConFol	6%		1957			▓
135 東北大学	国	青葉山	宮城	2,155,145.00	83	C&F	6%	山本・堀アーキテクツ	1965			▓
136 東北医科薬科大学	私	小松島	宮城	17,199.00	22	ValRid	17%		●1939		▓	
137 東北学院大学	私	泉	宮城	275,945.10	48	C&F	9%		1988			▓
138 東北芸術工科大学	私		山形	194,551.00	22	C&F	5%	本間利雄・徳山詳直	1991			▓
139 東北工業大学	私	八木山	宮城	44,474.82	25	C&F	12%		1964		▓	
140 東北工業大学	私	長町	宮城	163,311.00	66	ArtGro	16%		1990			▓
141 東北福祉大学	私		宮城	37,221.91	22	ArtGro	11%		1926		▓	
142 東洋英和女学院大学	私	横浜	神奈川	168,328.00	29	ConFol	7%		1989	▓		
143 常磐大学	私		茨城	90,069.00	9	ValRid	3%		1983			▓
144 徳島文理大学	私	香川	香川	98,652.00	23	C&F	7%	西松建設	1983		▓	
145 徳山大学	私		山口	51,925.00	24	C&F	11%		1971		▓	
146 鳥取大学	国	鳥取	鳥取	508,118.00	34	C&F	5%		1966		▓	
147 鳥取看護大学	私		鳥取	59,316.00	21	ValRid	9%		●1971	▓		
148 豊田工業大学	私		愛知	80,574.00	20	C&F	7%		▲1960		▓	
149 長岡大学	私		新潟	27,570.00	12	C&F	7%		●1971	▓		
150 長岡崇徳大学	私		新潟	27,575.17	21	ValRid	13%		●1978	▓		
151 長崎大学	国	片淵	長崎	12,912.00	12	ValRid	11%		●1905		▓	
152 長崎ウエスレヤン大学	私		長崎	37,562.98	16	ValRid	8%		1950		▓	
153 長崎外国語大学	私		長崎	64,214.00	44	C&F	17%		1996			▓
154 長崎純心大学	私		長崎	59,466.00	29	ArtGro	12%		1981	▓		
155 長崎総合科学大学	私	グリーンヒル	長崎	142,169.00	74	ValRid	20%		1962			▓
156 名古屋大学	国	東山	愛知	696,559.00	60	C&F	7%	内田祥三、牧文彦、谷口吉朗	1942		▓	
157 名古屋外国語大学	私		愛知	148,154.00	27	ValRid	7%		1988			▓
158 名古屋学院大学	私	瀬戸	愛知	350,133.73	28	ConFol	5%		1968			▓
159 名古屋学芸大学	私		愛知	84,686.00	21	ValRid	7%		●1977			▓

	University name	Government	Campus name	Prefecture	Site area (m²)	Difference of elevation (m)	Open spaces realization method	Simplified average gade of the site (SAGS)	Recorded campus planners or specific buildings' designers	Campus settlement year ▲:approximation ●:different previous school	Rural	Urban	Edge
										Hillside campuses (difference of elevation >5m)			
160	名古屋経済大学	私		愛知	207,000.00	36	ValRid	8%		●1965	■		
161	名古屋商科大学	私		愛知	770,000.00	55	ValRid	6%	竹中工務店	1975	■		
162	名古屋造形大学	私	小牧	愛知	71,154.00	13	C&F	5%		1985	■		
163	奈良大学	私		奈良	129,975.00	22	C&F	6%		1988			■
164	奈良学園大学	私		奈良	203,745.00	34	C&F	8%		1984			■
165	南山大学	私		愛知	139,318.00	22	ValRid	6%	A. Raymond	1966		■	
166	新潟経営大学	私		新潟	44,758.00	26	C&F	12%		1994	■		
167	新潟工科大学	私		新潟	123,170.16	16	C&F	5%		1995	■		
168	新潟薬科大学	私		新潟	34,036.00	9	ArtGro	5%	久米設計	2002			■
169	新見公立大学	公		岡山	18,288.00	23	ValRid	17%		1980			■
170	西九州大学	私		佐賀	114,870.00	71	ValRid	21%		●1963	■		
171	西日本工業大学	私	おばせ	福岡	109,934.00	15	C&F	5%		1967		■	
172	日本赤十字九州国際看護大学	私		福岡	49,560.00	22	C&F	10%	黒川紀章	2001	■		
173	日本赤十字豊田看護大学	私		愛知	55,188.00	22	ValRid	9%		2004			■
174	日本赤十字広島看護大学	私		広島	40,909.00	14	C&F	7%		2000			■
175	日本福祉大学	私		愛知	54,096.00	22	ValRid	9%		1983	■		
176	日本文化大学	私		東京	75,123.00	33	ConFol	12%		1978			■
177	日本文理大学	私		大分	386,927.00	20	C&F	3%		●1978			■
178	人間環境大学	私		愛知	38,422.00	38	ArtGro	19%		1992	■		
179	ノースアジア大学	私		秋田	133,255.00	16	ValRid	4%		1983		■	
180	梅花女子大学	私		大阪	63,635.32	27	ValRid	11%		1964			■
181	東日本国際大学	私		福島	25,886.00	16	ValRid	10%		●1966		■	
182	光産業創成大学院大学	私		静岡	32,181.00	31	ArtGro	17%		2005	■		
183	比治山大学	私		広島	100,574.00	30	ValRid	9%		●1966			■
184	姫路獨協大学	私		兵庫	146,269.00	52	ValRid	14%		1986			■
185	兵庫県立大学	公	神戸商科	兵庫	120,000.00	20	ConFol	6%		●1990			■
186		公	姫路工学	兵庫	122,106.00	30	C&F	9%	昭和設計	●1965			■
187	広島経済大学	私		広島	211,397.00	98	C&F	21%		1967			■
188	広島大学	国	東広島	広島	2,492,192.00	31	ConFol	2%		1982			■
189	広島工業大学	私		広島	152,515.00	68	ValRid	17%		●1961			■
190	広島国際大学	私		広島	332,631.09	14	ConFol	2%		1998	■		
191	広島国際学院大学	私		広島	52,890.52	50	ValRid	22%		1964			■
192	広島修道大学	私		広島	367,200.00	18	ConFol	3%	日建設計 (近藤繁 藤井詔一 真崎南海男 関谷叡代栄 野田泰弘)	1974	■		
193	広島女学院大学	私		広島	139,739.00	72	ValRid	19%		1946			■
194	広島市立大学	公		広島	302,432.00	80	ValRid	15%	佐藤総合計画、中電技術コンサルタント	1996	■		
195	広島文化学園大学	私	長束	広島	37,019.32	25	C&F	13%		▲1970	■		
196	フェリス女学院大学	私	緑園	神奈川	68,815.00	22	ValRid	8%		1988			■
197	福岡教育大学	国		福岡	637,534.00	56	C&F	7%		1966			■
198	福岡工業大学	私		福岡	179,806.00	27	ValRid	6%		1963			■
199	福岡女子大学	公		福岡	42,929.04	11	ArtGro	5%		1937		■	
200	福島大学	国		福島	432,894.00	34	C&F	5%		1981			■
201	福島県立医科大学	公		福島	494,393.00	23	C&F	3%		1984	■		
202	福知山公立大学	公		京都	55,110.00	24	ConFol	10%		▲1910			■
203	福山大学	私		広島	274,191.00	40	C&F	8%		1975	■		
204	文教大学	私	湘南	神奈川	66,339.89	14	ValRid	5%	山下和正	1985	■		
205	法政大学	私	多摩	東京	824,000.00	38	ArtGro	4%		1997	■		
206	北陸大学	私		石川	75,306.98	23	C&F	8%		1975			■
207	北陸学院大学	私		石川	52,451.00	24	C&F	10%		●1967			■
208	北陸先端科学技術大学院大学	国		石川	113,063.00	20	ConFol	6%		1990	■		
209	松本歯科大学	私		長野	230,000.00	18	ValRid	4%		1972			■
210	松山東雲女子大学	私		愛媛	35,298.72	9	ValRid	5%		●1964		■	
211	身延山大学	私		山梨	9,782.33	26	C&F	26%		●1941	■		
212	宮城大学	公		宮城	66,769.00	19	C&F	7%	佐藤総合計画	1997	■		

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										Rural	Urban	Edge
Hillside campuses (difference of elevation >5m)												
213 宮城学院女子大学	私		宮城	102,485.00	13	ConFol	4%		1980			
214 宮城教育大学	国		宮城	273,771.00	15	C&F	3%		1968			
215 宮崎国際大学	私		宮崎	28,229.00	6	ConFol	4%		●1965			
216 明治大学	私	生田	神奈川	169,832.31	36	ValRid	9%	堀口捨巳	1949			
217 名桜大学	公		沖縄	218,228.00	20	C&F	4%		1994			
218 明治国際医療大学	私		京都	153,100.00	19	C&F	5%		●1978			
219 名城大学	私	天白	愛知	114,338.00	22	C&F	7%	日建設計	1964			
220 明星大学	私		東京	265,067.00	39	C&F	8%		1992			
221 桃山学院大学	私		大阪	184,718.00	25	ValRid	6%		1995			
222 桃山学院教育大学	私		大阪	48,224.00	8	ConFol	4%		●1982			
223 安田女子大学	私		広島	123,027.00	57	C&F	16%	清水建設、三菱設計、大成設計	1967			
224 山口学芸大学	私		山口	35,869.00	19	C&F	10%		●1968			
225 山梨英和大学	私		山梨	53,745.00	19	ConFol	8%		1996			
226 横浜国立大学	国	常盤台	神奈川	455,531.00	22	ValRid	3%	高橋一平	1979			
227 横浜商科大学	私	鶴見	神奈川	18,141.03	19	ValRid	14%		●1941			
228 横浜創英大学	私		神奈川	68,828.00	31	ValRid	12%		●1986			
229 横浜美術大学	私		神奈川	41,065.00	15	ValRid	7%		●1966			
230 横浜薬科大学	私		神奈川	53,354.00	16	ConFol	7%	大林組	2006			
231 立正大学	私	品川	東京	23,000.00	10	ArtGro	7%		1904			
232 立命館アジア太平洋大学	私		大分	427,187.49	25	C&F	4%	山下設計	1995			
233 琉球大学	国		沖縄	1,123,616.00	23	ConFol	2%	金城信吉	1977			
234 流通経済大学	私	龍ケ崎	茨城	138,207.00	22	ValRid	6%		1965			
235 麗澤大学	私		千葉	432,639.00	10	ConFol	2%		●1935			
236 和歌山大学	国		和歌山	414,600.00	46	ConFol	7%		1986			
237 和光大学	私		東京	73,530.00	19	ValRid	7%	内藤廣	1966			
238 早稲田大学	私	所沢	埼玉	367,634.00	32	ValRid	5%	デザイン・ラボ	1987			
Plain land campuses (difference of elevation <5m)												
239 愛知大学	私	豊橋市	愛知						1946			
240 愛知学院大学	私	日進市	愛知	▲500,000.00					1974			
241 愛知淑徳大学	私	長久手市	愛知	124,128.49					1975			
242 会津大学	公	会津市	福島	▲200,000.00					1993			
243 青森中央学院大学	私	青森市	青森	44,043.02				毛綱毅曠（講堂）	1998			
244 青山学院大学	私	青山	東京	68,305.00				A. Raymond	1929			
245	私	相模原	神奈川	160,000.00					2004			
246 秋田大学	国	手形	秋田	200,277.00					1962			
247 秋田公立美術大学	公	秋田	秋田	35,913.38				松田平田設計	1995			
248 亜細亜大学	私		東京	48,031.00					1955			
249 足利大学	私		栃木						1966			
250 跡見学園女子大学	私		埼玉						▲1965			
251 茨城大学	国		茨城	115,838.00					1948			
252 茨城キリスト教大学	私		茨城	▲130,000.00					1947			
253 岩手大学	国		岩手	427,276.00					1876			
254 岩手県立大学	公		岩手	351,000.00				日建・鹿島	1998			
255 宇都宮大学	国	峰	栃木	104,540.00					1922			
256	国	陽東	栃木	112,727.00					1961			
257 愛媛大学	国	城北	愛媛	73,770.00					1963			
258 奥羽大学	私		福島						1972			
259 桜美林大学	私	町田	東京						▲1947			
260 大阪大学	国	吹田	大阪	997,110.72					1966			
261 大阪大谷大学	私		大阪						1966			

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											Rural	Urban	Edge
	Plain land campuses (difference of elevation <5m)												
262	大阪音楽大学	私		大阪						1954		▓	
263	大阪学院大学	私		大阪						1966		▓	
264	大阪国際大学	私		大阪						1962		▓	
265	大阪樟蔭女子大学	私		大阪						1917		▓	
266	大阪商業大学	私		大阪						1928		▓	
267	大阪女学院大学	私		大阪					W. M. Voeris	1888		▓	
268	大阪市立大学	公	杉本	大阪	261,526.00					1928			▓
269	大阪府立大学	公	羽曳野	大阪	52,755.00				坂倉建築研究所	1994		▓	
270		公	中百舌鳥	大阪	468,155.00					1966		▓	
271	大谷大学	私		京都						1913		▓	
272	岡山大学	国	津島	岡山	635,308.00					1949		▓	
273	岡山県立大学	公		岡山						1993	▓		
274	沖縄県立芸術大学	私	首里当蔵	沖縄	29,549.00				石本 (new)	●1950		▓	
275	お茶の水女子大学	国		東京	113,741.00					1923		▓	
276	帯広畜産大学	国		北海道						1941	▓		
277	嘉悦大学	私		東京						1982			▓
278	香川大学	国	幸町	香川	115,583.79					1924		▓	
279		国	林町	香川	30,531.82					2000	▓		
280	学習院大学	私		東京	205,038.00				前川国男	1949		▓	
281	鹿児島大学	国		鹿児島	233,630.00					1908		▓	
282	神奈川県立保健福祉大学	公		神奈川						2003			▓
283	神奈川工科大学	私		神奈川						1975		▓	
284	神奈川歯科大学	私		神奈川						1963			▓
285	金沢工業大学	私	扇が丘	石川	181,931.00				大谷幸夫 水野一郎・蜂谷俊雄	1961		▓	
286	鹿屋体育大学	私		鹿児島						1981	▓		
287	川村学園女子大学	私		千葉						1988			▓
288	関西外国語大学	私	中宮	大阪						2002		▓	
289	関西学院大学	私	西宮上ヶ原	兵庫	417,247.56				W. M. Voeris・竹中・日本設計	1929		▓	
290		私	神戸三田	兵庫	137,975.00					1995	▓		
291	神田外語大学	私		千葉						1987			▓
292	関東学院大学	私	金沢八景	神奈川						1919			▓
293	畿央大学	私		奈良						2003		▓	
294	北九州市立大学	公	北方	福岡	113,725.00				池原義郎	▲1946		▓	
295		公	ひびきの	福岡	155,587.00				日本設計	2000			▓
296	北見工業大学	国		北海道						1960	▓		
297	岐阜大学	国	柳戸	岐阜	645,000.00					1979	▓		
298	岐阜協立大学	私		岐阜						1967	▓		
299	岐阜女子大学	私		岐阜						1968	▓		
300	岐阜薬科大学	公		岐阜						1965			▓
301	九州大学	国	大橋	福岡	63,058.00				香山壽夫	1968		▓	
302	九州共立大学	私		福岡						1965			▓
303	九州工業大学	国	戸畑	福岡						1910		▓	
304	九州国際大学	私		福岡					日本設計・竹中	2000		▓	
305	九州産業大学	私		福岡	140,930.46					▲1960		▓	
306	九州女子大学	私		福岡						●1947		▓	
307	共栄大学	私		埼玉						1984	▓		
308	京都大学	国	吉田	京都	162,270.00				武田五一	1897		▓	
309	京都外国語大学	私		京都						1950		▓	
310	京都教育大学	国		京都	140,724.00					1956		▓	
311	京都工芸繊維大学	国		京都	123,071.00				武田五一, 本野精吾	1930		▓	
312	京都府立大学	公	下鴨	京都						1918			▓
313	京都文教大学	私		京都						1967			▓

No.	University name	Government	Campus name	Prefecture	Site area (m²)	Difference of elevation (m)	Open spaces realization method	Simplified average gade of the site (SAGS)	Recorded campus planners or specific buildings' designers	Campus settlement year ▲:approximation ●:different previous school	Rural	Urban	Edge
								Plain land campuses (difference of elevation <5m)					
314	杏林大学	私		東京						1954		■	
315	近畿大学	私	東大阪	大阪	430,851.63				NTT	●1925		■	
316	金城大学	私		石川						1986			■
317	国立音楽大学	私		東京						▲1978		■	
318	熊本大学	国	黒髪	熊本	284,795.00					1887			■
319	熊本県立大学	公		熊本						1980		■	
320	熊本保健科学大学	私		熊本	64,439.00				久米設計 佐藤総合計画	2003	■		
321	久留米大学	私	旭町	福岡						1929			■
322	群馬大学	国	荒牧	群馬	255,763.00					1970		■	
323		国	桐生	群馬	103,021.00					●1915		■	
324	慶應義塾大学	私	三田	東京	48,597.00					1871		■	
325	県立広島大学	公		広島						●1920		■	
326	高知大学	国	朝倉	高知	145,419.00					1959			■
327	高知県立大学	公	永国寺	高知						1972			■
328	高知工科大学	公	香美	高知	152,646.00				日建設計	1997	■		
329	甲南大学	私	岡本	兵庫						1919			■
330	神戸市看護大学	私		兵庫						1996			■
331	國學院大學	私		東京	29,055.00					2003		■	
332	国際医療福祉大学	私	大田原	栃木						2005	■		
333	国際基督教大学	私		東京					A. Raymond	1949		■	
334	国士舘大学	私		東京						1919		■	
335	駒澤大学	私		東京	50,537.00				菅原 栄蔵	1913		■	
336	埼玉大学	国		埼玉	263,040.00					1964			■
337	埼玉県立大学	公		埼玉	102,091.31				山本理顕	1999			■
338	埼玉工業大学	私		埼玉						1952	■		
339	佐賀大学	国		佐賀	283,630.00					●1920		■	
340	嵯峨美術大学	私		京都						●1971			■
341	相模女子大学	私		神奈川	173,000.00				香山ひでお	1946		■	
342	札幌大学	私		北海道						1967			■
343	札幌大谷大学	私		北海道						1922		■	
344	山陽小野田市立山口東京理科大学	公		山口						●1987	■		
345	滋賀大学	国	彦根	滋賀	57,877.00				W. M. Voeris	1922			■
346		国	石山・大津	滋賀	150,996.00					1961			■
347	滋賀県立大学	公		滋賀	223,747.00					1998			■
348	四国大学	私		徳島						1970			■
349	四国学院大学	私		香川	101,735.00				昭和設計	1950		■	
350	静岡県立大学	公	小鹿	静岡						●1949		■	
351	静岡福祉大学	私		静岡						1992	■		
352	静岡文化芸術大学	公		静岡						2000		■	
353	芝浦工業大学	私	大宮	東京						2006			■
354	島根大学	国	松江	島根	201,195.00					●1922		■	
355	就実大学	私		岡山						●1979		■	
356	修文大学	私		愛知						●1969			■
357	秀明大学	私		埼玉						1988			■
358	十文字学園女子大学	私		埼玉						●1966			■
359	上越教育大学	国		新潟	353,041.00					1978			■
360	尚絅学院大学	私		宮崎						1989			■
361	城西大学	私		埼玉						1965			■
362	城西国際大学	私		千葉						1992			■
363	上智大学	私		東京	47,585.00				M. Hindel	1928		■	
364	湘南工科大学	私		神奈川						1963			■
365	尚美学園大学	私		埼玉						2000	■		
366	情報科学芸術大学院大学	公		岐阜						1991	■		
367	情報経営イノベーション専門職大学	私		東京						2020		■	

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										Surroundings type		
368 昭和大学	私	旗の台	東京					日本設計	1928		■	
369 昭和女子大学	私		東京	80,507.80					1945		■	
370 昭和薬科大学	私		東京	173,000.00					1990	■		
371 女子栄養大学	私		埼玉						1961	■		
372 女子美術大学	私		神奈川					山下設計	1990	■		
373 白梅学園大学	私		東京						1970		■	
374 白百合女子大学	私		東京					山下設計	1988		■	
375 仁愛大学	私		福井						1982	■		
376 信州大学	国	上田	長野	132,591.00					1910		■	
377	国	教育学部	長野	71,047.00					●1887		■	
378	国	工学部	長野	73,727.00					1943		■	
379	国	松本	長野	258,126.00					1973		■	
380 鈴鹿大学	私		三重						1994	■		
381 駿河台大学	私		埼玉						1987	■		
382 聖学院大学	私		埼玉						●1967			■
383 聖カタリナ大学	私		愛媛						●1966			■
384 成蹊大学	私		東京	166,397.00				吉武泰水	●1924		■	
385 成城大学	私		東京						●1925		■	
386 星城大学	私		愛知						●1989			■
387 聖泉大学	私		滋賀						●1985	■		
388 清泉女学院大学	私		長野						1981	■		
389 西南学院大学	私		福岡					W. M. Voeris	●1919		■	
390 西武文理大学	私		埼玉						1999	■		
391 聖隷クリストファー大学	私		静岡						●1969			■
392 聖路加国際大学	私		東京					A. Raymond	1920		■	
393 摂南大学	私		大阪						●1962		■	
394 専修大学	私	神田	東京						●1885		■	
395 洗足学園音楽大学	私		神奈川					日本設計 押野見 邦英 (new)	●1926		■	
396 仙台大学	私		宮城						1967			■
397 千里金蘭大学	私		大阪						●1963			■
398 相愛大学	私		大阪						1983		■	
399 創価大学	私		東京	870,000.00					1971			■
400 園田学園女子大学	私		兵庫						●1963		■	
401 第一工業大学	私		鹿児島						1968		■	
402 第一薬科大学	私		福岡						1960		■	
403 大正大学	私		東京	21,760.00					1926		■	
404 大同大学	私		愛知	29,895.00				大成建設	2000		■	
405 大東文化大学	私	板橋	東京	43,398.00				中村勉,山本・堀アーキテクツ設計共同体	2003		■	
406 高岡法科大学	私		富山						1989	■		
407 高崎経済大学	公		群馬						1957			■
408 高崎健康福祉大学	私		群馬						2001	■		
409 高崎商科大学	私		群馬						●1988	■		
410 高千穂大学	私		東京	34,173.00					1950		■	
411 高松大学	私		香川						1969			■
412 宝塚医療大学	私		兵庫						2010			■
413 拓殖大学	私		東京	40,211.00				内田祥三	1922		■	
414 千葉大学	国		千葉	380,958.00					1949		■	
415 千葉科学大学	私		千葉						2004	■		
416 千葉経済大学	私		千葉						1968		■	
417 千葉県立保健医療大学	公		千葉						1981		■	
418 千葉工業大学	私	津田沼	千葉						1950		■	
419 千葉商科大学	私		千葉						1945		■	
420 中央学院大学	私		千葉						1966			■

Plain land campuses (difference of elevation <5m)

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							Plain land campuses (difference of elevation <5m)						
421	中国学園大学	私		岡山						1962			■
422	筑波大学	国	筑波（全体）	茨城	2,750,000.00				高橋てい一	1973			■
423	筑波学院大学	私		茨城						1990	■		
424	つくば国際大学	私		茨城						●1966			■
425	津田塾大学	私		東京					R. A. Cram, 佐藤功一	1931		■	
426	敦賀市立看護大学	公		福井						1994	■		
427	帝京大学	私	板橋	東京	188,108.00					1971			■
428	帝塚山大学	私	学園前	奈良						1961			■
429	電気通信大学	国		東京	138,895.00					1949		■	
430	天使大学	私		北海道						1947		■	
431	天理大学	私		奈良						1949			■
432	天理医療大学	私		奈良						●1966		■	
433	東海大学	私	湘南	神奈川	548,170.00				山田守	1963			■
434		私	代々木	東京	11,681.00				山田守	1955		■	
435	東海学園大学	私	名古屋	愛知						●1964		■	
436	東京大学	国	本郷	東京	402,682.00				J. Conder, 山口半六, 久留正道, 内田祥三	1877		■	
437		国	駒場1	東京	254,406.00					1870		■	
438		国	駒場2	東京	97,710.00				原広司	1870		■	
439		国	柏	千葉	355,384.00				日本設計	1996			■
440	東京医科大学	私		東京					大森茂	●1916		■	
441	東京音楽大学	私	中目黒・代官山	東京					日建設計・戸田建設	2019		■	
442	東京外国語大学	国		東京	130,000.00				久米, 小嶋一浩＋赤松佳珠子／CAt	2000			■
443	東京海洋大学	国		東京	143,770.00					●1899		■	
444	東京学芸大学	国		東京	306,894.00					●1946		■	
445	東京家政大学	私	坂橋	東京						●1946		■	
446	東京経済大学	私		東京	59,131.00				大成建設, 鬼頭 梓	1946		■	
447	東京芸術大学	国		東京					天野太郎	●1890		■	
448	東京工業大学	国	大岡山	東京	244,643.00				安田幸一研究室 清家清	1924		■	
449	東京工芸大学	私	中野	東京	9,093.00				山下設計	●1950		■	
450	東京国際大学	私		東京						1965		■	
451	東京情報大学	私		千葉						1988			■
452	東京女子大学	私		東京					A. Raymond, 妹島和世	1924		■	
453	東京女子医科大学	私		東京						●1903		■	
454	東京女子体育大学	私		東京						1962		■	
455	東京神学大学	私		東京						1951		■	
456	東京成徳大学	私	十条台	東京						2004		■	
457	東京電機大学	私	東京千住	東京	26,221.39					2007		■	
458	東京都市大学	私	世田谷	東京	73,370.06					●1939		■	
459		私	横浜	神奈川	64,687.96					▲1995		■	
460	東京都立大学	公	日野	東京	62,439.61					2005		■	
461		公	荒川	東京	33,498.97				坂倉建築研究所	1986		■	
462	東京都立産業技術大学院大学	公		東京						2006		■	
463	東京農業大学	私	世田谷	東京	153,638.00					1925		■	
464	東京農工大学	国	小金井	東京	159,837.00					●1940		■	
465		国	府中	東京	273,344.00					●1935		■	
466	東京福祉大学	私	伊勢崎	群馬						2000			■
467	東京富士大学	私		東京						●1951			■
468	東京未来大学	私		東京						2006		■	
469	東京理科大学	私	葛飾	東京	89,053.00				日建設計	2013		■	
470	同志社大学	私		京都					W. M. Voeris, Green	1876			■

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										Rural	Urban	Edge
Plain land campuses (difference of elevation <5m)										
471 同志社女子大学	私	今出川	京都					武田五一	●1875			▓
472	私	京田辺	京都						1986			▓
473 東都大学	私		千葉					隈研吾	2008		▓	
474 東邦大学	私	習志野	千葉						1946		▓	
475	私	大森	東京						1950		▓	
476 同朋大学	私		愛知						1950		▓	
477 東邦音楽大学	私		埼玉					野生司義光	2004		▓	
478 桐朋学園大学	私	調布	東京					山梨知彦	1955		▓	
479 桐朋学園大学院大学	私		富山	10,083.00				日建設計	1999			▓
480 東北大学	国	片平	宮城	229,613.00					●1907		▓	
481 東北学院大学	私	土樋	宮城	72,662.41					●1891		▓	
482	私	多賀城	宮城	150,604.17					1962		▓	
483 東北公益文科大学	私		山形						2001	▓		
484 東北生活文化大学	私		宮城						1974			▓
485 東北文化学園大学	私		宮城						1999			▓
486 東北文教大学	私		山形						●1966	▓		▓
487 東洋大学	私	白山	東京	28,511.00				高橋てい一	●1897		▓	
488	私	朝霞	埼玉						1977		▓	
489 東洋英和女学院大学	私	六本木	東京					W. M. Voeris	●1884		▓	
490 常磐会学園大学	私		大阪						1999		▓	
491 徳島大学	国	常三島	徳島	116,694.00					●1899			▓
492	国	蔵本	徳島	161,651.00					1947			▓
493 徳島文理大学	私	徳島	徳島						1966		▓	
494 常葉大学	私	草薙	静岡	43,000.00					2018		▓	
495	私	浜松	静岡						1988	▓		
496 獨協大学	私		埼玉						1964			▓
497 苫小牧駒澤大学	私		北海道						1997			▓
498 富山大学	国	五福	富山	224,833.00					▲1944			▓
499 富山県立大学	公		富山						1990			▓
500 富山国際大学	私		富山					三四五建築研究所	1990	▓		
501 豊橋技術科学大学	国		愛知	355,606.00					1976	▓		
502 豊橋創造大学	私		愛知						●1983			▓
503 長岡技術科学大学	国		新潟	391,801.00					1976	▓		
504 長岡造形大学	公		新潟					日本設計	1994	▓		
505 長崎大学	国	文教	長崎	187,125.00					1953		▓	
506 長崎県立大学	公		長崎	12,680.00					1967		▓	
507 長崎国際大学	私		長崎	57,732.00					2000			▓
508 長崎総合科学大学	私	シーサイド	長崎	51,044.00				武基雄	2002			▓
509 長野大学	公		長野						1966	▓		
510 長野県看護大学	公		長野						1995	▓		
511 長野県立大学	公		長野	31,700.00				石本, 倉田直光	●1950		▓	
512 長野保健医療大学	私		長野						2001			▓
513 長浜バイオ大学	私		滋賀						2003			▓
514 中村学園大学	私		福岡						1965		▓	
515 名古屋音楽大学	私		愛知						●1965		▓	
516 名古屋学院大学	私	名古屋しろとり	愛知	22,405.60				山下設計	2007			▓
517 名古屋芸術大学	私	西	愛知						1976			▓
518	私	東	愛知						1970			▓
519 名古屋工業大学	国	鶴舞	愛知	212,681.00					●1903		▓	
520 名古屋産業大学	私		愛知						2000			▓
521 名古屋女子大学	私		愛知						1948		▓	
522 名古屋市立大学	公	滝子	愛知	63,587.59					●1908		▓	
523	公	北千種	愛知	25,967.63					●1944		▓	
524	公	田辺通	愛知	46,571.96					●1943			▓

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Plain land campuses (difference of elevation <5m)												
525 名古屋文理大学	私		愛知						●1956		■	
526 名寄市立大学	公		北海道						▲1990		■	
527 奈良教育大学	国		奈良	147,060.00					1958		■	
528 奈良県立大学	公		奈良						1953			■
529 奈良女子大学	国		奈良	178,059.00					●1909		■	
530 奈良先端科学技術大学院大学	国		奈良	136,744.00					1991	■		
531 鳴門教育大学	国		徳島	239,077.00					1981			■
532 新潟大学	国	五十嵐	新潟	587,732.00					1968			■
533 新潟医療福祉大学	私		新潟						2001	■		
534 新潟県立大学	公		新潟						●1963			■
535 新潟県立看護大学	公		新潟						●1994			■
536 新潟国際情報大学	私	みずき野	新潟						1994			■
537 新潟産業大学	私		新潟						1988	■		
538 新潟青陵大学	私		新潟						1965			■
539	私	駿河台	東京					磯崎新, W. M. Voeris	1921		■	
540	私	船橋	千葉	377,776.00				日本設計, 枠設計 (new)	1967		■	
541	私	生産工学部	千葉	93,358.00				大高正人	1965		■	
542 日本大学	私	文理学部	東京	59,388.00					1937		■	
543	私	産物資源科学	神奈川						1943			■
544	私	所沢	東京	115,940.00				日本大学本日総建	2004			■
545	私	江古田	東京						1939		■	
546 日本医療大学	私		北海道						1989		■	
547 日本工業大学	私		埼玉	282,118.00				小川	1967		■	
548 日本社会事業大学	私		東京						1989		■	
549 日本獣医生命科学大学	私		東京					W. M. Voeris	●1937		■	
550 日本女子大学	私	目白	東京	52,865.00					●1900		■	
551 日本赤十字看護大学	私		東京						●1954		■	
552 日本赤十字秋田看護大学	私		秋田						1996	■		
553 日本赤十字北海道看護大学	私		北海道						1999			■
554 日本体育大学	私		東京						●1946		■	
555 日本薬科大学	私	さいたま	埼玉						2004	■		
556 人間総合科学大学	私		埼玉						2000			■
557 ノートルダム清心女子大学	私		岡山					A. Raymond, 村上徹	●1889		■	
558 梅光学院大学	私		山口						1964		■	
559 白鴎大学	私	大行寺	栃木						●1974			■
560 函館大学	私		北海道						●1964			■
561 羽衣国際大学	私		大阪						▲1989		■	
562 八戸学院大学	私		青森						●1981	■		
563 八戸工業大学	私		青森	221,727.00					1972			■
564 花園大学	私		京都						1977		■	
565 浜松学院大学	私		静岡						●1914		■	
566 阪南大学	私	本	大阪						1964		■	
567 東大阪大学	私		大阪						1940			■
568 一橋大学	国		東京	221,370.00				伊東忠太	1927		■	
569 姫路大学	私		兵庫						2007	■		
570 兵庫大学	私		兵庫						●1966			■
571 兵庫医療大学	私		兵庫						2007			■
572 兵庫教育大学	国		兵庫	401,735.00					1978	■		
573 兵庫県立大学	公	姫路環境	兵庫	61,209.22					●1923		■	
574	公	明石	兵庫	37,268.42				安藤忠雄	1993			■
575 弘前大学	国		青森	135,267.00					●1920		■	
576 弘前医療福祉大学	私		青森					三上設計	2008	■		
577 弘前学院大学	私		青森						1970			■
578 広島文教大学	私		広島						1966		■	

	University name	Government	Campus name	Prefecture	Site area (m²)	Difference of elevation (m)	Open spaces realization method	Simplified average gade of the site (SAGS)	Recorded campus planners or specific buildings' designers	Campus settlement year ▲:approxima-tion ●:different previous school	Surroundings type		
											Rural	Urban	Edge
					Plain land campuses (difference of elevation <5m)								
579	びわこ学院大学	私		滋賀						1990			
580	福井大学	国		福井	110,248.00					●1923			
581	福井県立大学	公		福井					大森まさお	1991			
582	福井工業大学	私		福井						1959			
583	福岡大学	私		福岡						●1934			
584	福岡県立大学	公		福岡					安井	●1967			
585	福岡女学院大学	私		福岡						●1964			
586	福島学院大学	私		福島						●1966			
587	福山市立大学	公		広島						2011			
588	福山平成大学	私		広島						1994			
589	富士大学	私		岩手						1965			
590	藤女子大学	私		北海道						1961			
591	佛教大学	私		京都						●1934			
592	文化学園大学	私		東京						●1926			
593	文教大学	私	越谷	埼玉						1966			
594	文京学院大学	私		東京						●1924			
595	文星芸術大学	私		栃木						1999			
596	平安女学院大学	私	京都	京都						●1894			
597		私	高槻	大阪						2005			
598	平成音楽大学	私		熊本						●1972			
599	平成国際大学	私		埼玉						1996			
600	別府大学	私		大分						▲1946			
601	法政大学	私	市ヶ谷	東京	28,995.00				大江宏, 日建設計	1936			
602	放送大学	私		千葉						1983			
603	北翔大学	私		北海道						●1966			
604	北星学園大学	私		北海道	112,726.00					1964			
605	星薬科大学	私		東京						●1911			
606	北海学園大学	私	豊平	北海道	104,711.47					●1906			
607		私	山鼻	北海道	16,561.00					●1962			
608	北海道大学	国		北海道	1,776,249.00				津吹亀太郎、新山平四郎, 太田実	●1903			
609	北海道医療大学	私		北海道						1974			
610	北海道科学大学	私		北海道	95,768.00				佐藤孝 (new)	1967			
611		国	札幌校	北海道	267,596.00					1987			
612		国	旭川校	北海道	232,469.00					●1923			
613	北海道教育大学	国	函館校	北海道	220,262.00					●1876			
614		国	釧路校	北海道	165,550.00					1951			
615		国	岩見沢校	北海道	238,566.00					●1940			
616	北海道情報大学	私		北海道						1989			
617	北海道文教大学	私		北海道						1999			
618	前橋工科大学	公		群馬						●1952			
619	松本大学	私		長野						2002			
620	松山大学	私		愛媛					日建設計	●1924			
621	三重大学	国	上浜	三重	528,040.00				A. Raymond	●1920			
622	三重県立看護大学	公		三重					久米設計	1997			
623	南九州大学	私		宮崎						1965			
624	美作大学	私		岡山						1967			
625	宮崎大学	国	木花	宮崎	778,523.00					1984			
626	宮崎県立看護大学	公		宮崎						1997			
627	宮崎公立大学	公		宮崎						1993			
628	宮崎産業経営大学	私		宮崎						1987			
629	武庫川女子大学	私	中央	兵庫						●1939			
630	武蔵大学	私		東京	85,592.00				佐藤功一	1922			

University name	Government	Campus name	Prefecture	Site area (m²)	Difference of elevation (m)	Open spaces realization method	Simplified average gade of the site (SAGS)	Recorded campus planners or specific buildings' designers	Campus settlement year ▲:approximation ●:different previous school	Rural	Urban	Edge
						Plain land campuses (difference of elevation <5m)						
631 武蔵野大学	私	武蔵野	東京	100,028.00				原広司 (annexed kindergarten)	●1929		■	
632	私	有明	東京	17,012.18				大成建設	2012			■
633 武蔵野音楽大学	私	江古田	東京						●1929		■	
634 武蔵野学院大学	私		埼玉						●1981			■
635 武蔵野美術大学	私	鷹の台	東京	110,040.59				芦原義信、保坂陽一郎	1964		■	
636 室蘭工業大学	国		北海道						1939		■	
637 明海大学	私	浦安	千葉						1991		■	
638 明治大学	私	駿河台	東京	36,624.66				堀口捨巳	1910		■	
639	私	和泉	東京	80,240.49				堀口捨巳	1934		■	
640 明治学院大学	私		東京	75,370.00					●1887		■	
641 明治薬科大学	私		東京						1998			■
642 名城大学	私	ナゴヤドーム前	愛知					日本設計	2016		■	
643 目白大学	私	新宿	東京						●1923		■	
644	私	岩槻	埼玉						1994	■		
645 ものつくり大学	私		埼玉						1999	■		
646 盛岡大学	私		岩手						1989	■		
647 山形大学	国	小白川	山形	122,548.00					●1921		■	
648	国	米沢	山形	170,884.00					●1910			■
649	国	鶴岡	山形	240,655.00					1947			■
650 山形県立保健医療大学	公		山形						1997	■		
651 山形県立米沢栄養大学	公		山形						●1972			■
652 山口大学	国	吉田	山口	692,251.00					1966			■
653 山口県立大学	公		山口						●1941		■	
654 ヤマザキ動物看護大学	私	南大沢	東京						2004		■	
655 大和大学	私		大阪						2014		■	
656 山梨大学	国	甲府	山梨	158,273.00					●1923		■	
657 山梨学院大学	私		山梨					伊東豊雄, Pálffy György	1948		■	
658 山梨県立大学	公	飯田	山梨						●1966		■	
659	公	池田	山梨						1953			■
660 横浜市立大学	公	金沢八景	神奈川	103,512.58					●1947			■
661	公	福浦	神奈川	67,173.50					1987			■
662	公	鶴見	神奈川	27,296.30					2001			■
663 四日市大学	私		三重						1988	■		
664 酪農学園大学	私		北海道						●1948			■
665 立教大学	私		東京	111,204.00					1918		■	
666 立正大学	私	熊谷	埼玉	351,201.00				槇文彦, 石本設計	1966			■
667	私	衣笠	京都						1939			■
668 立命館大学	私	茨木	大阪	106,878.00				日建設計	2010		■	
669	私	びわこ	滋賀					山下設計	1994			■
670 龍谷大学	私	深草	京都						1960		■	
671	私	大宮	京都						1871		■	
672 流通科学大学	私		兵庫					日本設計	1888			■
673 了徳寺大学	私		千葉						2005		■	
674 ルーテル学院大学	私		東京	24,148.00				村野藤吾	1969		■	
675 和歌山県立医科大学	公		和歌山						1998		■	
676 和歌山信愛大学	私		和歌山						1946		■	
677 早稲田大学	私	早稲田	東京	124,671.00				杉浦巴, 武基雄	●1882		■	
678	私	西早稲田	東京	44,894.00				安東勝男	1964		■	
679	私	戸山	東京	32,934.00				村野藤吾, 日建設計	1908		■	
680 稚内北星学園大学	私		北海道						1907	■		
681 和洋女子大学	私		千葉						1946			■

各位

2022 年 6 月 28 日
名古屋市立大学芸術工学部
建築計画研究科

アンケート回答のお願い

大学キャンパスのどこで
友人と教授と交流した
思い出があるか？

各時代での「大学コミュニティの場」を比べる

　拝啓　皆さまには益々ご清祥のことと慶び申し上げます。

　私どもは日本の大学キャンパスについて学生や教員の交流の場としての特徴を研究しています。この調査は、大学コミュニティの場が各時代でどのように変化し、その環境が大学生の経験にどう影響を与えたかを明らかにするものです。具体的には、自分が大学に通っていた頃を思い出していただき、キャンパス内外のどこで友人や教師と交流し、話し合い、活動したかをお聞きします。

　ご協力をお願いいたします。

敬具

　回収方法：

・手書きの場合：ペンなどで記入された添付質問表をアンケート回収ボックスに入れてください。

・Google Forms 上の回答の場合：以下の URL を使い、または QR コードをスマホンなどでスキャンして回答をしてください。

https://docs.google.com/forms/d/e/1FAIpQLScm2e1c937zyE1hTO2Gs-jlWCA9AcCUpv_-KeO1CBSHukIqKQ/viewform?usp=sf_link

　回答期限：11 月 30 日まで

★　記載していただいた個人情報は研究以外には使用しません。

★　当調査に関するご質問は下記までご連絡下さい。

ロータリー米山記念奨学生

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はじめに

1）性別を教えて下さい：

男性　□　　　　　女性　□　　　　　無回答　□

⇓　以下、あなたが通った大学についてお聞きします。

　複数の大学で勉強した場合、その中の1つを選んでご記入をお願いいたします。

2）大学名を教えて下さい。

＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿

3）大学キャンパスの名称と所在地を教えて下さい

　（例：東山キャンパス、名古屋市千種区）

＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿

4）大学入学年を教えて下さい（おおよそでも良いです）。

＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿

5）学部・学科を教えて下さい。

＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿

6）大学生時代に以下の大学生団体に継続的に参加していましたか。

　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　はい　いいえ

・クラブ・サークル団体（文化、音楽、芸術、趣味などを中心とした団体）------　□　　□

・ボランティア・有志団体--　□　　□

・スポーツサークル--　□　　□

・ゼミの活動--　□　　□

・その他（＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿）--------------------　□　　□

7）以下の範囲において、大学生時代に<u>親密な関係を築いていた</u>他の学生
はどれくらいいましたか。（〇をつけて下さい）

　　　　　　　　　　　　　　　　　　<u>いませんでした　　1～5人　　6～10人　　10人以上</u>

・同じ学科の学生--------------------●------●------●------●

・同じ学部で、違う学科の学生-------●------●------●------●

・同じ大学で、違う学部の学生-------●------●------●------●

・他の大学の学生--------------------●------●------●------●

8）あなたの大学での「学生のコミュニティ」について教えて下さい。

　　　ア）<u>全体として学生同士の雰囲気が良かった。</u>

　全くそう　　　　あまり　　　　どちらとも　　　ややそう　　　　そう
　思いません　そう思いません　言えません　　　思います　　　思います
---●-----------●-----------●-----------●-----------●---

　　　イ）<u>他の学生とお互いに勉強などに助け合った。</u>

　全くそう　　　　あまり　　　　どちらとも　　　ややそう　　　　そう
　思いません　そう思いません　言えません　　　思います　　　思います
---●-----------●-----------●-----------●-----------●---

　　　ウ）<u>大学内で競争が激しかった。</u>

　全くそう　　　　あまり　　　　どちらとも　　　ややそう　　　　そう
　思いません　そう思いません　言えません　　　思います　　　思います
---●-----------●-----------●-----------●-----------●---

学生同士の交流の場所について

9）あなたが通っていた大学で、<u>他の学生とよく過ごした場所</u>はどこですか。

　　キャンパス内・キャンパス外を問わず、<u>答えは自由です</u>。5つ以内の場所を教えて下さい。例：教室、体育館、キャンパスの広場や緑地、大学周辺のカフェ、部室、食堂、など。

また、それぞれの場所について、他学生との付き合いの頻度をおおよそで教えて下さい。

頻度：　　月数回　　週数回　　ほぼ毎日

場所①：（＿＿＿＿＿＿＿＿＿＿＿）--------●------●------●-

場所②：（＿＿＿＿＿＿＿＿＿＿＿）--------●------●------●-

場所③：（＿＿＿＿＿＿＿＿＿＿＿）--------●------●------●-

場所④：（＿＿＿＿＿＿＿＿＿＿＿）--------●------●------●-

場所⑤：（＿＿＿＿＿＿＿＿＿＿＿）--------●------●------●-

10）あなたが通っていた大学で、<u>学生団体やゼミの集まり・活動を行った場所</u>はどこですか。

　　以上同様。以上教えていただいた場所を振り返って選ぶことも可能です。

頻度：　　月数回　　週数回　　ほぼ毎日

場所①：（＿＿＿＿＿＿＿＿＿＿＿）--------●------●------●-

場所②：（＿＿＿＿＿＿＿＿＿＿＿）--------●------●------●-

場所③：（＿＿＿＿＿＿＿＿＿＿＿）-------●------●------●-

場所④：（＿＿＿＿＿＿＿＿＿＿＿）--------●------●------●-

場所⑤：（＿＿＿＿＿＿＿＿＿＿＿）--------●------●------●-

11）あなたが通っていた大学で、偶然に知人に会うことが多かった場所はどこですか？

　以下のキャンパスの多目的スペースの中から最も適当なものを選んで下さい。複数回答も可能です。

キャンパスの門　□　　　キャンパスの広場　□　キャンパスの通路・道　□

　　　　屋内廊下　□　　　屋内多目的スペース　□　　　　キャンパスの外　□

その他（_____）□

教師との交流について

12）あなたは大学院に進学しましたか。

はい　□　　　　いいえ　□

13）何年間ゼミの活動に参加しましたか。

| 0年間 | 1年間 | 2年間 | 3年間 | 4年間以上 |

---●-------------●-------------●-------------●-------------●---

14）以下の記述に対するあなたの経験を教えて下さい。

　　ア）学生と教授との距離は近かった。

| 全くそう
思いません | あまり
そう思いません | どちらとも
言えません | ややそう
思います | そう
思います |

---●-------------●-------------●-------------●-------------●---

　　イ）授業外でも教授との交流があった。

| 全くそう
思いません | あまり
そう思いません | どちらとも
言えません | ややそう
思います | そう
思います |

---●-------------●-------------●-------------●-------------●---

15）あなたが通っていた大学で、授業以外に、教師とよく話し合いなどをした場所はどこですか。

キャンパス内・キャンパス外を問わず、答えは自由です。3つ以内の場所を教えて下さい。

場所①：（＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿）

場所②：（＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿）

場所③：（＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿）

終わりに

16）以下のトピックに最低1から最高5までポイントを付け、あなたが通っていた大学キャンパスについて評価して下さい。

ア）便利さ（住宅からの距離、周辺の施設など）

---①-----------②-----------③-----------④-----------⑤---

イ）美しさ（建物、自然、など）

---①-----------②-----------③-----------④-----------⑤---

ウ）教育・研究機能の充実

---①-----------②-----------③-----------④-----------⑤---

エ）スポーツや学問以外の活動のための機能の充実

---①-----------②-----------③-----------④-----------⑤---

オ）学生同士での過ごしやすさ

---①-----------②-----------③-----------④-----------⑤---

17）自由記入（あなたの大学で特徴的な交流の場所など）：

_____

_____

_____

ご協力をいただきありがとうございました。

各位

2022 年 10 月 7 日
名古屋市立大学芸術工学部
建築計画研究科

アンケート回答のお願い

大学キャンパスのどこで
友人と教授と交流していますか？

各時代での「大学コミュニティの場」を比べる

拝啓　皆さまには益々ご清祥のことと慶び申し上げます。

　私どもは日本の大学キャンパスについて学生や教員の交流の場としての特徴を研究しています。この調査は、大学コミュニティの場が各時代でどのように変化し、その環境が大学生の経験にどう影響を与えるかを明らかにするものです。具体的には、自分が通っている大学キャンパス内外のどこで友人や教師と交流し、話し合い、活動するかをお聞きします。

　ご協力をお願いいたします。

敬具

　回収方法：
・手書きの場合：ペンなどで記入された添付質問表をアンケート回収ボックスに入れてください。
・Google Forms 上の回答の場合：以下の URL を使い、または QR コードをスマホンなどでスキャンして回答をしてください。

　回答期限：12 月 30 日まで
★　記載していただいた個人情報は研究以外には使用しません。
★　当調査に関するご質問は下記までご連絡下さい。

名古屋市立大学大学院芸術工学研究科博士課程3年生　ヴェッキ・ピエトロ

メールアドレス：c205801@ed.nagoya-cu.ac.jp

はじめに

1）性別を教えて下さい：

男性　□　　　　　女性　□　　　　　無回答　□

この調査では、あなたが現在通っている大学キャンパスについてお聞きします。複数のキャンパスに通ったことがある場合、現在のキャンパスのみについて答えてください。

2）大学名を教えて下さい。

_____

3）大学キャンパスの名称と所在地を教えて下さい

（例：東山キャンパス、名古屋市千種区）

_____

4）大学入学年を教えて下さい（おおよそでも良いです）。

_____

5）学部・学科を教えて下さい。

_____

6）以下の大学生団体に継続的に参加していますか。

はい　いいえ

・クラブ・サークル団体（文化、音楽、芸術、趣味などを中心とした団体）------　□　　□

・ボランティア・有志団体--　□　　□

・スポーツサークル--　□　　□

・ゼミの活動--　□　　□

・その他（＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿）------------------------　□　　□

7）以下の範囲において、<u>親密な関係を築いた</u>他の学生はどれくらいいましたか。（〇をつけて下さい）

いません　1～5人　6～10人　10人以上

・同じ学科の学生--------------------●------●------●------●

・同じ学部で、違う学科の学生------●------●------●------●

・同じ大学で、違う学部の学生------●------●------●------●

・他の大学の学生--------------------●------●------●------●

8）あなたの大学での「学生のコミュニティー」について教えて下さい。

ア）<u>全体として学生同士の雰囲気が良い。</u>

全くそう　　　　あまり　　　　どちらとも　　　ややそう　　　　そう
思いません　そう思いません　言えません　　思います　　　思います
---●-----------●-----------●-----------●-----------●---

イ）<u>他の学生とお互いに勉強などに助け合う。</u>

全くそう　　　　あまり　　　　どちらとも　　　ややそう　　　　そう
思いません　そう思いません　言えません　　思います　　　思います
---●-----------●-----------●-----------●-----------●---

ウ）<u>大学内で競争が激しい。</u>

全くそう　　　　あまり　　　　どちらとも　　　ややそう　　　　そう
思いません　そう思いません　言えません　　思います　　　思います
---●-----------●-----------●-----------●-----------●---

学生同士の交流の場所について

9）あなたが通っている大学で、他の学生とよく過ごす場所はどこですか。　キャンパス内・キャンパス外を問わず、答えは自由です。5つ以内の場所を教えて下さい。例：教室、体育館、キャンパスの広場や緑地、大学周辺のカフェ、部室、食堂、など。

　また、それぞれの場所について、他学生との付き合いの頻度をおおよそで教えて下さい。

頻度：　月数回　週数回　ほぼ毎日

場所①：（＿＿＿＿＿＿＿＿＿＿＿＿＿）--------●------●------●-

場所②：（＿＿＿＿＿＿＿＿＿＿＿＿＿）--------●------●------●-

場所③：（＿＿＿＿＿＿＿＿＿＿＿＿＿）--------●------●------●-

場所④：（＿＿＿＿＿＿＿＿＿＿＿＿＿）--------●------●------●-

場所⑤：（＿＿＿＿＿＿＿＿＿＿＿＿＿）--------●------●------●-

学生団体やゼミの活動の場所について

10）あなたが通っている大学で、学生団体やゼミの集まり・活動を行う場所はどこですか。

　以上同様。以上教えていただいた場所を振り返って選ぶことも可能です。

頻度：　月数回　週数回　ほぼ毎日

場所①：（＿＿＿＿＿＿＿＿＿＿＿＿＿）--------●------●------●-

場所②：（＿＿＿＿＿＿＿＿＿＿＿＿＿）--------●------●------●-

場所③：（＿＿＿＿＿＿＿＿＿＿＿＿＿）--------●------●------●-

場所④：（＿＿＿＿＿＿＿＿＿＿＿＿＿）--------●------●------●-

場所⑤：（＿＿＿＿＿＿＿＿＿＿＿＿＿）--------●------●------●-

「偶然交流」について

11）あなたが通っている大学で、偶然に知人に会うことが多い場所はどこですか？以下のキャンパスの多目的スペースの中から最も適当なものを選んで下さい。複数回答も可能です。

キャンパスの門　□　　　キャンパスの広場　□　キャンパスの通路・道　□

　　　屋内廊下　□　　屋内多目的スペース　□　　　キャンパスの外　□

その他（＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿）□

教師との交流について

12）学年を教えて下さい。

短大1年　　短大2年　　学部1年　　学部2年　　学部3年　　学部4年　　修士1年
修士2年　　博士課程

――●―――――●―――――●―――――●―――――●―――――●―――――●―――――●―――――●―――

13）何年間ゼミの活動に参加しましたか。

0年間/ゼミはない　　　　1年間　　　　　　2年間　　　　　　　3年間　　　　　4年間以上

――●――――――――――●――――――――――●――――――――――●――――――――――●―――

14）以下の記述に対するあなたの経験を教えて下さい。

　　ア）学生と教授との距離は近かい。

全くそう　　　　あまり　　　　どちらとも　　　ややそう　　　　そう
思いません　そう思いません　言えません　　　思います　　　思います
――●――――――――●――――――――●――――――――●――――――――●―――

　　イ）授業外でも教授との交流がある。

全くそう　　　　あまり　　　　どちらとも　　　ややそう　　　　そう
思いません　そう思いません　言えません　　　思います　　　思います
――●――――――――●――――――――●――――――――●――――――――●―――

15）あなたが通っている大学で、授業以外に、<u>教師とよく話し合いなどを</u><u>する場所</u>はどこですか。

　　キャンパス内・キャンパス外を問わず、<u>答えは自由</u>です。3つ以内の場所を教えて下さい。

　　場所①：（＿＿＿＿＿＿＿＿＿＿＿＿）

　　場所②：（＿＿＿＿＿＿＿＿＿＿＿＿）

　　場所③：（＿＿＿＿＿＿＿＿＿＿＿＿）

16）「オープンキャンパス」や大学祭以外に、大学関係者以外の者がキャンパス内に入ることがありますか。

全く ありません	数回しか ありません	時々 あります	普通に あります
───●────────	●────────	●────────	●───
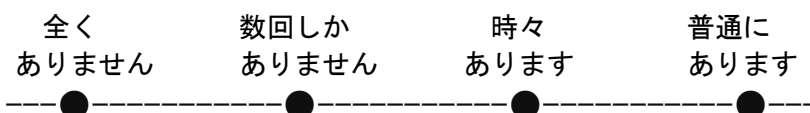
17）以下の目的のためにキャンパス内に入った外来者の中で、あなたが1回でも交流があったのはどれですか（複数回答が可能です）。

<u>図書館</u>を利用するために来た人　□

<u>体育館・グラウンド</u>を利用するために来た人　□

<u>食堂</u>を利用するために来た人　□

<u>公園・広場</u>で過ごすために来た人　□

<u>大学のイベント</u>に参加するために来た人　□

<u>大学が行う学習活動</u>に参加するために来た人　□

<u>学生の展示や発表、研究成果など</u>に関して情報を得るために来た人　□

<u>単純にキャンパスを見る</u>ために来た人　□

<u>その他</u>（＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿）□

18）あなたは大学キャンパスを市民にも開けることに賛成しますか。

```
          あまり            どちらとも         やや賛成
賛成しません  賛成しません      言えません          します      賛成します
---●-----------●-----------●-----------●-----------●---
```

（任意）その理由を教えてください。

_____

_____

_____

終わりに

19）以下のトピックに最低 **1** から最高 **5** までポイントを付け、あなたが通っている大学キャンパスについて評価して下さい。

　　　ア）便利さ（住宅からの距離、周辺の施設など）

```
---①-----------②-----------③-----------④-----------⑤---
```

　　　イ）美しさ（建物、自然、など）

```
---①-----------②-----------③-----------④-----------⑤---
```

　　　ウ）教育・研究機能の充実

```
---①-----------②-----------③-----------④-----------⑤---
```

　　　エ）スポーツや学問以外の活動のための機能の充実

```
---①-----------②-----------③-----------④-----------⑤---
```

　　　オ）学生同士での過ごしやすさ

```
---①-----------②-----------③-----------④-----------⑤---
```

17）自由記入（あなたの大学で特徴的な交流の場所など）：

_____

_____

_____

ご協力をいただきありがとうございました。