Adoption of Modern Knowledge of Housing
in the Journals of the Academic Associations in Korea from 1896 to 1910

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Abstract
New knowledge about housing appeared in the journals of the academic associations published in Korea from 1896 to 1910, most of which is related to hygiene. At that time, hygienic management in residences and in the environment was a major social issue to prevent epidemics which had occurred frequently and which had resulted in a big population loss. Also, the government and many scholars considered that better housing conditions, including hygiene, were essential for improving Korean society. The journals mainly focused on introducing the methods to satisfy four hygienic conditions: ventilation, solar lighting, moisture prevention and cleanliness. The housing articles found in these journals are divided into the methods of 'Housing Management' and 'Housing Design.' Simple planning methods including selection of the housing site, number of stories, structure, openings, interior environment of the house, etc. were presented, which shows that simple but modern knowledge of housing design was introduced. Meanwhile, the descriptions of housing management and design focused on hygiene in the journals and were mostly based on physical and scientific information about the air and water, physiological information on human physiological functions, and germ and miasma theories. In such a situation, updated scientific knowledge included in the journals was effective for educating the public. However, the housing-related knowledge in the journals was mainly included in the studies of hygiene, education, home economics, etc. rather than in studies of architecture, therefore, they were fragmentary and too general. However, in this situation, since architecture was not known as one of the modern academic areas, and there was no modern architectural education system, the housing-related studies which focused on hygiene in the journals is meaningful as a part of the early discussions about modern residences in Korea.

Keywords: housing; hygiene; academic journal

1. Introduction
The period from 1896 to 1910 is known as the most intellectually dynamic era in Korean history. Especially from 1905, when Japan deprived Korea of its diplomatic rights, to 1910, when Japan colonized Korea, Korean scholars organized nation-wide or local academic associations for their activities, and the Korean students in Japan eagerly joined their academic associations there. The Korean scholars determined that it was necessary to teach modern knowledge and western thinking to the public to cope with the crisis of losing their sovereign power, and thus began publishing academic journals. The published papers introduced various modern information and western concepts, and included some housing-related knowledge. At that time, there was no modern architectural education system in Korea, except for the traditional apprenticeship. Therefore, the publications of the academic associations were one of main channels to disseminate modern information on housing.

Until the present, there have been few notable studies recognizing the contribution of the academic journals as the channel for modern architectural education on residences. This study will review and analyze the knowledge on residences published in Korea and Japan by citing them and by discussing the meanings of the papers in their contemporary circumstances.

The publications, which played a core role in education, included original articles or articles translated from foreign publications. Some of them were original, but many others were extracted and translated from foreign books and journals. But these were not clearly classified. This study defines the articles in the publications collectively as 'discourses,' regardless of their being original or translated versions.

2. Discourses Discussing Residences
The first publication from an academic association was released in 1896. However, during the period from 1905 through 1910, more than 20 academic journals were published.

Excluding local and unavailable publications, a total of 16 publications published in Seoul and Tokyo...
Table 1. The List of Journals Published in Seoul and Tokyo by Korean Scholars in 1896-1910

| Title of Journal | Name of Academic Association | Date of First Publishing | Date of Last Publishing | Vol. No. | Location published | Interval | Language used | Residential Contents |
|------------------|------------------------------|--------------------------|-------------------------|----------|-------------------|---------|---------------|---------------------|
| Journal of the Great Chosun Independence Affiliation | The Great Chosun Independence Affiliation | 1896.11 | 1897.8 | 15 | Seoul | bi-monthly | Korean | ○ |
| Journal of the Self-Esteem Affiliation of Korea | The Self-Esteem Affiliation of Korea | 1906.12 | 1907.7 | 13 | Seoul | Monthly | Korean | x |
| Journal of the Taeguk Association | The Taeguk Association of Tokyo | 1906.8 | 1908.11 | 24 | Tokyo | Monthly | Korean | ○ |
| Journal of the Seowoo Association | The Seowoo Association | 1907.3 | 1907.7 | 6 | Tokyo | Monthly | Korean | ○ |
| Journal of Korean Students' Association | The Korean Students' Association of Tokyo | 1907.7 | unknown | unknown | Tokyo | Quarterly | Korean | x |
| Journal of the Great Union | The Association of the Korean Colleagues | 1908.2 | 1909.9 | 20 | Seoul | Monthly | Korean-Chinese | ○ |
| Journal of the Korean Association | The Korean Association | 1908.2 | 1908.11 | 9 | Tokyo | Monthly | Korean | ○ |
| Journal of the Korean Affiliation | The Korean Affiliation | 1908.4 | 1909.3 | 12 | Seoul | Monthly | Korean | x |
| Journal of the Seobuk Association of Korea | The Seobuk Association of Korea | 1908.6 | 1910.1 | 19 | Seoul | Monthly | Korean | ○ |
| Journal of the Honam Association of Korea | The Honam Association of Korea | 1908.6 | 1909.3 | 9 | Seoul | Monthly | Korean | ○ |
| Journal of Woman's Charity Association | The Woman's Charity Association | 1908.8 | unknown | unknown | Seoul | Monthly | Korean | x |
| Journal of the prosperous Kho Association of Korea | The Prosperous Kho Association of Korea | 1908.8 | 1909.7 | 12 | Seoul | Monthly | Korean | x |
| Journal of the Korean Thriving Association | The Korean Thriving Association of Tokyo | 1909.3 | 1910.5 | 13 | Tokyo | Monthly | Korean | ○ |
| Journal of the Ayonam Educational Association | The Ayonam Educational Association | 1909.4 | 1910.5 | 12 | Seoul | Monthly | Korean | x |
| Journal of the Alumni of Bosung Middle School | The Alumni of Bosung Middle School | 1910.6 | 1910.12 | 2 | Seoul | bi-annual | Korean | x |

Source: Yoon, Jungwon, "Bibliographical Study on the Periodical in the Modern Period of Korea 1889-1945," Master's Thesis, Ewha Womans University, 1996: 124-128 (Appendix 1: The List of Modern Journals: 1899-1945); Kim, Kunsu, Source Material: A General Survey of Magazines of the Late Yi Dynasty, Journal of Asian Studies 10-3 (March 1967): 233-249.

were analyzed. Table 1 shows the list of journals and academic associations, the date of the first and last publishing, number of volumes, interval of publication, language used, and whether they include discussions on residences or not. As shown in Table 1, 9 out of 16 publications included discourses regarding residences, and the actual discourses were 22 (if a series is counted as one, the total would be 16).

Table 2 shows the writers, titles of articles, journals and volume Nos., issue date, whether it was a regular column or not, whether it was a series or not (total number of series), and field of the discourse. From Table 2, the discourses on residence had the following two characteristics. First, discussions on residences were found in the papers covering the fields of hygiene, home economics and education. The hygiene-related articles were 13, which account for 59% thereof, including 7 in economics, and 2 in education. Second, among 22 articles regarding residences, 16 were in series, accounting for about 73%. That is, the contemporary scholars tried to educate the people efficiently using serial articles. Especially the hygiene-related articles mostly appeared in regular.

3. Analysis of Discourses' Contents

The discourses of the publications listed in Table 2 were divided into 'Housing Management' and 'Housing Design.' The following shows the included area, specific contents, theoretical basis thereof, etc:

3.1 Contents of 'Housing Management'

The contents of 'Housing Management' were found in three kinds of papers. The first is the field of practical hygiene describing individual sanitary principles in daily life. To suggest an effective way of sanitation, the discourses presented such matters as air, food, clothing, dwelling, water, exercise, sleep, rest or bathing. Among those, the contents of residential management discourses included air, food and clothing without exception. Those articles were 'The Dialogue of Hygiene (2)' (Journal of the Taeguk Association), '10 Conditions of Hygiene' (Journal of the Seowoo Association) and 'The Procedure of Hygiene' (Journal of the Seobuk Association of Korea). The sentences are: "... cleaning of the residence, toilette and land is the best way of prevent epidemics" and "the residence should be moderately controlled in temperature and moisture, according to the weather instead of decorating with luxuries."

The second is the field of knowledge of hygiene. Those are, 'Good Things to Know (2)' (Journal of the Great Chosun Independence Affiliation), 'Air (1)' (Journal of the Great Chosun Independence Affiliation), 'The Outline of Hygiene (1)' (Journal of the Korean Affiliation), 'Physiology (2)' (Journal of the Association of the Great Union) and 'Necessary Living Conditions for Humans (2)' (Journal of the Seobuk Association of Korea). These papers emphasized the habit of refreshing of the indoor air. The contents are: "you should let fresh air into the house frequently,"

2
"the door should be a little opened even in cold weather," and "you should constantly ventilate the air to keep the air fresh." so on.

'The Outline of Hygiene (1)' explained that "the fresh air renews metabolism, assists function of the lungs, clears blood and promotes blood circulation." In 'Necessary Living Conditions for Humans (2)' there was an assertion that trapped indoor air tends to be contaminated so that it "could kill a person who breathes," therefore, one should open the door to circulate the air and make a fire to lessen the moisture. While the former was based on physiology, the latter was based on miasma theory that trapped and moisturized air causes disease.

The third is the field of home economics from the academic point of view. 'To Bring Up a Child in the House' (Journal of the Taeguk Association) said that a growing child requires food, clothing, cleanliness, and exercise, and, among those discourses, that "cleanliness is making sunlight and air available in the room." 'Home Economics Translation (1 and 3)' (Journal of the Seowoo Association) and 'Home Economics (2 and 3)' (Journal of the Honam Association of Korea) used almost the same expression that "the room for a pregnant woman should be ventilated from time to time and the things in the room must be cleanly organized so that a pregnant woman can be invigorated." And they also insisted that "the bedroom for a child should always be cleaned and arranged so that it gives a child the thought of order." The field of home economics emphasized clean management of the rooms for pregnant women and children.

Hence, residence-related contents appeared in the studies on hygiene and home economics, which are handled in different contexts. Clean management of a residence was emphasized in the hygiene studies as a way to keep clean and as a way to educate children in the home economics studies.

### 3.2 Contents of 'Housing Design'

The contents of 'Housing Design' were also presented in the discourses of hygiene, home economics, and education. The contents are conveniently re-organized here in 'Selection of a Housing Site,' 'Structure of Residences' and 'Direction a Residence and its Rooms Should Face.'

#### 1) Selection of a Housing Site

Among the hygienic articles, 'Physiology (2)' and 'Necessary Living Conditions for Humans (2)' coincidentally suggested the following three conditions...
The above two articles did not explain the reason but 'The Gist of Hygiene' (Journal of the Seowoo Association) described the basis of (a) that "the fresh air is light and moves upward and the polluted is heavy and moves downward." It also asserted that (d) a lower and wet land is not appropriate for a residence because of "the possibility of air and water pollution." 

'The Method of Home Training (7)' (Journal of the Taeguk Association), an article on education, asserted in the section on 'the selection of a land' that a residence should be "a place with a convenient access free from moral and hygienic hazards." It did not mention any more about morality and access, however, described more specifically sanitation in the following three conditions. The contents of (f) and (g) are similar to those of (a), (c) and (d).

(e) drinking water must be checked because stored water causes many kinds of disease;
(f) avoid land with a high water surface under the ground; and
(g) avoid trash-buried land because it releases poisonous gas.

While (g) was apparently based on miasma theory, (d) was based on germ theory, which was very new and more scientific than miasma theory, therefore, more powerful in this campaign.

As reviewed above, the contents on residence were found in the fields of hygiene and education. These studies said that the moral environment, hygienic surroundings and convenient situation near the workplace should be checked in the selection of a housing site. But among these of 3 only hygiene was dealt in detail, that is dryness, solar lighting and cleanliness.

2) Structure of Residences

The discourses dealt with the structure of a residence more from the point of the indoor environment than structural safety. First, there were suggestions about structural design to promote air exchange. While 'The Gist of Hygiene' (Journal of the Seowoo Association) proposed raising the roof, having bigger windows and doors, and increasing the number of floors to 2 or 3, 'The Unsanitary Korean Housing' (Journal of the Seobuk Association of Korea) presented the method of constant ventilation via doors and a hole above the door, and 'The Part of Hygiene (4)' (Journal of Seowoo Association) suggested the method of utilizing wood with many apertures and crevices so that these help the air circulation.

Secondly, the method of designing the openings for indoor lighting was also presented in 'The Part of Hygiene (4)' (Journal of the Seowoo Association). It suggested that, in order to bring sufficient sunlight into the room, the house should face south, "most commonly used rooms" should lie towards the southern part of the residence, the south window be opened wide, and as many as possible paper-screened sliding doors be used. The theoretical grounds were also presented. "Sunlight prevents illness and damp atmosphere," the indoor sunlight was recognized to lessen the moisture and kill the germs. The basis for the assertion "the damp condition fertilizes the bacteria and causes diseases" was from bacteriology and "sunlight cleans the house and makes the human body sound" comes from knowledge of pasteurization.

Lastly, there were the discourses emphasizing the necessity of dry conditions for structural components, making sure to clean the inner air and reduce the inner moisture. 'The Part of Hygiene (4)' (Journal of the Seowoo Association) explained that the moisture of the structural components deteriorates the thermal insulation and causes lower the inner temperatures resulting in air pollution and the breeding of bacteria. This was based on the physical aspect of moisture and germ theory. On the other hand, 'The Method of Home Training (7)' (Journal of the Taeguk Association) presented a proper "residential structure" in the aspects of ventilation, moisture prevention and sunlight. That is: "wood is the best material for a residence, and a two-story house facing the south with glass windows and openings in the upper wall for ventilation would be best for a living abode." 

As analyzed above, the theoretical bases of the discourses are bacteriology, physiology, and the properties of wood.

3) Direction a Residence and its Rooms Should Face

'Home Economics Translation (1)' (Journal of the Seowoo Association) and 'Home Economics (2)' (Journal of the Honam Association of Korea) mentioned residential matters in the section of 'Raising Children.' These discourses indicated fetal education as one of the parts of raising children. The condition and planning of the room for a pregnant woman were discussed in detail such as sunlight, dryness, ventilation, and view. One example is: "the room for a pregnant woman has to face the south or southeast and to have fresh air and to be a place nearby trees and flowers so that she can smell all kinds of fragrances." 

Those two discourses also discussed the education of children in the section on 'Food, Clothing and Dwelling.' There, the planning of the room for a child was presented. First, it "would be best for the room of a child to face the south, the second to the southeast, and the last to the southwest." Second, the room of a child "should provide sunlight and fresh air, and third, "to avoid the higher ground level gap" and "to be far from the water and the cliffs." That is, a room for a child was considered to need a moderate condition of sunlight, ventilation, safety and cleanliness so that the location and direction thereof should be well planned.

Hence, the characteristic of the discourses of home economics is a discussion of a room's environmental
conditions only, instead of discussing the entire residence. However, those discourses focused on the environmental conditions of a specific room, like a room for pregnant woman or children.

It is notable that 'The Part of Hygiene (4)' (Journal of the Seowoo Association) emphasized arranging the "commonly used rooms" towards south to secure sunlight in the room. It also implied dividing commonly used rooms from not commonly used rooms and putting the priority on lighting conditions for the commonly used rooms. Also, it is remarkable that two discourses in the field of home economics asserted the arrangement of a room for pregnant woman or children toward the south. They suggest of differentiating the room arrangement depending on the importance of each room in the residence from a hygienic point of view. However, it was not further detailed, because the major point of the discourses in the fields of hygiene and home economics focused on individual hygiene and home education respectively. This may be a kind of limit of the discourses in the journals of academic associations.

4. Meaning of the Discourses

As mentioned above, the discussion of residence, regardless of the fields of the articles, stressed hygiene. There seem to be two major reasons for this. First, the massive loss of the population owing to epidemics forced the idea of sanitation of both individuals and the country into a nationally crucial issue. The people did not know that a residential environment could cause epidemics. Since the population loss led to a lack of workers, the government was obliged to take measures to meet the situation. Therefore, the government executed several restrictions and environmental hygiene undertakings. Parallel to the discussion above, the scholars in the private sector proposed sanitary campaigns. They pointed out the traditional Korean houses were unsanitary and also thought the methods and habits in a conventional residence were not hygienic. They introduced knowledge of physics, chemistry, and physiology in order to maintain the cleanliness of the house. The campaigns for residential hygiene were made in the articles, authors' notes, papers, and textbooks. The journals of academic associations were effectively utilized for education about hygiene, along with newspapers and textbooks.

Second, in this atmosphere, the scholars thought that the cleanliness of a society or an individual would be the criterion for a civilized or uncivilized country. Many Westerners and Japanese wrote that the conditions of the Korean environment including residences was unsanitary as a proof of an uncivilized society. The scholars were well aware of this and emphasized residential hygiene in their articles. They recognized that residential hygiene was related not only to an individual life and health, but also to the civilization or modernization of Korean society.

Therefore, the realistic necessity and conceptual ideology of hygiene were the bases for their emphasis of sanitary housing in their discourses. The residences in the journals of academic associations became an important topic. Residences should be cleanly managed for prevention of epidemics, and many methods to maintain the residence in a clean state were introduced. Especially, those journals discussed residential hygiene on an academic level, and had a high educational effect.

5. Conclusion

From the research and analysis above, this study concludes the following: the journals of academic associations from 1896 to 1910 were important media to disseminate modern knowledge in the Korean society. The topic of residences appeared most in the discourses on the field of hygiene, but also appeared in discourses on home economics and education. Housing was handled as an item of individual healthcare even in the discourses on home economics and education. In other words, most discourses on housing were closely related to matters of hygiene in these discourses.

The conditions of residential hygiene contained in the publications were ventilation, lighting, moisture prevention and cleanliness. From those four conditions, general ideas for maintaining and designing the residence satisfying such conditions were introduced. The residence design included conditions of residences, direction of the house and rooms, structure (size, height and structural plan), building materials, windows and doors, and the interior environment.

To explain the hygienic conditions of a residence, physiology, physical knowledge of air and water, germ theory, or miasma theory were adopted. From this 'scientific' modern knowledge, even if inaccurate from the present point of view, the campaign for hygienic residences was effectively conducted. It was repeated through the publications and finally made the people recognize its importance in modern life.

Inclusion of the discourses on residences in fields other than architecture or residence means that the contents were subordinate to other fields and fragmentary. However, it is notable that those discourses were introduced when modern housing and architectural education was not yet developed in Korea. Therefore, even though the discourses were abstract, fragmented and generalized, they surely contained new modern knowledge of housing planning in Korea. Especially the contents of residence design relating to location, direction, floors, structural materials, openings and inner atmosphere are very close to the present knowledge of housing plans. The 1900s was the time when modern residential concepts and planning began to develop in Korea.

However, in 1910, when Korea was colonized by Japan, the discourses could not further develop because they were banned up to 1920. Based on this
research, the lack of modern Korean residential history from 1910 to 1920 can be explored in future studies, and then the historic meaning and impact of these discourses from 1896 to 1910 would be clearer and more enlightening.

Notes

1. The material used was Institute of Document on Korean Studies ed., Korean Academic Journals in Gaehwa Period vol.1-12 (Seoul: Asian Culture Press, 1976, reprinted).

2. Hygiene, including residential matters, was similar to the idea of health care or medical science today. It was considered an indispensable way to preserve people's health. Home Economics was interpreted as the norm for modern women, therefore, it was not only adapted in the institute of women's education but also in the journals which academic associations published serially. Education was also recognized as encouraging the nation to modernize and was frequently presented in the journals of academic associations.

3. Park, S., "The Dialogue of Hygiene (2)," Journal of the Taeguk Association 5 (December 1906): p.37; Park, S., "10 Conditions of Hygiene," Journal of the Seowoo Association 9 (August 1907): p.10.

4. Chungeun-S., "The Procedure of Hygiene," Journal of the Seowoo Association 17 (October 1909): p.13.

5. Yi, D., "The Outline of Hygiene (2)," Journal of the Korean Association of Great Union 13 (February 1909): p.16.

6. Pigeon, "Air (1)," Journal of the Great Chosun Independence Affiliation 1 (November 1896): p.16.

7. Yangsaeng-J., "Physiology (2)," Journal of the Association of Great Union 13 (February 1909): p.15.

8. Yi, D., "The Outline of Hygiene (1)," Journal of the Korean Association 1 (February 1908): p.42; Yi, D., "The Outline of Hygiene (2)," Journal of the Korean Association 2 (March 1908): p.17.

9. Park, B., "Necessary Living Conditions for Humans (2)," Journal of the Seowoo Association of Korea 11 (April 1909): pp.13-14.

10. Miasma theory explained that the bad odors from damp and decayed food and miasma from human respiration, like carbonic acid gas are the causes of epidemics. It was accepted for a long time in eastern Asia and gradually disappeared with the advent of germ theory in the last decade of the 19th century.

11. Ooh, K., "To Bring Up a Child in the House," Journal of the Taeguk Association 11 (June 1907): p.39.

12. They were the same contents, even though the authors and expressions were somewhat different. Presented as translation in "Home Economics Translation," those two discourses were assumed to be from an identical foreign book or translated by two writers.

13. Kim, M., "Home Economics Translation (1)," Journal of the Seowoo Association 3 (February 1907): p.13; Yi, K., "Home Economics (2)," Journal of the Honam Association of Korea 2 (July 1908): p.19.

14. Kim, M., "Home Economics Translation (3)," Journal of the Seowoo Association 5 (April 1907): p.10; Yi, K., "Home Economics (3)," Journal of the Honam Association of Korea 3 (August 1908): pp.23-24.

15. Yangsaeng-J., "Physiology (2)," Journal of the Association of the Great Union 13 (February 1909): p.15; Park, B., "Necessary Living Conditions for Humans (2)," Journal of the Seowoo Association of Korea 11 (April 1909): p.13.

16. Yi, K., "The Gist of Hygiene," Journal of the Seowoo Association 6 (May 1907): p.21.

17. Yi, K., "The Gist of Hygiene," Journal of the Seowoo Association 6 (May 1907): pp.21-22.

18. Kim, S., "The Method of Home Training (7)," Journal of the Taeguk Association 22 (June 1908): p.28.

19. Kim, S., "The Method of Home Training (7)," Journal of the Taeguk Association 22 (June 1908): pp.28-29.

20. Yi, K., "The Gist of Hygiene," Journal of the Seowoo Association 6 (May 1907): p.22.

21. Noh, K., "The Unsanitary Korean Housing," Journal of the Seobuk Association of Korea 14 (July 1909): p.9.

22. Kim, B., "The Part of Hygiene (4)," Journal of the Seobuk Association 4 (March 1907): p.17.

23. Yangsaeng-J., "Physiology (2)," Journal of the Association of the Great Union 13 (February 1909): pp.16-17; Park, B., "Necessary Living Conditions for Humans (2)," Journal of the Seobuk Association of Korea 11 (April 1909): p.14.

24. Park, B., "Necessary Living Conditions for Humans (2)," Journal of the Seobuk Association of Korea 11 (April 1909): p.14.

25. Park, B., "Necessary Living Condition for a Humans (2)," Journal of the Seobuk Association of Korea 11 (April 1909): p.14; Kim, B., "The Part of Hygiene (4)," Journal of the Seewoo Association 4 (March 1907): pp.16-17.

26. Binton, "Good Things to Know (2)," Journal of the Great Chosun Independence Affiliation 5 (January 1897): pp.5-6.

27. Yangsaeng-J., "Physiology (2)," Journal of the Association of the Great Union 13 (February 1909): pp.16-17; Park, B., "Necessary Living Conditions for Humans (2)," Journal of the Seobuk Association of Korea 11 (April 1909): p.14; Kim, B., "The Part of Hygiene (4)," Journal of the Seewoo Association 4 (March 1907): pp.16-17.

28. Kim, B., "The Part of Hygiene (4)," Journal of the Seewoo Association 4 (March 1907): pp.16-17.

29. Kim, S., "The Method of Home Training (7)," Journal of the Taeguk Association 22 (June 1908): pp.29-30.

30. Kim, M., "Home Economics Translation (1)," Journal of the Seowoo Association 3 (February 1907): p.13; Yi, K., "Home Economics (2)," Journal of the Honam Association of Korea 2 (July 1908): p.19.

31. Kim, M., "Home Economics Translation (3)," Journal of the Seowoo Association 5 (April 1907): p.10; Yi, K., "Home Economics (3)," Journal of the Honam Association of Korea 3 (August 1908): pp.23-24.

32. Shin, D., The History of Modern Healthcare System in Korea (Seoul: Hanool Academy Press, 1997): pp.137-324.

33. Kim, M., Evolving Conception of Modern Housing in Korea from 1876 to 1910, PhD Dissertation, Seoul National University (August 2004): pp.96-155.

34. Park, J., Distorted Modern (Seoul: Blue History Press, 2003): pp.171-180.

References

1. Institute of Document on Korean Studies ed. (1976) Korean Academic Journals in Gaehwa Period vol.1-12, Seoul: Asian Culture Press (reprinted).

2. Kim, K. (1967) A General Survey of Magazines of the Late Yi Dynasty, Journal of Asian Studies 10 (3), pp.233-322.

3. Kim, M. (2004) Evolving Conception of Modern Housing in Korea from 1876 to 1910, PhD Dissertation, Seoul National University.

4. Lee, M.-U. (2001) Development of Science Education through Academic Journal of Educational Associations during the Modern Educational Period(1876-1910), Journal of the Korean Earth Science Society 22(2), pp.75-88.

5. Park, J. (2003) Distorted Modern, Seoul: Blue History Press.

6. Shin, D. (1997) The History of Modern Healthcare System in Korea, Seoul: Hanool Academy Press.

7. Yoon, J. (1996) Bibliographical Study on the Periodical in the Modern Period of Korea 1889-1945, Master's Thesis, Ewha Womans University.