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The Making of a World-class Research University and Renewal of Asian Values of Higher Learning in Korea: The Case of Seoul National University

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Preface Asian Regional Integration and Education

Set against the backdrop of increasing economic interdependence in the Asia region, the idea of 'regional integration' is most often articulated as a policy instrument and political ideal. Arguably, this objective is being pursued to further promote regional competitiveness in the world economy and to bring about a new stable political order. Nevertheless, any move in this direction has been repeatedly challenged from perspectives that emphasize socio-cultural diversity in the region and shared histories. It is in this context that Waseda University received the Global COE research grant from the Ministry of Education of Japan. Waseda University was tasked with establishing the Graduate Institute for Asian Regional Integration (GIARI) to investigate problems and prospects relating to Asian regional integration. Issues of education are central to any dialogue that seeks to further integrate political, social, and economic systems in the region. Taking European integration as a precursor, it is clear that education plays a critical role in the integration process. It is certainly, therefore, within the purview and moreover, a responsibility of Waseda's Global COE—sponsored research to examine the role education will continue to play in a more comprehensive integration of the Asia region.

There is not a single nexus of research where the study of Asian regional integration and education meet; rather, there exist a diversity of approaches that form a matrix of research. A first feature of regional integration studies is the empirical study of 'de facto' integration of the region's education systems. From this approach, we conclude that education systems, economic systems and societal values are already intertwined and integrated to a certain degree. This first approach endeavors to take stock of the extent of actual integration. A second approach emphasizes the purpose(s) and governing principles which inform the integration process. It may then be possible to derive ordered conceptual frameworks that reveal future pathways of regional cooperation and integration. This approach asks why we need to integrate and the answers come mainly from historical and philosophical investigations of policy arguments. The third type of regional integration studies attempt to analyze existing frameworks and institutions for regional cooperation and integration of education systems. It is a political analysis that reveals practical and organizational implications for future regional cooperation and integration processes. The fourth approach focuses on the study of the actors involved in the regional integration process. Countries and governments are probably the most important actors in these processes, but educational institutions are also important. The fifth approach is best described as the comparative study of regional integration drawing on experiences from different regions; education regionalization in Europe, for example.

In doing these researches, we must share a vision concerning Asian regional integration and education that can foster mutual trust and a concept of people's Asia, and strengthening the competitiveness of Asian human resources in the world. By comprehensively discussing and internalizing diverse views, rather than relying on a single model or ideal, it will be possible to build a regional framework for education in Asia that can be expected to contribute greatly to the formation of an Asian Community, and thus, to peace and prosperity in the region.

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I. Introduction

There have been notable achievements in building competitive, first class universities in many developing nations, particularly in Asian countries. Singapore's recent attempt to establish itself as the "Boston of the East" (Altbach, 2000) and South Korea's "Brain Korea 21" program, since 1999, are cases in point. China launched its "211 Project" in 1994 with an ambitious plan to build 100 universities by the early 21st century. In 1998, China initiated the "985 Project," with an impressive budget of 3.4 billion U.S. dollars invested in 33 key universities with the intention of developing them into world-class institutions. Japan's recent initiative, the Centers Of Excellence (COEs) is an expression of renewed academic aspirations to sustain top-class research universities. This paper will examine the process by which a peripheral Asian university like Seoul National University (hereafter SNU) can be transforming itself into a world-class university. In doing this, I will show a fascinating story in which the Korean traditional cultural pattern played a critical role as a cultural resource in the globalization of its modern higher learning institutes: research universities.

This analysis focus on the internal initiatives implemented at SNU over the last 10 years and the effectiveness of these policies. The main strategy undertaken to bring a peripheral university like SNU up to a "world-class" level was to emphatically pursue excellence in research. Long before governmental funds were allocated for this purpose through BK21 from 1999 onwards, SNU had already vigorously pursued excellence in research and teaching. The experiences of SNU in these endeavors represent an important case study that bears vital theoretical and practical implications for other Korean universities, as well as for universities in other Asian countries aiming at building research universities, best exemplified by the American research university since World War II.

II. Self-Strengthening Initiatives of SNU in Response to Globalization

An expert of international higher education, Altback (2003), points out several important conditions that are necessary to achieve world-class university status: excellence in research by top-quality scholars, institutional autonomy, academic freedom, adequate facilities for academic work, and long-term public funding (Altbach, 2003). The main strategy to bring SNU up to the world-class level was to emphatically pursue excellence in research, the first among the five critical conditions identified. Governmental support came at an opportune time, and SNU was able to take full

advantage of the funding and other forms of assistance, as the university endeavored to scale-up its doctoral programs. As a major beneficiary of the 7-year-long, large public funding effort, SNU was provided with an extraordinary opportunity and resources to pursue its long-cherished goal, chosen and supported by the faculty, to become a world-class university. SNU focused on improving graduate programs and bolstered them by providing graduate students with generous stipends and research assistantships. Also, the postdoctoral program was expanded in order to support young scholars. However, it is important to note that the self- strengthening efforts toward building a world-class university began long before the launching of the first BK21(1999-2006).

The current system of doctoral programs at SNU was implemented in 1975, part of a university upgrade after it moved to a new campus, which encompassed all its scattered colleges, except the medical college. Obsolete was the "old form" of doctoral programs, in which a degree could be earned based solely on a thesis. That was the common practice taken from the colonial Japanese university system, and thus the term "old form" is used. Replacing it was the "new form," which prescribed graduate course-work and a qualifying examination to be passed before writing a doctoral thesis, in accordance with the standards of American research universities. Even though SNU had a historical legacy from Japanese colonial universities at its inception, its structure and operation since liberation in 1945 have been modeled after American universities. However, there remained the cultural residuals of indigenous academic heritage working at the relations between teachers and pupils.

In order to promote quality research among the faculty, newly hired faculty were required to have established publication records in internationally renowned science journals and to participate in a tenure review process, which was recently deferred to the stage of promotion from associate professor to full professor. The research records of the top-ranking U.S. schools have served as a benchmark in evaluating the progress of yearly academic accomplishment and productivity at SNU since 1994. Various internal evaluations of progress have been conducted at the university, college, departmental, and research group levels (Kim et al., 2005). A self-evaluation appears to be the only reasonable way to assess academic achievement and progress, for there is no "right" formula for a flagship university in the periphery to become world class.

Global connections and cooperation are also critical for creating a world-class university. SNU has promoted global connections by regularly inviting internationally

accomplished scholars in various fields for both short-term and long-term residencies. International cooperation was pursued by implementing a joint-degree program with foreign universities and other scholarly exchange programs. SNU's outreach efforts now include academic exchange programs with about 90 universities in 27 countries around the world. There were only 100 foreign students at SNU in 1995, however by 2005, there were more than 700. Over the last five years the number of foreign professors has doubled to 58. SNU supports graduate students for studies pursued overseas and participation in international conferences. These overseas experiences are particularly important in that they give junior scholars a strong sense of self-confidence in their competitive status within the international arena. Additionally, there is considerable infrastructure support, including an electronic library with easy access to various academic databases, high-tech computer labs, and a housing facility for international scholars and students.

These series of changes and reform policies have produced impressive results. Senior officers at SNU began to pay particular attention to the number of science papers published in America and other advanced countries. It is well known among scientists that the Institute of Scientific Information (ISI) in the U.S. maintains an annual database of published scientific articles in the Science Citation Index (SCI). Reform-minded school officers and government bureaucrats as well, believe that the number of published articles listed in SCI could serve as a quantitative indicator of productivity for a university. According to a tally of the number of articles by SNU faculty listed in the SCI, SNU's world ranking was 75th in 1999, and has increased dramatically every year since then, reaching 34th and 33rd place in 2003 and 2004 respectively (Kim et al., 2005). Even though this quantitative index is a controversial one, the trend of a consistent increase in ranking gives senior officers a sense of the direction of SNU's self-strengthening efforts. The latest ranking is far higher than their early estimations and has indeed been a surprise to all interested observers.

The measurement of productivity levels by the number of published scientific articles provides insufficient information, however, for it only captures the gross productivity, not the real net productivity. The real productivity actually depends on the level of financial investment devoted to the school under consideration. Harvard University, the University of Tokyo, and the University of California at Los Angeles are the top three universities with regard to the number of published articles in 2004. In fact, Harvard University produces three times as many articles as SNU (9,421 vs. 3,116). However, taking into consideration the financial resources invested in each institution, we arrive at a somewhat different ranking order. Table 1 compares productivity levels indexed by the number of papers of top ranking

universities in 2004 with those of SNU, adjusted for each school's annual budget and research funds (Office of Research Affairs, 2006)[1]. SNU's budget is only about one-quarter that of Harvard University. The amount of funds spent on research at Harvard University is more than twice as high as that at SNU.

<Table 1> Productivity among Top Schools adjusted for expenditures, 2004

(Money unit: 1B KW)

	Research Funds	Running Costs (Incl. RF)	SCI # Papers	SCI Ranks	SCI # /RF	SCI # /RC
SNU	**2,701**	**6,466**	**3,116**	**31**	**1.15**	**0.48**
KAIST	**977**	**2,600**	**1,136**	**187**	**1.16**	**0.44**
Postech	**810**	**1,834**	**823**	**272**	**1.02**	**0.45**
Harvard Univ.	**6,481**	**28,574**	**9,421**	**1**	**1.45**	**0.33**
Tokyo Univ.	**4,257**	**17,327**	**6,631**	**2**	**1.56**	**0.38**
UC Los Angels	**6,107**	**36,510**	**5,232**	**3**	**0.86**	**0.14**
Stanford Univ.	**8,602**	**26,024**	**4,633**	**8**	**0.54**	**0.18**
UC Berkeley	**4,395**	**16,910**	**4,049**	**12**	**0.92**	**0.24**

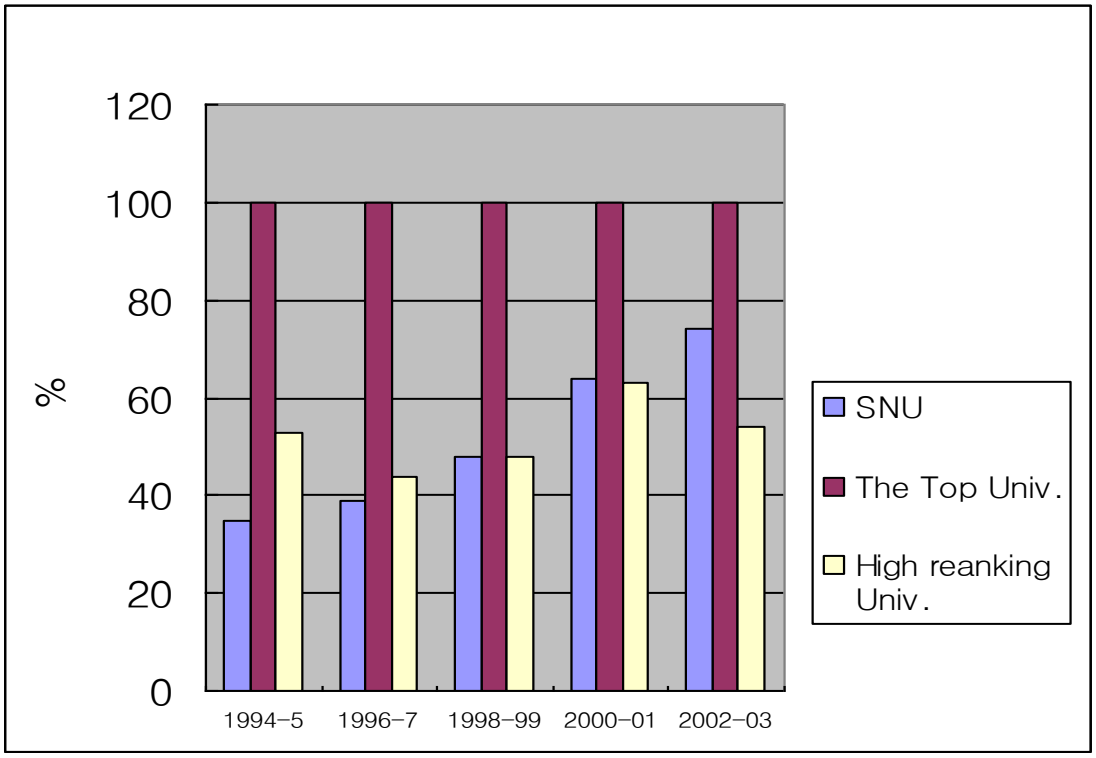
Source: Office of Research Affairs 2006. *Research activities at Seoul National University: 2005-2006.* Seoul, Korea: Office of Research Affairs, Seoul National University, p10.

[1] For data on Harvard, see the school's 2004 *Analysis of Financial Results*. For data on the University of Tokyo, see the school's statement of 2003 (http://www.u-tokyo. ac.jp/fin 01/06_01j.html); its total research funds included a research subsidiary from the Japanese Ministry of Education, Culture, Sports, Science, and Technology, in addition to external funds from private groups, enterprises, and other sources. For data on UCLA, see the Campus Facts in Brief 2004–2005 (http://www.universityofcalifornia.edu/annualreport /2005/)

As shown in Table 1, considering the relative lack of financial resources available at SNU, the adjusted productivity level according to the level of investment at SNU is not very far behind that of the other top-tier universities. For 1 billion Korean Won (about 1 million U.S. dollars) of the school operating budget, SNU, Todai and Harvard produced about 0.5, 0.4 and 0.4 articles, respectively. Every 1 billion Won in school-wide research funds yielded 1.2 articles at SNU, 1.6 at Todai and 1.5 at Harvard. This comparison reveals that SNU is fairly competitive internationally. When we move from gross to adjusted productivity, we can see some potential for international competitiveness in research at SNU, with doctoral programs that were established a mere 30 years ago.

Creating a world-class university surely requires qualitative rather than just the quantitative advancement shown in Table 1. Principal investigators of the BK21 groups began searching for a qualitative index able to reveal the level of research competence at SNU. Kim and his colleagues (2005) produced an internal evaluation of SNU's international competitiveness in terms of the level of research competence in the field of science and technology. They rigorously analyzed both the quantity and quality of research articles published in SCI-indexed journals within six different fields: mathematics, physics, biological science, chemical engineering, mechanics and aerospace engineering, and pharmacy. As indicators of the quality of research papers, investigators counted the number of times each published paper was cited, based on the ISI Web of Science Database. Tallying the citations for each scholarly contributor is a time-consuming and tedious, as well as error-laden, job. Not surprisingly, the estimated margin of error is said to be about 10 percent (*ibid*). To make a specific comparison with US counterparts, two groups of US universities were identified based on the annual rankings for selected fields reported by the *U.S. News and World Report*. In Figure 1, the "top university" referred to an American university that ranked among the top three in a particular field, and "high-ranking" referred to the top 20 to 30 US universities. In Figure 1, the first bar reveals citation percentages averaged for the six fields at SNU, taking the top American university as 100% in the second bar. From 2000 onward, SNU started to excel beyond most of the high-ranking schools, which turned out to be many of land-grant public research universities. SNU seems to be located somewhere between very strong private and public research universities. As will be shown later, the results of this self-evaluation are consistent with those of external ranking surveys.

< Figure 1> Comparison of Averaged Quality Index between American Research Universities with SNU, 1994-2003.



Sources: Kim Kuy-won et. al. (2005), An Assessment of Research Competence in Science and Engineering, *Research Bulletin*, Seoul National University

The major findings of the analysis are as follows:

1. According to the measure of the quantity of articles published in the six fields, SNU achieved only 75% of the Top University category in the U.S. in 1994, but achieved 151% in 2004.

2. According to the quality index of the number times a paper was cited, during 1994–1995, SNU jumped to 35% of the Top University category and 53% of the High-Ranking Universities category. Since then, there has been a significant and steady improvement, and by 2002-2003, using the same index, SNU reached 74% of the Top University category. In comparison with the group of High-Ranking Universities, SNU's quality was in fact higher than the former by 37% for 2002-2003.

3. Judging by the quality of published journal articles, SNU's graduate program in science and engineering is ranked at approximately 20th amongst High-Ranking American Universities.

This internal review, however, provoked many hot debates and controversies, with much skepticism surrounding the evaluation, simply because it ranked SNU in the 20th place among American research universities. However, this soon was seen to be a

reasonable estimation. An examination of SNU's internal review data and *The Time*'s international comparisons of the world's top 100 science universities yields consistent results with regard to SNU's ranking.[2] Its over-all rankings according to *The Time* during the three years of 2005, 2006, 2007 have risen from 93rd to 63rd and to 51st in 2007. SNU achieved a remarkable leap forward toward excellence in research during the last 10 years or so, an accomplishment attributed to a myriad of factors. Although the American model may have served as a benchmark, it should be noted that a great number of professors at SNU have made deliberate efforts to develop an academic model that is globally competitive and, at the same time, maintains culturally relevant mentor-student relations in the graduate programs.

III. The Potential Power of Asian Values in Making Modern Research Universities

In riposte to pressures of globalization, Asian countries have committed themselves to ameliorating their higher education systems to produce internationally competitive human resources. As mentioned earlier, one of the most central strategies in moving toward this goal has been to enhance graduate programs, with a specific focus on excellence in research, building them up to a world-class level. However, the truth of the matter is that the very term "world-class" is not by any means an analytic one and therefore, is not a very clear term of reference for scholarly discussions. As shown clearly in refectory remarks by an American historian (Lucas, 1994), since no attempt has been made to construct a true "global" history of higher education, in the use of this term an unabashedly "Eurocentric" discourse prevails. Lucas has reintroduced some long-excluded traditions of higher learning: Chinese, Vedantist oral tradition, ancient India teachings, Nestorian, Muslim *scriptoria*, and those that flourished in West African cities like Jene, Gao and Timbuktu. (*ibid*, xx) The Korean heritage was not, however, mentioned in his list of omitted academic traditions.

A European higher education institution, like the "*universitas*" (Durkheim, 1938), served as the sole institutional bastion of intellectual life and scholarly activities in Western countries. That was not the case in Korea and other Asian countries. In traditional Korean society, a good number of academic networks, or what Korean

[2] According to *The Times*, SNU with a score of 38.3 is located between Johns Hopkins University with 39 and UC-San Diego with 36.7. If we only count American research universities, leaving out European, Japanese and Chinese institutions, among the 100 universities, Johns Hopkins University is 16th and UC-San Diego is 17th. If these rankings are valid, we can hardly reject SNU's self-evaluation, placing it among its benchmark counterparts in America.

scholars may call "Gates," were loosely formed, with a prominent scholar of Confucianism acting as a central figure. (Kim, 2007b) The term gate originated from and was widely used in the Buddhist academic traditions and practices from thousands of years ago. The Buddha himself is, for example, the gate to the Buddhist Way for his many thousands of disciples and a greater number of faithful followers. Likewise, Confucius (551-479 B.C.) is also the gate to the Confucius Way for the cultivation of the personality in its highest from. For Korean intellectuals, a gate signifies the highest degree of intellectual excellence combined with the same degree of moral integrity found in a prominent mentor. Entering a certain gate means positioning oneself as the mentor's disciple for a lifetime. A Korean scholar will often acknowledge himself as "a scholar under a certain gate," revealing his identity and his serious commitment to an academic lineage from a particular, prominent scholar. Here "under" means referring to himself as a humble disciple. Heated debates among competing gates reinforce their own intellectual standings among scholars with and without civil service jobs. Sometimes a group evolves into a political party, especially when national security is in danger. These schools of Confucius thought constitute non-formal and less-institutionalized (NFLI) scholarly networks between mentors and disciples.(*ibid*) The relations have neither a formal institutional base, as in European universities, or an organizational base, as in medieval guilds among artisans.

During the Chosun Dynasty (1392-1910), intellectuals participated in academic activities through informal channels of communication between mentors and their disciples. Indigenous scholastic traditions were cultivated and maintained through academic discussions and the extended exchange of manuscripts, correspondence and letters. They, however, had been the center of excellence in research in keeping with the Confucian way and training of the power elites of the Kingdom. If the University of Paris was where Western Scholasticism blossomed in the medieval period, then it is the gate, through which a distinctive academic lineage was formed, where the renaissance of Korean Confucianism has taken place in the early 16 century (*ibid*). The gates and their associated academic lineages which passed through them were Korea's equivalent to the medieval universities, and not a formal institution set by either the central or local government. Interestingly, these traditions and practices are found even in today's modern westernized universalities in Korea, and serve as a powerful and effective driving force for successful academic achievement (Kim, 2007a) and for a simultaneous transition from elite to mass and universal education at both the secondary and higher education level, a progress which eventually led to a reality of "tertiary education for all." (Kim, 2007b; Grubb et al, 2006) Moreover, it was against this cultural heritage that the

Western ideas of the university were introduced, clashed, and were then implemented; firstly, by American protestant missionaries (Lee, 2004), and later by Japanese colonizers later (Oh, 2004; Tsurumi, 1984).

It was long a common practice among historians of Korean higher education to argue that the first public college, *Taehak* (Great Learning), founded in 372 A.D. and its heir institute, *Sungkyunkwan*, established by the government in 1398, as the centers of indigenous higher education, were the Asian counterparts to the Western medieval University. However, this argument has served to obscure rather than illuminate our knowledge of one of the most distinguishing characteristics of traditional higher education. Unlike the University of Paris in the 12 Century, *Sungkyunkwan* was not the center of excellence of Neo-Confucian studies, but a governmental institute for lesser degree holders to reside for a certain period of time in order to prepare for their final national examination to be selected as civil officers. It was also the center of memorial ceremonies for the Great Saint Confucius and his twelve Sages. As time went by, the ceremonial function prevailed over the educational function. It was, however, at a variety of NFLI organizations that most of the training of the Korean literati was carried out, ranging from a family school, to *Letter Hall*, and to the private seminary known as *Sowon*, the most institutionalized private school with governmental authorization. Min (2004) is right in his assertion that indigenous higher learning of Asia had "a long tradition going back three thousand years, compassing both the public and private sectors" (p.56). However, Min's definition was not absolutely clear in pinpointing the fact that it was the latter, rather than the former, which was the center of academic excellence. This is quite the opposite from the medieval University. In other words, it refers not to a state run institute of *tai-xue* (which literally means "higher learning"), but to a gate of Confucian disciples, which was the center of excellence in higher learning.

The origin of such higher learning in Asia can be traced back to the Confucius legend and his practices of teaching around 500 BC. He made himself a teacher at the age of 29 and his house became a site of pilgrimage and a centre of learning for his followers. According to the text *Confucius Analeptics* (Legge, 1892), an early form of his teaching began as follows:

> The Master (Confucius) said. "From the men bringing his bundles of dried flesh for my teaching, I have never refused instruction to anyone." VII. 7

Dr. Legge, the highest authority on Chinese Classics in the English speaking world, interpreted this phrase as follows, "However small the fee his pupils were able to afford, he

never refused instruction. All that he required was an ardent desire for improvement, and some degree of capacity." (Legge, 1892, p.61) His teaching was not carried out in any formal school or teaching institute established by the government. It was an archetype of private education for a great scholar to offer lessons at his house. This form of NFLI private higher education continued to persist as a long standing practice in the Eastern civilizations (Lee, 1984, p.220).

While making the teaching available to almost anyone who had a desire to learn and could pay a nominal fee for tuition, Confucius rigorously selected a small number of disciples amongst his followers. According to the original legend, there were at least 3,000 followers. He formally handpicked only 77, it being recorded thus: "The Disciples who received my instructions, and could comprehend them, were seventy-seven individuals. They were all scholars of extraordinary ability." (*ibid*, p.62) Among those selected, only twelve sages progressed further. These 12 disciples were placed, only one level below Confucius, at the Shrine of Confucius the Saint, where a ritual memorializing him had been observed. Thanks to their continuing scholastic efforts, Confucius's teachings survived various historical vicissitudes and ordeals and maintain their place amongst the greatest classics of higher learning in Asia, right up until the present day (Kim, 2007b).

Korean Confucianism was in fact Chu His's (1128-1200) Neo-Confucianism, which was revived during the Song Dynasty. The Korean literati found it most appealing, for it sought to establish an ethical base for an enlightened political world with fully fledged speculative and theoretical studies (Lee, p. 217). The Korean scholar, T'oegye (Yi Hwang, 1501-1570), developed a full explication of *i* (*li* in Chinese) philosophy[3], which accounts for what things are and how they behave. As a result of his philosophical endeavors, he was revered as a Korean Chu His, a Confucius, or sometimes as both. He presented a philosophical doctrine emphasizing moral self-cultivation as the essence of learning. He was the greatest figure in the history of philosophy in Korea and exerted a huge influence on the shaping of Japanese Confucian doctrine as well (Lee, 1984).

Under T'oegye, a group of the brilliant Neo-Confucian literati living in the Southern area gathered, who devoted their energy to pursuits mainly at the private academies or *Sowon*. They remained in the South for a very long period, in order to avoid being involved in the

[3] The other contrasting but inseparable component of Confucius philosophy is *ki* (*Ch'i* in Chinese) which emphasizes the energizing component. See "The Culture of the Neo-Confucian Literati," (Lee, 1984, pp.217-220), for the detailed discussion of Korean Confucian tradition.

vortex of court politics. The succession of the utmost level of scholarship was made by the development of an academic lineage. Among the Southerners, Sungho (Yi Ik, 1681-1763) was the exemplar Confucius literati who was flexible enough to embrace Western Scholasticism and made a great contribution to the renaissance of Korean Confucianism in its later days. When he passed away, one of his disciples and the statesman of the time, Prime Minster Chae, wrote the following memorial words on his tombstone.

> Our scholarship had always grown from an academic lineage. The Korean Confucius, T'oegye, taught his Way to Hangang who taught it in turn to Misu. As a disciple of Misu, Sungho inherited the legitimate academic lineage of T'oegye.

Academic lineage had nothing to do with *Sungkyunkwan* or *Four Schools* established and run by the center and local government, respectively. This lineage was made through private gates. The academic linage was transferred to the next generation of scholars. The East & West cultural collision in the early 18th century lead to the birth of various new schools of thought ranging form voluntary conversion to Catholicism, to the birth of a movement rejecting heterodoxy, and to the rise of practical learning (Kim, 2007b).

A group of early converts led by Yi Pyok (1754-1785) and Sung-hun Yi (1756-1801) started to emerge, not through the works of Catholic mission abroad, but rather on their own through reading, discussions and their critiques of works brought back from Churches in Beijing, such as the *True Principles of Catholicism* (written by a Jesuit monk called Mateo Ricci) or the *First Steps in Catholic Doctrine* (Lee, *op. cit*, p. 239). All the scholastic activities and serious pursuits which sought a new way took place at the private letter hall run by Yi Pyok (or Byok). There even followed an establishment of what came to be called the St. Joseph Seminary, to train Korean priests in 1864. As an aftermath of the French Revolution, Jesuit priests working at Beijing Churches were expelled and replaced by priests from the Society of Foreign Missionary of Paris. It was the letter group who gave specific instructions to the Korean church not to observe traditional rites. It was only after early converters of Chosun faithfully followed the instructions and started to challenge the political order through the Rites Controversy that the chain of events which led to the Catholic Persecution of 1801 actually began. The *Letter Hall* established by Yi at a secluded place near the Buddhist temple of Chonjin Am in the deep mountains is regarded now as the birthplace of Korean

Catholicism.[4]

The second fraction of Sungho's disciples went on to firmly preserve the values of Neo-Confucian doctrine. The historical records indicate that this group read a vast amount of books on scholasticism. Leading literati of this group wrote to his mentor, Sungho, letters severely criticizing the drawbacks of the European University system, especially the order of knowledge. For him, feeding technical and professional knowledge to pupils without a sound base of character-building was not education at all. After this group proposed a political position rejecting heterodoxy -- which in fact meant a rejection of the values and thoughts of the West, including that of later westernized Japan -- this fraction advanced their position to vehemently oppose the opening of the doors to the West, by raging a righteous war against the regime and the Japanese invaders.

The *Sirak* (Practical Leaning) scholars led by Dasan (Chong Yag-yong, 1762-1836) put a specific focus, not on theoretical discourse, but on natural and social sciences with a pragmatic method of inquiry into the real conditions of society. Along with him, like-minded scholars, and disciples all sought a government free of corruption, national wealth, and utilitarian land reforms. There were no records showing his having entered *Sungkyunkwan*, but he was remembered to be the best of the best literati, who built a springboard for the modern political and social reforms in later days. Led by Dasan and succeeded by his academic linage, the *Sirak* scholars "impelled Yi Dynasty scholarship rapidly ahead in new directions."(*ibid*, pp. 232-243)

In short, some major characteristics of higher learning in the Kingdom of Chosun can be specified as follows. Unlike the European model, it did not take the form of formal or institutionalized higher education. *Letter Hall* was possible any time and in any place, if there was a scholarly teacher and a group of students with a minimal level of financial burden, but the desire and capacity to learn. *The Hall* was open to virtually all men, with a few exceptions. Co-existing with a network of public education institutes, private education institutions functioned as the center of excellence in research and higher learning. Family was, not government, a major actor in increasing educational opportunities. This archetype of the NFLI form of higher education repeatedly appeared to meet peoples' demands for higher education under the Japanese occupation, which tried systematically to destroy indigenous private higher education. The current structures and operational environment of Korean

[4] For historical records on the birth place of Korean Catholic Church and Yi Byok's pioneering activities and advanced scholarship, make a visit to a website at http://www.chonjinam.or.kr/english/

universities reflect various conflicting systems and models. They included a traditional mentor-disciple relationship, the German research university model adopted and transplanted to Korea by Japan, and an American system of tertiary education progressively introduced after 1948 (Kim, 2007b).

VI. Some Reflections

The great leap forward to excellence in research shows that SNU appears to have reached a world-class level. It shows that any flagship university in peripheral Asian countries has the potential to become a world-class university. There are many forces that may have led to these impressive achievements. The first factor is the fundamental strength of the Korean secondary education system. Students who enter SNU do so after having undergone a tremendous amount of high-quality preparation. According to an international survey published by the Organization for Economic Cooperation and Development, Korean students in secondary education ranked among the top three countries in terms of problem-solving and mathematical skills (OECD, 2004a, 2004b). Thus, it is not surprising that SNU, which admits only the most able students from a wider pool of students who already exhibit high level problem solving and mathematical skills, has the potential of becoming a world-class university.

The second factor is the quality of undergraduate education received by the students while at SNU. In the *Chronicle of Higher Education,* it was reported that SNU was second only to the University of California, Berkeley in producing more undergraduate students who later earned doctorates from American universities between 1999 and 2003 (Gravois, 2005). The undergraduate programs of SNU seem to serve as the second-best "university college," an outstanding source of undergraduates who went on to pursue advanced study in the United States (Jenks & Riesman, 1968, p. 20–27). SNU has in fact functioned as a good preparatory institute for doctoral programs of American research universities.

The third force supporting the creation of world-class universities in Korea, involves the Korean intellectual tradition of a strong and committed relationship between a mentor and disciple that serves as a potent academic ingredient in graduate

programs. It is fascinating to see the Korean traditional cultural pattern playing a practical role as a crucial resource in the globalization of its modern educational institutes. Scientific knowledge is not immune to political and ideological forces. A challenge that will require ongoing attention is the task of enabling a university in a middle-income country to find a niche in the global intellectual community while maintaining a commitment to the country's unique traditional heritage without compromising the institution's international competitive edge. Participation in the global community of world-class universities as a competitive partner requires enormous reserves of determination, tremendous effort, and a plethora of resources. Even while taking as a benchmark the models developed and refined in the core industrial countries, Asian countries should not abandon their own intellectual traditions. These countries need to be relevant in the global intellectual community while being mindful so as not to become victims of any emergent tendency towards intellectual neocolonialism in the 21st century.

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