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Ancient Indian Universities as centre of learning: Study of Nalanda and Vikramshila

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Abstract

Between the fifth and thirteenth centuries CE, the ancient region of Magadha (modern-day Bihar) transformed traditional Indian education by establishing residential, institutionalised centres of higher learning known as *mahaviharas*. This study examines two of the era's most distinguished institutions: the Nalanda and Vikramshila Mahaviharas. Evolving from the conventional *gurukula* system into complex academic communities, these universities integrated residential facilities, organized libraries, rigorous admission processes, and comprehensive interdisciplinary curricula.

Nalanda Mahavihara, established in the fifth century CE, operated as a multidisciplinary pioneer. It combined Buddhist theology with logic (*Hetuvidya*), Sanskrit grammar, medicine, astronomy, and mathematics, while accommodating thousands of scholars within an advanced, climate-conscious physical campus. Its renowned library complex, *Dharmaganja*, alongside its selective admission entrance exams, fostered a globally connected hub for research and intellectual diplomacy that attracted students across Asia. Conversely, Vikramshila Mahavihara, founded in the late eighth century CE, developed a specialized academic focus, gaining prominence for its expertise in Vajrayana (Tantric) Buddhism, logic, and metaphysics. Governed by distinguished *Dvar-Pandits* (Gate Scholars) who administered strict entrance evaluations, Vikramshila served as a vital intellectual bridge, particularly in transmitting Buddhist thought and manuscripts to Tibet through figures like Atisa Dipankara.

Despite structural differences, both institutions prioritized rigorous debate (*shastrartha*), manuscript preservation, and holistic knowledge production, supported by royal endowments. Although military invasions in the late twelfth and early thirteenth centuries abruptly halted their operation, the educational paradigms of Nalanda and Vikramshila centred on multidisciplinary inquiry, active debate, and international scholarly exchange endure as foundational models for contemporary higher education.

Keywords: Nalanda, Vikramshila, Mahaviharas, Ancient Magadha, Vajrayana Buddhism, *Shastrartha* (Debate), Higher Education

Introduction

The ancient region of Magadha, located in present-day Bihar, “emerged as one of the most important centres of institutionalized higher education in the Indian subcontinent [1].” Between the fifth and thirteenth centuries CE, “the region witnessed a significant transformation in the traditional systems of learning. Buddhist monastic establishments gradually developed into large, organized, residential centres of higher learning known as *mahaviharas* [2].” Unlike the conventional *gurukula* system, these

institutions evolved into complex academic communities that brought together teachers, students, libraries, residential facilities, and systems of intellectual debate within a single institutional framework. Their curriculum extended “beyond religious instruction to include logic, grammar, philosophy, medicine, astronomy, mathematics, and other branches of knowledge. Among these institutions, Nalanda and Vikramshila emerged as two of the most distinguished centres of ancient Indian intellectual life and played a major role in shaping the history of education across Asia [3].”

Nalanda Mahavihara: A Pioneer of Residential Higher Education

Nalanda Mahavihara was established in the fifth century CE under the patronage of the Gupta emperor Kumaragupta I, who is “identified in some traditions with the name Shakraditya ^[4].” It subsequently received “support from successive rulers, including King Harsha and the Pala monarchs, enabling it to develop into one of the most influential centres of learning in Asia ^[5].” “Nalanda functioned for several centuries as a major residential institution and attracted students and scholars from different parts of India as well as from China, Korea, Tibet and Southeast Asia ^[6].” Its institutional structure represented an important development in the history of higher education because learning was organized within a permanent residential and scholarly environment.

The curriculum at Nalanda was remarkably broad and was not confined to Buddhist theology. Logic, particularly “*Hetuvidya*, and Sanskrit grammar occupied an important position in the intellectual training of students and provided a foundation for systematic reasoning and textual interpretation. Alongside Mahayana and other Buddhist philosophical traditions, students studied medicine and Ayurveda, astronomy, mathematics, grammar, philosophy, and various arts and sciences ^[7].” The intellectual environment of Nalanda was closely associated with the wider scientific and mathematical traditions of ancient India. Scholars such as Aryabhata are often placed within the broader intellectual milieu of the region, particularly in relation to developments in mathematics and astronomy.

Nalanda was also distinguished by its large residential population and highly organized academic life. Historical accounts describe the institution as accommodating thousands of students and hundreds, and at certain points possibly more than a thousand, teachers. Some traditional accounts place “the number of students at approximately 10,000 and the number of teachers between 1,500 and 2,000. Although the precise figures remain a matter of historical debate, these accounts nevertheless indicate the considerable scale of the institution ^[8].” Admission was selective and intellectually demanding. “Prospective students were required to undergo rigorous oral examinations conducted by learned scholars stationed at the entrance gates. The process ensured that admission was based primarily on intellectual ability and knowledge rather than merely on social status ^[9].”

The library complex of Nalanda was central to its academic and research culture. Known collectively as “*Dharmaganja*, or the “Treasury of Truth,” the library is traditionally described as consisting of three major buildings: *Ratnasagara*, *Ratnodadhi*, and *Ratnaranjaka*. These repositories housed religious scriptures, philosophical works, commentaries and other scholarly manuscripts. *Ratnodadhi* is described in traditional accounts as a particularly large multi-storeyed structure ^[10].” The existence of such an extensive library system demonstrates that Nalanda functioned not merely as a teaching institution but also as a major centre of research, manuscript preservation and intellectual exchange.

The architectural design of Nalanda further reflects the sophisticated knowledge of construction and environmental management available in ancient India ^[11].” “The buildings

were primarily constructed with durable red bricks, while their thick walls helped regulate internal temperatures. The architectural arrangement also facilitated ventilation and the circulation of air within the residential and academic spaces. The campus possessed organized systems of water management, drainage and sanitation ^[12].” These features indicate that the physical environment of Nalanda was designed not only for religious and educational purposes but also to provide a sustainable and functional residential setting for a large scholarly community.

Nalanda also served as an important centre of international intellectual diplomacy. Scholars and pilgrims from China, Korea, Tibet, Central Asia and Southeast Asia travelled to the institution in search of advanced knowledge. “The Chinese Buddhist pilgrim Xuanzang studied at Nalanda under the eminent scholar Shilabhadra and later carried his intellectual experiences and Buddhist knowledge back to China. Another significant indication of Nalanda's international connections is provided by the ninth-century copper-plate inscription associated with the Pala ruler Devapala. The inscription records the relationship between Nalanda and Balaputradeva, the ruler of Suvarnavdipa, generally associated with the Indonesian archipelago. It indicates that Balaputradeva established a monastery at Nalanda and requested Devapala to provide tax-exempt villages for its maintenance, the copying of manuscripts, and the welfare of resident monks.” Such evidence demonstrates that Nalanda was integrated into a wider network of Asian cultural, religious and intellectual exchange.

Vikramshila Mahavihara: A Centre of Specialized Buddhist Scholarship

Vikramshila Mahavihara was “established during the late eighth century CE by the Pala emperor Dharmapala. It was located near present-day Antichak in the Bhagalpur region of Bihar, on an elevated site overlooking the Ganges.” The institution emerged as another major centre of advanced Buddhist scholarship and eventually developed a distinctive intellectual identity of its own. Its foundation is traditionally associated with the desire to strengthen monastic discipline and maintain high standards of scholarship within the Buddhist educational system.

Unlike the comparatively broad academic orientation of Nalanda, “Vikramshila became particularly renowned for its specialization in Vajrayana or Tantric Buddhism. At the same time, its intellectual activities extended to logic, metaphysics, theology, grammar and other philosophical disciplines.” The institution attracted eminent scholars and tantric preceptors and became an important centre for the systematic study and transmission of Vajrayana thought. Its specialized academic orientation enabled it to make a distinctive contribution to the development of Buddhist philosophy and religious practices in eastern India and beyond.

One of the most notable features of Vikramshila was its carefully regulated admission system. The institution is traditionally described as having six major entrance gates, each supervised by a distinguished scholar known as a *Dvar-Pandit*, or “Gate Scholar.” These scholars were responsible for examining prospective students and assessing their intellectual and academic qualifications.

Eminent logicians and philosophers such as Ratnakarshanti, Vagisvarakirti, Naropa and Prajnakaramati are associated with this system. The practice reflects the importance attached to rigorous intellectual selection and demonstrates that admission to advanced centres of learning was subject to formal academic evaluation.

Vikramshila also played a particularly important role in the transmission of Buddhist knowledge to Tibet. The institution became a major intellectual bridge between eastern India and the Tibetan Buddhist world. Tibetan scholars and translators travelled to Vikramshila to study Buddhist philosophy, religious texts and practices. The institution maintained arrangements for accommodating scholars involved in this intellectual exchange. One of its most celebrated scholars and abbots was Atisa Dipankara, who travelled to Tibet in the eleventh century. His teachings contributed significantly to the reform and reorganization of Tibetan Buddhism and influenced the development of the later Buddhist traditions of Tibet.

The preservation and transmission of manuscripts constituted another important aspect of Vikramshila's intellectual life. Like other major centres of ancient Indian learning, the institution relied heavily on manuscripts written on palm leaves and other traditional materials. Such materials were particularly vulnerable to humidity and environmental deterioration. Consequently, the architectural organization of libraries and manuscript repositories was closely related to the need for protecting valuable texts. This emphasis on manuscript preservation reveals that ancient Indian universities were concerned not only with producing and transmitting knowledge but also with maintaining the material conditions necessary for its long-term preservation.

Nalanda and Vikramshila: A Comparative aspects

Although Nalanda and Vikramshila belonged to the same broader tradition of Buddhist higher education, they developed somewhat different academic identities. Nalanda had a relatively broad and multidisciplinary orientation, combining Buddhist philosophy with logic, grammar, medicine, mathematics, astronomy and other fields of knowledge. Vikramshila, on the other hand, developed a more specialized reputation for Vajrayana Buddhism, tantric studies, logic and metaphysical inquiry. Both institutions nevertheless placed considerable emphasis on intellectual discipline, rigorous admission procedures, scholarly debate and the close relationship between teachers and students.

The two institutions also differed in their physical scale and institutional organization. Nalanda developed into a vast residential complex that accommodated thousands of students and a large body of teachers and scholars. Vikramshila was comparatively smaller but possessed a highly organized and fortified campus. Both institutions attracted scholars of international reputation. Nalanda became associated with figures such as Xuanzang, Yijing and Shilabhadra, while Vikramshila produced or hosted eminent scholars including Atisa Dipankara, Naropa, Ratnakarshanti and Vagisvarakirti. Their respective academic orientations complemented one another and contributed to the wider intellectual vitality of eastern India.

Broader Historical Significance

The educational model represented by Nalanda and

Vikramshila offers several important insights into the development of higher education in ancient India. One of their most significant characteristics was the “integration of different branches of knowledge. Professional or specialized learning was not necessarily separated from philosophical, logical and ethical inquiry.” Medicine, for example, existed within a wider intellectual environment that valued reasoning, philosophical reflection and ethical considerations. Such an approach anticipated, in certain respects, the contemporary emphasis on interdisciplinary and multidisciplinary education.

Another defining feature of these institutions was the importance attached to debate and dialogue. “The practice of *shastrartha* provided an intellectual framework in which students and scholars were expected to articulate their arguments, respond to opposing positions and defend their interpretations through reasoned discussion.” Learning was therefore not limited to memorization or passive reception of information. Debate encouraged critical thinking, intellectual confidence, analytical ability and an appreciation of alternative perspectives. In this sense, the pedagogical culture of the mahaviharas was deeply rooted in active intellectual engagement.

The economic foundations of these institutions also contributed to their institutional continuity. “Nalanda, Vikramshila and other major mahaviharas received substantial support through royal grants, tax-exempt villages, donations and endowments. Such resources helped sustain residential facilities, teachers, students, libraries and other institutional activities.” Their relatively stable economic foundations allowed them to maintain long-term scholarly traditions and created an environment in which intellectual activity could develop with considerable continuity.

During the Pala period, “a wider network of major Buddhist educational institutions developed in eastern India. Nalanda, Vikramshila, Odantapuri, Somapura and Jagaddala became interconnected centres of Buddhist scholarship. Teachers, students, manuscripts and intellectual traditions moved among these institutions, creating a broader regional system of knowledge production and transmission.” This network transformed eastern India into one of the most important intellectual zones of medieval Asia and strengthened cultural and scholarly connections between India, Tibet and Southeast Asia.

The flourishing of these institutions was eventually disrupted by military and political upheavals in the late twelfth and early thirteenth centuries. Nalanda suffered destruction during the campaigns associated with Bakhtiyar Khalji, traditionally dated to around 1193 CE, while Vikramshila was destroyed during the subsequent military expansion into eastern India. The destruction of these centres marked a major rupture in the institutional continuity of the ancient Buddhist educational tradition of the region. The loss of their libraries and manuscripts also represented a profound intellectual and cultural setback.

The legacy of Nalanda and Vikramshila, however, continues to have relevance in contemporary discussions of higher education. The establishment of the modern Nalanda University at Rajgir and the inauguration of its new campus in June 2024 represent significant efforts to reconnect contemporary India with the intellectual heritage associated

with the ancient institution. Similarly, proposals to revive the Vikramshila tradition through a modern higher-education institution reflect continuing interest in the region's historical contribution to knowledge and scholarship. The enduring significance of Nalanda and Vikramshila therefore lies not merely in their antiquity, but in the educational ideals they represent multidisciplinary learning, residential scholarship, rigorous debate, international intellectual exchange, preservation of knowledge and the pursuit of intellectual inquiry across disciplinary boundaries.

Conclusion

The ancient *mahaviharas* of Nalanda and Vikramshila represent a transformative era in the history of higher education, marking the evolution from traditional, localized learning into sophisticated, institutionalized university systems. Supported by royal patronage and stable economic foundations, both institutions established enduring models of residential scholarship, rigorous gatekeeping admission processes, organized manuscript preservation, and vibrant cultures of interdisciplinary study. While Nalanda distinguished itself through a broad, multidisciplinary curriculum encompassing science, mathematics, medicine, and philosophy, Vikramshila forged a specialized identity centered on Vajrayana Buddhism, metaphysics, and pivotal cross-border knowledge transmission to regions such as Tibet.

Together, these institutions placed eastern India at the center of a dynamic, pan-Asian network of intellectual exchange and diplomatic contact. Through the institutionalization of *shastrartha* (reasoned debate), learning was elevated beyond passive memorization to foster critical analysis, open dialogue, and active engagement across diverse traditions. although military conflicts in the late twelfth and early thirteenth centuries tragically disrupted their physical continuity and led to the tragic loss of invaluable libraries, their pedagogical legacy remains profoundly impactful. Modern initiatives to revive both Nalanda and Vikramshila underscore the lasting relevance of their founding ideals offering timeless principles of interdisciplinary inquiry, global scholarly collaboration, and holistic knowledge production for contemporary higher education.

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