Kazakhstan’s Quest for a World-Class University: The Story so Far

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INTRODUCTION

Like policy makers and government officials elsewhere the political leaders in Kazakhstan have been grappling with how to create, develop and maintain at least one national university that is recognised as one of the best in the world (as discussed in Chapter 2 and in Hartley et al. 2016). Their motivations are like those expressed by other nations such as setting a standard that will lift other national universities, becoming a more active part of the global scientific community, fostering national prestige or pride, creating and retaining talent, and ultimately increasing economic competitiveness. And like leaders elsewhere they look to global ranking schemes as a seemingly objective measure to judge progress towards a goal, usually having a national institution in the top 100 or 200 universities by a certain year (Hazelkorn 2014, 248–9).

This idea of emulating elite institutions in more economically advanced nations is not new. India based the development of its Institutes of Technology (IITs) in the late 1950s and 1960s on four different national models – Britain, West Germany, the Soviet Union and the USA (Leslie & Kargon 2006; Bassett 2009). IITs were partly a product of Nehru’s enthusiasm for science and technology (Nautiyal 2010, 387), but they also addressed the aspirations of a largely urban middle class who wanted educational opportunities for their children. In the last 20 years there has been a growing interest among developed and developing nations in the creation of one or more national world-class universities (see Liu
et al. 2011 for some examples). This essay briefly surveys the different conceptions of world-class universities (WCUs), gives a short overview of the steps Kazakhstan has taken to establish a WCU and offers an assessment of how the current strategy is faring. It concludes with a discussion about how Kazakhstan’s actions inform our understanding of the key policy elements in a national WCU strategy.

**DEFINING ‘WORLD-CLASS UNIVERSITIES’ (WCUS)**

There have been numerous attempts to create a university regarded by its competitors as one of the best in the world. It is a daunting challenge. Ultimately, success entails shifting the perceptions of peers and the wider academic community about an institution’s relative quality. In short, prestige determines membership in this elite group (Altbach 2004, 2005; Altbach & Balan 2007; Shattock 2003, 2010; Krishnan 2005; Deem, Mook & Lucas 2008; Ngok & Guo 2008; Salmi 2009; Shin 2009; Rhee 2011; Yang & Welch 2012.)

The key purpose of most aspirant WCUs is to produce high-quality research both as an end in itself and as a driver of enhanced reputation. For example, Jiang Zemin, as premier of China, invested in building first-class universities because these institutions would ‘train high-level creative talent, turn out high-standard, original research results and make outstanding contributions to society’ (Ngok & Guo 2008, 548). Similar claims have been echoed by other countries including the German Federal Government’s excellence initiative (Kehm, 2006 & 2009), the Korean government’s three WCU funding programmes (Byun, Jon & Kim 2013; Shin 2009), and in Japan’s attempts to develop WCUs (Yonezawa 2007).

Despite the narrow focus on research and reputation, most definitions of what makes a great university are broad. Salmi (2009) offers a small number of generalities: ‘high concentration of talent’, ‘abundant resources’ and an operating environment that encourages ‘innovation’ and managerial independence. While undoubtedly correct, such ‘generic but informative traits’ (Douglas 2014, 4), offer little guidance to institutional leaders other than hire well and raise money; advice that might be given to the leaders of a startup enterprise in any field and of limited help for developing nations where recruiting talent and securing resources constitute major challenges.
Scholars examining higher education management tend to be more granular, specifying desirable principles and processes (Alden & Linn 2004; Douglas 2014) or stipulating principles or axioms embedded in exemplars like Japan’s Imperial universities (Yonezawa 2007) or USA’s research universities (Rosovsky 2014). These longer lists tend to cover a wide swath of specific issues, from financial stability to recruiting international students and faculty. The selection criteria used by the Japanese government to identify institutions likely to be recognised as world class for example included having an office to recruit international students, having at least one undergraduate programme taught in English and the ‘granting of 340 or more postgraduate degrees’ annually (Yonezawa 2011, 71).

Moreover none of these lists offer both a clear sense of priorities and a sequence of steps that might be taken. Such frameworks offer limited guidance to a new institution’s leadership team. It is more useful to concentrate on core elements or operating principles, policy settings and resource priorities. For instance, answers to the following five questions should produce a clear picture of an aspirant university.

- Is the academic mission clear and focused?
- Is there a high-quality student intake?
- Does it attract, retain and reward high-quality people?
- Is it financially stable?
- Does it set and apply high graduation standards?

The topics cover processes as well as the enabling conditions that contribute to an environment conducive to learning and scholarship. They lead to a more detailed understanding about resource allocation and institutional priorities without prescribing a particular model or specifying an institutional mission or purpose. They concentrate on activities like recruiting students and faculty that are common to all universities and on financial security and the integrity of academic standards.

POLICY CONTEXT

Although the evolution of Kazakhstan’s higher education system is described in detail in Chapter 1, it will be useful here to briefly describe
the steps and actions that shaped the policy and operating environment surrounding the current WCU project in Kazakhstan before applying the five questions identified above.

Since independence in 1991, Kazakhstan's leaders have made a number of attempts to develop a highly rated university. The first was the formation of The Kazakhstan Institute of Management, Economics and Strategic Research (KIMEP) in 1992. KIMEP began as a small institution granting graduate degrees in management and public administration. It broadened its academic programmes, adding undergraduate programmes in 1999. It was effectively 'privatised' in 2000 with ownership shifting to a joint-stock company with the founding president the principal shareholder. It became recognised as KIMEP University in 2012. It continues to operate focused primarily on finance and accounting, and while it produces good-quality graduates, faculty members struggle to establish or maintain internationally significant research profiles.

Kazakh British Technical University (KBTU) was founded in 2001 as a cooperative endeavour between Kazakhstan's Ministry of Education and Science (MoES) and the British Council. The academic focus is on the energy sector and it created partnerships with universities with ties to the British oil industry. KBTU's narrow focus is highlighted by its role in staff retraining and professional development for the oil and gas companies and industrial organisations.

Both KIMEP and KBTU took advantage of existing physical infrastructure in the old capital of Almaty and of the local presence of financial and energy corporations. But their narrow academic focus and limited research profile constrained them from developing into elite or globally recognised universities as did the regulatory environment, described by Sarinzhipov in Chapter 10, which stifled innovation. The location was also problematic. The government decided in 1997 to relocate the national capital further to the north of the country, to the town of Akmola, which was renamed Astana (which means 'capital' in the Kazakh language). The new city is 'a nationalistic project developed in order to promote the official ideas about Kazakh statehood and national identity' (Kopbayeva 2013, 812). Early plans envisaged Astana as an education and knowledge hub for the region and to promote economic development and reinforce the 'legitimacy of the Kazakh state and government' (Arslan 2014; & Koppen 2013, 593).
Kazakhstan’s President Nazarbayev included the creation of an internationally recognised university in the national economic strategy adopted in 2006. MoES was responsible for constructing what was initially called the New University of Astana (NUA), which aimed to become the central Asian region’s leading scientific and education center (Observatory on Borderless Higher Education 2009). Initial progress was uneven and slow. The Ministry was more concerned with lifting the quality of existing universities and was slow to develop a coherent plan for the new university. The goal had been to have NUA open by the 2009/10 academic year. But by early 2008 construction was incomplete, there was neither a university president nor a governance structure and there was no academic infrastructure. This led the Government of Kazakhstan to seek advice from the World Bank on how to accelerate the project by helping MoES identify academic partners and by advising the joint-stock company (JSC) in charge of construction. During the next 12 months a management team headed by a senior Ministry official supported by World Bank tertiary education specialists and international consultants developed a model for NUA by undertaking a global survey of best practices and by visiting universities and institutes in Boston, Palo Alto, Singapore, Qatar, London and Cambridge. Subsequently, in April 2009 MoES met with representatives of University College London, University of Cambridge, Stanford University and the National University of Singapore to discuss a possible NUA governance model, and the structure and composition of an international advisory panel. There was still little attention to the academic programme, to the selection of students or to the mechanics of running a large, complex institution. There was a debate about the merits of three strategies for academic partnerships. One was to emulate the Education City model of multiple-branch campuses in a common geographic space like the one visited in Qatar. Another was to pursue joint academic programmes with prominent universities with both NUA and its partners issuing joint degrees based on a curriculum set by the partner universities. The third was for NUA to create its own programmes in partnership with international institutions. The MoES team favoured the dual- or joint-degree approach. (World Bank 2010; Hopper 2014.)

Yet there was still little progress and little likelihood of NUA hiring any faculty, enrolling even one student or offering any academic programmes by September 2009. The government acted by inviting
requests for proposals to make NUA operational by September 2010 with stage one construction completed by mid-year.

The successful team led by Sarinzhipov and composed of people with a deep understanding of how to work effectively in the local political and administrative environment took over late in 2009 and began drafting an Act of Parliament to define the legal status and autonomy of the New University. Rather than appointing a university president who would then assemble an academic leadership team, the core strategy was to identify strong institutional partners to launch the undergraduate schools by creating a ‘foundation year’ programme to serve as a bridge between Year 11, the final stage of Kazakhstan’s public schools and NUA’s degree programmes. The team decided to pursue the third option debated in April 2009 – creating a national university in partnership with leading universities who would help in curriculum development, in recruiting deans and faculty members, setting and maintaining standards, and developing research programmes. The result is what is now known as Nazarbayev University, which was formally opened by the President in June 2010 and classes started in September that year. Its status as an autonomous institution was enshrined in law in January 2011. This is a very important feature of NU and one that distinguishes it from other national universities and from the two earlier attempts (KIMEP and KBTU) to seed internationally recognised universities in Kazakhstan. It is tied to the government’s expectation that NU would be more than a world-recognised university; it will also serve as a model of exemplary practice for all universities in Kazakhstan and a site of innovation and experimentation. NU is expected to test, evaluate, adapt and customise successful higher education practices from other countries and disseminate these practices to other universities in Kazakhstan. One of the international practices in question is institutional autonomy. NU is legislatively independent of MoES. It has a board of trustees that oversees its operation, which includes independent decisions in curriculum design, admission standards and faculty compensation. The board is responsible for ongoing institutional oversight, in partnership with the university president. The president is selected by the board, not the Ministry or the government, as is the case of other public universities in Kazakhstan.
NAZARBAYEV UNIVERSITY (NU)

Nazarbayev University (NU) is a distinctive feature of the government’s 2020 economic and social development strategy and has been a key element in the government economic plans since 2006. It has also been a cornerstone of the ‘State Program of Education Development’ since 2011. The university’s mission is ‘to be a model for higher education reform and modern research in Kazakhstan and to contribute to the establishment of Astana as an international innovation and knowledge hub’ (NU, nd.). Created through partnerships with leading universities and research institutes in the US, England and Singapore, NU operates as a research-intensive university that uses English as the medium of instruction. The initial academic partners were University College London, Carnegie Mellon, University of Pittsburgh, University of Wisconsin-Madison, Lee Kuan Yew School of Public Policy at the National University of Singapore, Duke University and the University of Pennsylvania.

NU’s first cohort of Bachelor’s degree students enrolled in 2010 and graduated in May 2015. Its first Master’s students from the Graduate School of Education graduated in 2014 and it enrolled its first doctoral students in 2014, the first of which will graduate in 2017.

The university’s basic goal is to produce graduates who are comparable with those of the best institutions in other countries. It is an elite institution with a highly competitive admissions process. The NU entrance process is designed to identify and select students on the basis of intellect and English-language proficiency. The tests include an initial screening for English proficiency, followed by two subject-specific tests and then an official International English Language Testing System (IELTS) test. In its first five years of operation NU admitted approximately one out of eight applicants annually. Demand has remained high in some measure because those admitted receive a full scholarship covering tuition and accommodation. By enrolling approximately 500 new undergraduate students a year, NU takes in less than 1% of the national first year university cohort.

The academic programmes and research centers at NU have a strong emphasis on science and engineering and English. This emphasis is a product of the Soviet legacy, which valued science over humanities (Navoyan 2011) and the nation’s economic priorities, which are skewed towards science-based enterprises.
NU's vision refers to the university's role in developing 'the scientists, academics, managers and entrepreneurs' the nation and the world need 'to prosper and develop'. There is a desire to produce leaders – whether leaders in society or leaders in the various disciplines or fields. The initial focus on leadership in the technical and scientific fields expanded to include the social sciences and humanities before the university opened, partly through the advocacy of the first provost and partly at the urging of some of the international partners. After NU opened, other economic and industry groups began to lobby for representation in the university's academic programme. The NU leadership denied a request to open an agricultural school since there were already strong programmes at two universities with locations closer to arable soil and connections to rural industries. It therefore made little sense to have NU duplicate these efforts. But the Medical Holdings, the Innovation Cluster, and the Graduate School of Education have been established and the School of Mining and Geosciences will take its first students in September 2017.

Adding these new schools and programmes takes resources, leadership attention and energy away from the core goal of becoming a WCU relatively quickly. This 'mission creep' also increases the cost of creating a WCU by adding new programmes, more faculty members, more facilities and more students. Conversely it broadens the base of support for the enterprise by being responsive to changes in the market or the political environment (Longanecker 2008).

In summary, NU aspires to be a globally recognised institution with national and regional impact. It is grounded in a common economic and social vision of society. And it has a marked degree of independence from the Ministry and other regulatory bodies in the higher education system.

NU's most notable implementation strategy is its engagement with multiple international strategic partners. NU is neither a branch campus nor a consortium. It has been established and is funded by the Government of Kazakhstan and its international partners are involved on a contractual basis. Using multiple partners minimises risks that could come from relying excessively on a single partner. It also has the advantage of enabling the university to select the best partner to support particular academic programmes – for example, a business school – rather than taking bundled services of uneven quality from a single source. Additionally it allows NU to change partnerships when a
relationship proves to be too costly or overly transactional with no mutual benefit or collegial exchange.

NU is well resourced by international standards and very well resourced by domestic standards. It pays higher salaries than local institutions for local talent, and pays internationally recruited faculty at global market rates or better. The infrastructure is notably better than the fabric of domestic universities, with cutting-edge labs, modern classrooms and comfortable living spaces for faculty, staff and many of NU’s students. NU’s per capita funding is approximately three times that of funding rates at Kazakhstan’s national research universities. Volatility in commodity prices, especially oil prices, has already put pressure on education reforms and threatened to dampen the level of state support despite a sovereign wealth fund that has been established as a buffer to fluctuations in global market prices for oil and gas (IMF 2015).

NU operates under a law that frees it from many regulations and norms expected by the Ministry of Education and the Ministry of Finance. This freedom extends to academic independence and ease of recruitment of international staff. The curricula of the schools and programmes at the university are determined by NU, with varying degrees of involvement from the strategic partners, rather than from the Ministry, as is largely the case for the nation’s public universities. NU faculty members participate actively in its Senate, especially on issues that affect teaching and research as well as topics like promotion and health and safety on campus. This shared governance with the executive leadership of the university is unprecedented in Kazakhstan’s higher education system.

NU is an avowedly international university. This is obvious in the composition of its leadership which comes from many different nations, its strategic partners, in the recruitment of international scholars and researchers, and the adoption of international academic standards and programmes. The deliberate strategy of internationalisation has not yet extended to the composition of the student body; there are presently only nine international students.

In summary, after five years of operation, NU has established a high-quality student intake at undergraduate and graduate levels and developed working relationships with a range of international academic partners.
TWO QUESTIONS ABOUT A WCU STRATEGY

Two recurring tensions have emerged in debates about WCU's in various national contexts. The first involves the impact of pursuing this strategy on the distribution of public funds within a nation and the second is the viability of transferring practices established by a WCU to a wider set of institutions who do not share its resources or prestige.

The argument for resource concentration is that targeting money and talent is more likely to produce excellence in academic outputs, better learning and better research than diffusing resources in an effort to produce incremental improvements across a system. This is a classic debate in public resource allocation – selectivity and focus versus inclusivity and breadth. How it is resolved ultimately depends on what policy makers see as the desired end: is the goal to create an elite institution or is it to spur small improvements across many institutions?

A related argument is about the size of the investment that is needed to realise real improvement in any one location. Some facilities like laboratories require lumpy investments, large amounts of money in start-up and setup costs. Spread too thinly no location can afford the setup cost.

A third proposition is that additional resources alone do not drive improvement across a system of higher education. Ideas, observable examples of good practice, models of effective teaching and learning are also powerful elements in quality enhancement strategies. Access to sites of excellence and innovation can stimulate other institutional leaders to reflect on how to adapt and implement new ideas or practices within existing resource envelopes. Creating such a site is especially important in circumstances where travel is costly and time consuming and where there has been restricted access to ideas and information because of a history of central control and standardisation.

The necessity of concentrating resources has been an issue in research and science policy since the early 1960s when Price (1963) argued that the 'costliness of science' was creating a global market for research funds and research talent. His ideas were developed by Ziman (1987, 1994), who observed that while the global capacity for research was increasing, and the demand for more complex and more expensive research was growing, the funds for research were either static or not growing as quickly as the cost of research was increasing. The outcome was a 'fierce competition' for resources and science policy focused on
how to allocate the available funds via explicit processes. This greater selectivity meant that some lines of inquiry were funded more generously than others and in some cases nations selected fields of strategic or economic importance where some comparative or competitive advantage could be developed or maintained. The alternative, constant funding to all applicants would in Ziman’s view result in reduced research productivity and inefficiencies. Aitkin (1990, 244) supported Ziman’s argument and extended it to the institutional level: ‘the university will have to choose what it wants to be good at.’

These arguments persist. Competition for research funds is a common feature in many industrialised nations’ approaches to university funding (Himanen et al 2009). Kehm (2014) observes that the ‘gradual concentration of research’ funds and talent is also discernible at the institutional level. As resources are concentrated in a few institutions they become more research-intensive while others ‘might evolve into teaching-only’ entities (106). Nationally the concentration arguments are embedded in resource allocation regimes like the Excellence Initiative in Germany and the Research Excellence Framework in Britain. Research funding agencies like the European Research Council that use ‘excellence as the sole criterion’ and award grants to individuals rather than institutions are also examples of the power of concentration arguments (Luukkonen 2014, 34).

The most common challenge to WCU strategies and its advocates is to question the wisdom of concentrating public resources and political capital in one site or one institution. Concentrating resources sharply increases inequities by widening the gap between a privileged few attending the beneficiary institution and those who study elsewhere or who are not able to attend a university at all because of the cost. In addition, allocating more of the national education budget to one university constrains the development of other institutions and may even damage them by starving them of funds. In effect it creates a small number of high-quality, high-cost student places rather than producing a larger number of lower quality student places (Lee 2013, 240).

In sum, the concerns are essentially about privileging one site over all others through the concentration of resources. The implicit assumption, usually well founded, is that a WCU strategy seldom occurs with a concomitant net increase in public expenditure on higher education and research. Hence existing institutions end up with reduced budgets (Huisman 2008, 3). Even in those cases where there is a net increase in
expenditures, opponents of concentration argue that if the funds were spread more widely then more institutions, more students and more faculty members would benefit. This in turn would lead to a higher quality of education for a greater number of students, and more research funds and improved working conditions for more faculty members.

Other concerns raised by opponents of concentration include 'whether one or two [WCUs] can survive and make an impact amidst a sea of mediocrity' (Krishnan 2005, 1683). They suggest that too much attention on one institution may even 'harm an individual university' by creating 'unrealistic expectations that harm faculty morale and performance' (Altbach 2004, 23) or undermine the 'balanced development' of a nation's higher education institutions (Kang 2015, 175). The alternative proposition is that greater benefit comes from a broader group of good universities offering more diversity or by investing in 'more constructive and purposeful ways' rather than pursuing a goal of a 'few universities to feature in global rankings' (Yeravdekar & Tiwari 2014, 74). Others valuing egalitarian policies oppose the differentiation of a national university system into two tiers with different funding levels (Vogel 2005, 483).

The choice between concentration and diffusion of resources will depend on context and especially on the ultimate policy goal. The final decision to concentrate or spread investments will be grounded in the values and priorities particular to the culture or the political environment.

WHERE DO KAZAKHSTAN AND NAZARBAYEV UNIVERSITY SIT IN THIS DEBATE?

From 2009 to 2016, NU has been the beneficiary of an aggressive concentration strategy. It has been well resourced in capital and recurrent terms, receiving significantly more per student than every other public university. Its faculty members are paid much more than those at all other universities in the country. Its facilities and learning resources are better than other institutions. And it has benefited from a legal framework that gives autonomy on academic matters and in personnel decisions. There is a board of trustees that offers guidance and acts as a buffer to keep NU focused on its mission.

It has served as an example to other universities in the nation. Rectors from some of the larger universities sought greater autonomy citing the NU example. This has led the government to grant more autonomy to
ten national universities and to provide a greater share of research and development funds to selected programmes within this group. It has begun training rectors and senior leaders from these universities to take on more academic and managerial leadership. This is still evolving but these actions has begun to create an ecosystem where NU can operate with other institutions that are beginning to gain autonomy. Critics may say that concentrating resources on this group of ten universities may further disadvantage all other public institutions.

The transfer of good practice at one location to other sites is challenging. The history of laboratory and demonstration schools (Ruby & McLaughlin 2014) suggests that transfer does not happen without deliberate planning and action, without attention to how to influence actors in other institutions.

In the NU case transfer has been stimulated by creating a Eurasian Higher Education Leaders Forum that meets annually and, in addition to serving as a scholarly conference, conducts briefing sessions on institutional practice for senior administrators and academics from national universities and institutes. NU also acts as convener for the rectors of national universities and has delivered training programmes for rectors on university governance and financial management as a precursor to greater institutional autonomy. This ongoing training programme is informed by extensive research at various sites in Kazakhstan led by scholars from NU and its academic partners.

While these are commendable, the broader question is whether these acts of transfer could have occurred without incurring the large cost of a model site. Is it necessary to invest so much in a single location, to demonstrate proof of concept – ‘initial readings of efficacy’ (Fisch et al. 2015, 155) – for practices that are readily observable in many other locations?

CONCLUSION

The political interest in WCU’s is unabated, with the President of India asking ‘is it possible to become a world power without a single world class university?’ (Deccan Herald 2015). Concentrating public resources on a select set of institutions is a strategy pursued by countries at all levels of economic development including Germany, China and Kazakhstan.
There are various conceptions of WCU, but nearly all place research, resources and reputation as central elements. But generalities offer little guidance to those assigned the task of developing a WCU. Five areas that are amenable to action are keeping a clear mission or focus; selecting students; recruiting and retaining faculty; ensuring fiscal strength; and maintaining high graduation standards.

These areas provide a simple framework to look at live cases – current attempts to establish a WCU. Nazarbayev University has worked hard to have a high-quality student intake and to recruit an international faculty. It has been very well funded in its first five years of operation but faces fiscal uncertainty as a result of the substantial drop in oil and gas prices, and the erosion of value of the Russian ruble and the slight devaluation of China’s renminbi, the currencies of its major trading partners. It is making some initial progress in establishing research capability but has too few graduates to discern the market’s perceptions of their quality.

The NU case informs debate about two enduring questions about WCUs: is the level of resource concentration justified and how can good policy and practices be transferred from one site to many locations? Resolving these questions involves a heady mix of values, culture, national aspirations and fiscal reality.

As an example of a greenfield site approach to establishing a WCU, NU offers some approaches that are distinctive and which merit consideration by others pursuing the same goal. One is the benefits and challenges of having multiple academic partners. The main benefit is splitting risk, avoiding being dependent on one partner for advice and support across all academic programmes and policies. The main challenge is variability in approaches to common tasks like faculty recruitment (see Ruby et al. 2017). The merits of the multiple partners approach warrant further study.

NU in its first years has been an avowedly internationally oriented university in terms of faculty recruitment, academic partners, language of instruction and destinations of its first Bachelor’s degree graduates. Yet it has served almost exclusively local students. This contrasts sharply with the composition of student bodies at places like New York University in Abu Dhabi and the aspirations of the Japanese government that pushes its elite universities to internationalise. But this focus on domestic students ensures a measure of local support and sits more
easily with a policy of full scholarships for the first five or so years of undergraduate admissions.

Finally, the NU case shows some of the importance of institutional autonomy, the case for which is well illustrated at other points in this volume (Chapters 2, 4 and 10). Freedom to innovate and to respond to local community aspirations and shifts in economic and social conditions are essential components of a high-performing university.

NOTES

1 The mission is drawn from President Nazarbayev's 2006 speech on the nation's economic strategy and from the University's Charter. These and other official statements were used by an internal working group representing the 'university's leadership, faculty and staff' with some input from one of the international partners, to prepare a draft mission and associated strategic plan which were approved by the Board of trustees and by the Supreme Board, a small group chaired by the nation's founding president that oversees NU and two related organisations.

2 The number of academic partners has grown to nine at the end of 2016. There are also strategic partners for NU's national laboratory and its research and innovation system.

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