The Rewards

The precise and elaborate ranking of universities by the measure of exam competitiveness correlates with the ranking of jobs to be gained four years later.[9] Tokyo University is the major gateway to top jobs. It stands at the top of the employment pyramid, and any analysis begins there.

The reader unfamiliar with Japanese employment must keep in mind that in Japan, the university graduate taking a good job hopes and expects that his career will remain with that company or government entity until retirement. There is no developed job market for executive, managerial, or white-collar talent. Some of the well-educated do change around, and there is considerable transfer within any organization, but promotion and career success depend heavily on rising within the organization with which one starts. This fact makes the first job out of school far more important in Japan than in the United States or Europe. Proving one's worth is important for promotion to top positions within any organization, and getting oneself on the first rung of a desirable career ladder is a one-shot matter in Japan that is heavily dependent upon the status of the university one is just leaving. The right organization is defined by its future prospects and reputation, both of which are factors well correlated with material rewards, personal power, social prestige, and

9. Another measure of the value of university entrance is the price paid for copies of the test leaked out before exam day. The incidence of such cheating is rare, but the temptations are great at medical schools and elite universities. In 1979, copies of the Waseda University School of Commerce exam sold for $40,000 each.

work satisfaction as the Japanese see it. Graduates are, in fact, choosing lifelong institutional affiliations, not just specific jobs. To join a top institution one must come out of one of the top universities, and so forth on down the line.

Companies naturally try to hire those they perceive as the most talented individuals. Many of the country's top firms simply do not interview except at the top schools. And because there are no employment-oriented professional schools in Japan to provide a second chance to prove one's academic worth, the university entrance exam is *the* critical point of selection between high school and employment. Positions on the track to high government responsibility go to graduates capable of passing special employment examinations. Some latitude might be expected here, yet graduates of top universities do exceptionally well, and again Tokyo University dominates.

Having entered the top institutions, do the graduates of elite schools continue to rise? News magazines periodically survey the largest firms, ascertaining the educational background of top executives or newly appointed middle managers in order to gauge the ongoing predictive strength of top university affliation. In just two years, in four weekly magazines, fifteen such articles appeared with titles like "The Universities That Produce the New Middle Management," "Top Corporations and the Reality of Educational Background," and "The Top Twenty Universities in Terms of Company Presidents Produced." The material presented is factual and impressive. The results of one poll on the university background of top company presidents, for example, reads:

Tokyo University	357
Keio University	133
Kyoto University	125
Waseda University	92
Hitotsubashi University	79
Kobe University	53

Tokyo, from which about one in every hundred university students is graduated, can claim one-third of all large company presidents.[10] A survey of one hundred major companies listed on the Tokyo Stock Exchange in 1978 found that one-quarter of all chief ex-

10. *Shukan Yomiuri*, June 24, 1975.

ecutive officers were Tokyo graduates.[11] Invariably, the other schools listed are Keio and Waseda, the top private schools, and a set of the leading national universities. Other surveys produce much the same results regarding middle management positions. Take for instance one focused on the educational background of section chiefs in Japan's largest corporation, Japan Steel:[12]

Tokyo University	98
Kyoto University	23
Tohoku University	23
Kyushu University	23
Waseda University	19

At Sony Electric, famous for its self-proclaimed policy of ignoring educational background for promotions, the list reads:

Tokyo University	20
Osaka University	9
Yokohama National	7
Kyoto University	5
Kyushu University	5
Tohoku University	5
Keio University	4

Again, except for Keio and Waseda, all the schools represented are national universities. Together these elite schools account for about 10 percent of Japan's university population. The sad fact is that Tokyo graduates who fail to reach the top or near-top are subjects of much gossip, both empathetic and scornful, so great is the built-in expectation that they will do well after graduation.

Top jobs in the corporate world correlate closely with university background, but the national bureaucracy, including nearly all ministries, is positively dominated by Tokyo University. This has been true for eighty years. Middle management in the bureaucracy also comes largely from Todai, and 50–75 percent of all executive-oriented starting positions in most ministries go to its graduates.

11. *Business Community*, 18 (Spring, 1978), quoted in Beauchamp (manuscript).

12. *Sandei Mainichi*, March 16, 1976. Compare this with the findings of a 1981 Standard and Poor's survey: of 55,834 American executives, 1,827 (3 percent) and 1,494 (2.6 percent) had graduated from Yale and Harvard, respectively. "Executives and the Colleges They Went to." *Christian Science Monitor*, September 8, 1981, p. 19.

Typically, they improve their hold with promotion. A survey of all ministries and agencies in 1978 (Table 5) found that 62 percent of the executive positions were filled by Tokyo graduates.

In the Ministry of Education—explicitly assigned the task of disassembling the elite university influence over exams and jobs—sixteen out of eighteen of the top positions were filled by Tokyo University graduates in the mid-seventies. The national police headquarters, the public corporations, and even some prefectural governments follow the same pattern. Relatively speaking, business is less elitist than government, and small business is less elitist than large business. The pecking order of status among institutions is roughly proportionate to the number of elite university graduates, especially those from Tokyo. And finally, the faculty of Tokyo University is made up almost entirely of its own graduates.

The significance of the educational hierarchy does not end with elite jobs. Employment prospects are allocated by school rank down through the entire spectrum of middle-class positions. All companies, even modest ones, rank universities and high schools when hiring new employees.[13] Differences in the quality of candidates are presumed on the basis of school rank, which of course ultimately affects the entrance competition. For students of Otani and Okada, who have no thought of applying to Tokyo or the other elite national universities, there is still a very clear set of priorities among the middle-level private universities they are considering. Small gradations in their relative difficulty are appreciated, and a decision to do an extra year of *rōnin* study in order to make a try at a higher ranked school is not unusual. Four years later that extra year is likely to pay off in better job opportunities.

Entrance exams thus obviously serve as crucial screening devices for employers. They sort the nineteen-year-old population into an extensively differentiated hierarchy of presumed intellectual ability and dedication.

Not going to college means beginning work with an almost irremediable disadvantage. Going back to school is not an option, and

13. This is documented in a general manner by surveys of the Ministry of Labor [Rōdoshō] contained in its annual, *Rōdō Hakushō*, and specifically by my fieldwork in several Japanese companies and my work with high school career guidance counselors.

Table 5
Percentage of Officials Ranked Section Chief or Above in Ministries and Agencies of the National Government Who Are Graduates of Tokyo University

Office	*Percentage of Tokyo University Graduates*
Ministry of Finance	88.6
Ministry of Foreign Affairs	76.0
National Land Agency	73.5
Autonomy Agency	70.5
Ministry of Transportation	68.5
Ministry of Construction	67.5
Ministry of Agriculture & Forestry *	64.7
Ministry of International Trade & Industry	63.7
Ministry of Labor	61.7
Ministry of Justice	60.7
Economic Planning Agency	60.0
Ministry of Education	60.0
Defense Agency	57.9
Environment Agency	55.9
Ministry of Postal Services	50.8
Ministry of Health & Welfare	48.6
Prime Minister's Office	45.9
National Police Agency	44.9
Science & Technology Agency	44.9
Administrative Management Agency	40.5
National Government Average	62.3

SOURCE: Data from "What Does A University Mean to the Japanese," *Business Community* 18 (Spring 1978), p. 56.

* The figure for the Ministry of Agriculture and Forestry includes the Forestry Agency and Food Agency.

rarely will even the most talented high school graduates gain promotion above the university group in any sizable organization. Not long ago many very able high school graduates were attaining high rank in companies, but today, with more than half of all males obtaining some sort of higher education, a high school degree looks very insignificant.

Education and jobs are closely tied in every industrial country, but the Japanese situation has several important characteristics. As already mentioned, the weight of education in determining careers is increased by the one-company, one-career pattern. In management and technical areas, mobility and lateral opportunities are minimal. Movement out and up is rare in the case of most white-collar workers. Second, the rankings of universities in Japan are surprisingly sharp. One standard, entrance exams, makes this possible. By comparison, in the United States, regionalism in choice of schools, the unevenness of student quality, and admissions criteria that include many significant factors other than tested ability all contribute to the inclination to recognize four or five large tiers among universities but to remain vague about the matter and to withhold judgment when it comes to individuals. We acknowledge elite schools and distinguish educational status, but there are so many exceptions and many extenuating circumstances that our rankings do not influence the allocation of jobs in anywhere near as profound a manner. We also look at grades in college, a factor of little significance in Japan, and we have graduate schools where the deck is reshuffled.

Most European school systems, by comparison, involve considerable early tracking. Educational achievement levels and jobs are sorted out for most young people starting much earlier, and the entrance competition for universities involves a much smaller proportion of the total population. Only Japan and the United States take all willing students right up to the point of applying for higher education.

Japan is distinguished among industrialized societies by a system that retains the hierarchy and government-subsidized qualities of an elite higher education originally constructed on the nineteenth-century European pattern while expanding educational opportunities American-style in the postwar period. A hierarchical, ordered mass education has evolved. The expectation of lifetime employ-

ment gives entrance exams a weight and a broad currency that is particular to Japan. It must also be recognized that the Japanese are a highly achievement-oriented people who have long been encouraged to view education as a crucial avenue for personal advancement. A potent mixture results when the Japanese national character responds to the sharply drawn system of incentives and penalties presented by postwar education.

The Questions

The student caught in this crucible must concentrate on just one thing: preparing to answer particular kinds of questions. The examinations given by universities constitute an unintended cryptographic code by which social structure and personal ambition are translated into the imperatives of educational preparation. If entrance exams centered on musical skills, everyone would study music. If they were to measure manual dexterity, hand exercises would become enormously popular. What they do in fact measure is important for us to understand.

The only nationally standardized examinations, comparable to our Scholastic Achievement Tests, are conducted by private companies for the purposes of giving high school students practice in test taking and allowing them to see how they stack up against each other. Each university writes its own examination and offers it once a year on its own campus. Examinations last two days. The national universities have just begun (in 1979) jointly giving a standard screening examination. Those successful in this test can then go on to the examination of a particular national university.[14]

Hundreds of separate entrance examinations are given on campuses all over the country in February and March. A student cannot apply to more than two public universities because their exams are offered on only two occasions. The schedule for private universities is wider, but the fact of separate examinations still greatly constricts

14. The screening test (*kyotsuichi shiken*) serves only to qualify students to take particular university exams; those that pass the screening test must still take the entrance exam of a specific department. This test could be the foundation of a single national entrance exam someday, but it is too soon to assess its impact. In 1979, 341,000 students took the test to qualify to apply for approximately 96,000 places in national and other public universities.

the field of choice. Application to several departments of the same university is generally ruled out. Considerable care and planning is thus required in the application process.

Examinations would not be so singularly critical if other critieria were used in the admissions process. Only a few private universities do this and only in a minority of cases. Neither teachers' recommendations, nor grades in secondary school, nor extracurricular activities, nor personal character, nor special talents contribute to acceptance by Japanese universities. A small percentage of places in some departments of some private universities, are reserved to admit candidates by teachers' recommendations. But no student dares to count on this. In Japan, how one does during two days of answering questions makes all the difference. It is the sole and final measure of academic accomplishment.

Entrance exams have two facets: a compulsory part and an elective part. Each department specifies for its applicants what choice they have. Topics such as math and ancient literature are divided into several degrees of difficulty, with departments requiring a higher degree of difficulty when the subject is particularly relevant. The compulsory subjects are math, English, and Japanese. Science, medicine and engineering students must elect one social science topic for testing and are required to be tested heavily in math and science. About half of their total score will come from these two subjects. Humanities, education, social science, and law applicants are required to take the full battery of tests in social studies and Japanese but are examined in only one science of their choice and are allowed to skip the most difficult math section. In sum, all students must concentrate on math, English, and Japanese, and in addition they must specialize to a degree in either science or social studies, depending on their career inclinations. It is not possible to change departments once accepted by a university. Changing universities means beginning as a freshman all over again.

The exam questions are easily graded, as might be expected. Short-answer and multiple-choice questions prevail. Few, if any, essay or interpretive questions appear. Foreign language composition and oral skills are not tested. Nor are intelligence quotient kinds of questions to be found. Japanese universities have never made a serious effort to judge a candidate's raw aptitude for learning. They want to know how much has actually been learned and how well

information and theory can be applied to problem solving. Emphasis is on mastery of facts, control over details, and practiced skill in the application of mathematical and scientific principles. As most anyone with experience in exam taking realizes, some forms of learning and knowledge can be tested with precision and some are measured inadequately by the inherent nature of virtually any question-answer approach. Science and math fit the short-answer mode comfortably, humanities and social sciences do not.

Distortions are produced by any examination process, but in Japan, because of the great competitive pressures to prepare, the distortions are magnified. No matter how difficult or obscure questions become, the enterprising and brilliant students will master them. Such distortions flow back through the whole educational system, as parents and teachers respond to shifts in the nature and focus of exam questions. Of necessity, exams are based on the public school curriculum. Without a nationally standardized curriculum, entrance exams of the Japanese kind would be neither fair nor really possible. Some alpha factor of extra difficulty, reflecting what the faculty feels a well-prepared student should know, is added to the exam questions. The alpha factor is naturally greater the higher one goes up the university ranks. Supposedly, it is the faculty's way of sorting the sheep from the goats. The alpha factor makes a real difference on exams to the elite schools.

The process of making examinations is not subject to public scrutiny. Nor is it monitored by educational specialists. Rather, it seems to result from a mix of traditional practice and conventional academic insight. Secondary teachers are not called in to explain what they have been teaching students, as is done with SATs in the United States. Rather, the standardized high school textbooks are consulted. Most central to the process of making up exams today is last year's examination for the same department. Basically, each year a new set of questions is ground out on the old model.

With so much riding on examinations and with so many years of preparation invested by each candidate, universities recognize a responsibility to make no sudden changes. They announce plans for revision sometimes as far as ten years in advance. If a new economic theory or new questions in microbiology are going to be included, the groundwork for such learning must be laid in junior high school. If the correct answer regarding the causes of World War II changes,

then students trained to give the old answer should not be penalized. For reasons like this, the reform of the content of entrance examinations moves with glacial slowness. Each announcement of an intention to change the exams significantly is met with near panic by parents, teachers, and students. All fear that a disadvantage will be created for those who have been diligently preparing for the wrong questions. The content of examinations is, indeed, a sensitive public issue.

Following is a typical question that actually appeared on the Kobe University examination in 1974.[15] Kobe is an excellent national university just a notch or two below Tokyo. The question is from the social studies section.

> Select the appropriate answer for each numbered blank space from the list that follows the passage below. Fill in the dates directly.
>
> The philosophy that arose in ancient Greece had an enormous influence on subsequent human thought. The earliest form, (1) _____ philosophy, arose in the (2) _____ century in the (3) _____ region. Liberating itself from the mythological approach to natural phenomena, this philosophy aimed to explain the fundamentals of nature in a rational manner. (4) _____, who explained the origin of things to be water, and (5) _____, who treated the basis of matter mathematically, were representative scholars of the age. Following the war with (6) _____, democratic government was implemented with Athens as its focal point, and a school of teachers, the (7) _____, arose to give instructions to citizens in the arts of public debate. This development began the division of philosophy into component fields. As can be seen in the famous phrase, "Humans have many ways of measuring things," of (8) _____, the existence of absolute causality was denied by the assertion of subjective understanding. (9) _____ offered counter-arguments to this in his teaching. Known for his special questioning of students as a way of teaching them to understand the truth, he was misunderstood by his society and sentenced to death. One of his students, (10) _____, recorded his words and also bequeathed to the world a theory of idealism and a treatise on political utopia, and another student, (11) _____, drew together and synthesized all of existing Greek philosophy, for which he is now regarded as the figure representative of Greek learning at its zenith. In the latter half of the (12) _____ century, Hellenism arose, and, reflecting the decline of the democratic independent city-state, philosophy shifted from being primarily part of the education of a democratic citizenry to being part of the tendency to seek psychologi-

15. Questions are quoted from a book entitled *Kobe Daigaku*, published by Kyōgakusha (1974), one of an extensive annual series on the entrance exams of over 350 universities.

cal solace and contentment. The (13) _____ school, which explained matters in terms of pleasure and pain, and the (14) _____ school, which sought to eliminate appetites, were characteristic of the age. Both subsequently spread to the aristocracy of ancient Rome, where Emperor (15) _____, who wrote his confessions, and the philosopher (16) _____ were representative figures.

a. Academia	n. Dorian	aa. Enlightenment
b. Aristides	o. Pythagoras	bb. Natural Philosophy
c. Aristophanes	p. Plato	cc. Absolutism
d. Antoninus Pius	q. Hesiod	dd. Stoic
e. Euripides	r. Peloponnesus	ee. Socrates
f. Cicero	s. Macedonia	ff. Thales
g. Chrysippus	t. Mycenae	gg. Hadrian
h. Constantine	u. Attica	hh. Phaedrus
i. Natural Law	v. Aristotle	ii. Protagoras
j. Existentialism	w. Archimedes	jj. Persia
k. Seneca	x. Ionia	kk. Polybius
l. Sophists	y. Epicurean	ll. Marcus Aurelius
m. Solon	z. Xenophon	mm. Laconian

Answers:
(1) i, (2) 6th B.C., (3) x, (4) ee, (5) o, (6) ii, (7) l, (8) hh, (9) ee, (10) p, (11) v, (12) 4th B.C., (13) y, (14) dd, (15) kk, (16) k.

I selected this question because it is about a time and place in history supposedly more familiar to Western than to Japanese students. Questions related to Chinese and Japanese history also appear, of course, but for those of us without the necessary background they are more difficult to evaluate. The style of the questions does not show geographical variation.

How many American high school seniors would even want to attempt answering this question—one about their own tradition? Very few, of course. Our education is not geared to this sort of testing, even when it does take up ancient civilization as a subject. The American sense of education rebels at the thought that the way to learn about Greek thought is to master the names, dates, places, eras, schools of philosophy, and philosophical lineages involved. We want to focus on the essence of what we think the Greeks valued—independence of thought and rationality—two items that tests do not reliably measure.

For Japanese such facts are the foundation for further learning and the essential equipment of an educated person. Perhaps more to the point, they can be tested objectively. To the contemporary Western educator, the debates among Greek thinkers and the differences between their approaches are more interesting. We would pursue this angle in class discussions, attempting to show the relevance of such debates to contemporary problems and issues. If there were time, we would also dig into the logic used by various schools to train minds in analytic thought. Precious little of such an approach would help a Japanese student prepare for a question like the one above.

The approach of Japanese high school textbooks is always neatly mirrored in the exam questions. Greek thought, for example, receives an average of ten pages out of 220 in the various texts for the year-long required course "Ethical Thought and Society." These pages read exactly like an encyclopedic entry on the subject. The authors skim from topic to topic at a rapid pace in order to introduce as much as possible in a limited number of pages. The result is a high density of items to memorize, from ten to twenty per page, but no textual material to chew on and no real basis for class discussion or individual speculation. Greek schools of thought, for example, are typically encapsulated in a sentence. The pace of the course, furthermore, precludes exploring in any depth. This course covers all of Western and Eastern philosophy and religion in one year (from Moses to Dewey in the West and from Confucius to Nishida Kitaro in the East). A little bit of time is spent on the place of ethical thought in society and culture. But because speculative issues do not appear on entrance examinations, this section of the textbook receives little attention from students and most teachers.

The encyclopedia quality of social studies examinations is not in itself the heart of the problem. A degree of such information is necessary as the foundation for deeper learning. The problem arises from the excessive amounts of information required to do well on exams. One gets the distinct impression that professors, themselves often masters of the encyclopedic approach, take particular pride in their ability to concoct exams that are notably difficult, for this enhances their school's and their own status. If distortion begins from the fact that university entrance depends solely on objective examinations, it is greatly magnified by the excessive difficulty generated in narrow realms of learning.

Consider a question on European geography from the same examination:

Fill in the blank spaces in the paragraph below.

The Rhine, one of the most important rivers in Europe, rises from the Alps and flows into Lake Boden. From there it runs west, cutting through the Jura mountain range and turns north in Basel, a city in Switzerland. At Basel, the borders of West Germany, (1) _____ and Switzerland meet; the national railroads of these countries extend their roots into this city. There are three major national railroad stations. The Rhine turns north from Basel and the view suddenly opens up before it. This indicates that the Rhine has entered (2) _____, a long and narrow plain 30 km. wide and 300 km. long bounded by (3) _____ on the east and the Vosges mountain range on the west. The surrounding area consists of forests, swamps, and (4) _____.

In the plain, which is made of rich (5) _____ earth, the main crops are wheat and corn.

Along the mountainside, splendid (6) _____ follow the course of the river. Around Mainz, the riverbed starts narrowing and the mountains on both sides form a sheer rise. Along the mountainside, vineyards still continue; on the hills old castles appear. The Rhine cuts across the Rhine Range, which is made of schist, enters a plain around Bonn and finally drains into the (7) _____ in Holland.

The ratio between the maximum and minimum water flow within a year differs in the upper stream and the lower stream. The ratio is large in the upper stream beyond Basel; in Basel it totals fourteen meters; in the lower stream downward from Basel the annual fluctuation gets smaller; and farther down from Cologne (Koln) the flux tends to be almost constant.

The Rhine is also an important river from an economic viewpoint. (8) _____ and steel are transported in flat-bottomed black ships. The Rhine is (9) _____ on which ships flying the flags of many nations pass.

The river is connected with the Mediterranean area through (10) _____ and with the district of Paris through (11) _____. The Rhine is the most important main artery of Western Europe's river transport system, one that connects Switzerland, eastern France, part of West Germany, and Holland. Ships up to two thousand tons can actually go up the river as far as Basel. The major river ports are (12) _____ in Holland; Duisburg, Mannheim, and Ludwigshafen in Germany; Strasbourg in France; and Basel in Switzerland.

Answers:
(1) France, (2) the Rhine Trough or Graben, (3) the Black Forest, (4) riverside terraces, (5) brown, (6) vineyards, (7) North Sea, (8) coal, (9) an international river, (10) Rhone-Rhine Canal, (11) Marne-Rhine Canal, (12) Rotterdam.

Clearly, the realm of practical knowledge has been left behind here.[16] Details are required of the kind that will probably never again be needed once the candidate is safely past the gates of some university. In fact, much of the social studies part of entrance examinations seems like nothing more than a giant trivia contest compiled by scholars instead of popular culture freaks. Is it surprising that many Japanese adults have an almost obsessional interest in and capacity to master facts? But the youthful energy spent in developing this skill is appallingly great.

Compared with social studies, the math and science part of the test is quite straightforward and impressive. The questions are difficult, to be sure, but the objective short-answer approach fits the pursuit of these subjects. Theory, problem solving, and logic are central to most questions, and the exam system buttresses this emphasis in Japanese education. The level of accomplishment expected on science and math questions is probably roughly equivalent to what is taught to second-year science and math students in the best American universities.

The English section of the entrance exams is regularly criticized by Japanese and foreigners, either for the slightly archaic constructions and vocabulary put there by English literature professors whose specialties are not the modern period or for the drawing of a right/wrong distinction between two usages that seem equally correct to native speakers. Although I encountered fewer of these faults than I was led to expect, I found high school teachers at Nada and other top schools preparing their students to handle archaic constructions. It is also remarked that to do well a student should digest a small dictionary of English vocabulary. Words like mediate, midday, folly, portable, bough, spectacle, and wrenched appear on the Kobe University test. Yet, as we would expect of a nation seeking information from the world, the greatest stress is on comprehension. Students are asked to translate sentences of the following sort:

> Stripped to their essentials, man's major problems have always hung on the necessity of making adjustment to the irresistible force of change.

16. It is, however, more sobering to read about a 1974 survey of geography knowledge among American high school seniors undertaken by the Educational Testing Service for the U.S. Office of Education, which found that 41 percent could not locate Egypt on a map and only 54 percent correctly chose the USSR as the country located in both Europe and Asia.

Or,

> With the continuous decrease, during the past few decades, in the length of the working day, recreation, or leisure time activity, has become a social problem of vital importance and one that has engaged the interest of many investigators.

Some attention is also given to colloquial English. Here the level of difficulty matches what might be expected of a moderately educated American high school student:

> Fill in the blanks with the word appropriate to all three sentences under each number.
> 1. His folly has ( ) about his ruin.
> If children are badly ( ) up, they don't know how to behave.
> The sad news ( ) tears to her eyes.
> 2. Father ( ) up smoking.
> The ice ( ) way and they fell in the water.
> The plants ( ) in to the cold weather.

A most notable point is that neither spoken English nor an ability to express oneself in the written language is tested.[17] The fact that most educated Japanese can read English with amazing skill but hardly speak a word follows from the nature of such exams.

The Business of Cramming

The source of the questions considered is a 200-page paperback entitled *The Kobe University Examination: Questions and Answers*, published commercially on an annual basis as part of a series that covers the exams of over three hundred fifty universities. In addition to the questions and answers for the preceding three years, these books outline in detail how the types of questions and the emphases have shifted recently and suggest appropriate study strategies for each university. This is but one of many comercially distributed study aids. So rich, in fact, are the products available that 20–40 percent of the floor space of bookstores frequented by students is devoted to exam-oriented materials.

Cramming is big business in Japan, and many firms compete in a large and hungry consumer market. Practice test books, invariably thick, are some of the most rudimentary items offered. Comprised

17. Some universities have added a small foreign-language and comprehension section using tape-recorded spoken English.

of questions borrowed from past exams, they allow candidates to test themselves to their hearts' content in the privacy of their own homes. Books of facts that regularly appear in questions, all kinds of chronologies, vocabulary lists, catalogs of common mistakes, and other guides to short-answer test taking also abound. For sale are flash cards, pocket-sized books of facts that students can pull out and use on buses or while waiting their turns at bat, study hints illustrated with humorous cartoons, and even high-minded books preaching the need for planning and persistence. The commercial prospects inspire great ingenuity. Browsing in bookstores peddling these products is a popular pastime for many high school students. Pursuing the equipment of competitive preparation and glancing through guides to colleges fascinates those caught in the exam obsession.

One small but entertaining illustration of the general trend in this market is the student desks on sale in department stores. The deluxe models, which cost over $500, have built-in alarm clocks especially equipped with timers for speed tests, high and low intensity lights, swivel executive chairs, globes that light up, and in one case even a built-in calculator. That may seem a bit much even to most Japanese, but the sale of special educational equipment—from children's microscopes to butterflies ready for scientific mounting—is a regular feature of Japanese department stores.

It is estimated that the sale of study aids and equipment has recently grown into a billion-dollar annual business, thanks to the growth of university aspirations and the prosperity of Japan's middle class.[18] With over three-quarters of a million students applying each year and several million just a few years from taking entrance exams, the market is large. Almost all candidates are likely to buy at least a few study guides.

There has also been a national boom in practice tests (*mogi shiken*) and the related service of computerized counseling. Until the late sixties, before public high schools were committed to downplay exam preparation, boards of education and high schools administered general practice tests modeled on university entrance examinations. This was done to measure student ability and provide guid-

18. See *Nihon Keizai Shinbun* (April 16, 1974), *Osaka Shinbun* (December 17, 1974), *Chubu Keizai Shinbun* (October 30, 1974), *Nishi Nihon Shinbun* (July 26, 1974), *Nikkei Sangyo Shinbun* (April 16, 1974), and the *Oriental Economist* (July 29, 1978) for articles on this industry.

Students taking a practice examination

High school students taking a practice exam offered by a private company. Typically, students take these exams at least three times during the year prior to making application to universities. The companies that give the tests provide detailed feedback on what to study and where to apply.

ance in the application process, as well as to give students practice in taking examinations. All this came under a cloud of disrepute during the late sixties, in the era of social criticism and student radicalism. Suddenly private testing companies, which had been offering practice tests, experienced rapid increases in the number of subscribers to their services. Nearly all high school seniors aiming at college now subscribe to this service.

Taking tests is obviously something of a learned skill: presumably, the more one practices, the better one becomes. High school seniors typically take two or three of these tests prior to making their applications, and *rōnin* students, who do not have teachers monitoring their progress, typically find it valuable to take a practice test every month. Test companies have sophisticated computer programs that analyze individual test results, indicate the types of mistakes made,

and point out areas requiring the most study. The diagnostic possibilities are probably only just beginning to be developed. Because so many candidates now take these practice tests, they are the most reliable data bank against which to evaluate a student's chances of entering any particular university. The subscriber routinely receives, along with his test results, a statement of the probabilities of acceptance to any of the schools under consideration.

Even greater growth has come in the business of cram schools (*juku*) which offer supplementary education after school.[19] A 1976 poll of thousands of Japanese children revealed that 60 percent of the urban student population in grades seven, eight, and nine were enrolled in a cram school or were being coached by a private tutor.[20] Further, the poll showed that 40 percent of all fourth, fifth, and sixth graders in Tokyo were going to a *juku*. And one in ten of the country's high school students was shown to be attending *yobiko*,[21] the advanced analogue of *juku*.

These tutoring establishments are diverse and interesting. Some belong to franchise chains, owned by large companies, that enroll thousands of students. So lucrative and flourishing was the business in the mid-1970s that a movie company, several publishing firms, and a department store all entered the market to set up their own franchise systems.[22] Most cram schools are quite small, however, typically run at home by housewives and former teachers. Many university students who contract their services to *juku* also make money on the side tutoring children privately, often in conjunction with some agency. Nine percent of the middle school students in Tokyo have private tutors.[23] In *juku* the focus is high school entrance or, in the case of *juku* for upper elementary school students, entrance exams to the elite private schools that admit students in seventh grade, as Nada does.

The chains and some of the smaller *juku* try to develop distinctive teaching qualities. Each seeks to make its atmosphere and program

19. English-language articles on cram schools include Kondō (1974), Riggs (1977), and Rohlen (1980). In Japanese, see Endo (1975) and Mainichi Shinbun Shakaibū (1977).

20. Mombushō (1977). A more recent survey by a private research organization found three-quarters of Tokyo's fourth, fifth, and sixth graders going to *juku*. *Mainichi Daily News* (February 12, 1981), p. 3.

21. Mombushō (1976), p. 59.

22. *Nihon Keizai Shinbun* (April 16, 1974).

23. Mombushō, *Daijin Kanbu Chōsa Tōkeika* (1977).

Cram school

A cram school (*yobikō*) in Tokyo that specializes in English instruction. Note that the great majority of students here are boys, as is typical of supplementary education above the ninth grade. (Courtesy of *Asahi Shinbun*.)

more effective, and it seeks public notoriety to ensure a flow of applications. Some have elaborate teaching devices, others continually give tests, and some go in for a psychological approach close to that of the United States Marine Corps. As might be expected, the larger cram schools advertise the number of their clients who successfully enter Tokyo and other top universities. Some cram schools target particular schools and even departments in their search for a special segment of the market.

Private tutors and neighborhood *juku* have been around for a long time. Special schools for *rōnin*, where they prepare while waiting for another chance at the examinations, have also been part of the general education scene for quite a while. But private academies that focus on fulfilling the tutoring function on a sizable scale, with the sophisticated special methods and equipment made possible by large organization, are a development of the late sixties and seventies. In effect, the growing demand for supplementary education to help children get past the examinations has fostered new mass-production techniques and new, more competitive approaches to the matter of preparation. One franchise system centered on math claims to be

reaching over three hundred fifty thousand children.[24] Some of the smaller schools are so intense as to require attendance of more than twenty hours a week, plus most vacation time.[25] The top *juku* have entrance exams themselves and are rumored to be more crucial to success than regular school. With popular interest high, parents cannot ignore the cram school phenomenon, for it could mean the difference between success or failure. No proof exists that cramming helps, but exam competition and anxiety about what the competition is doing drive the market. Most parents deeply regret sending their children to *juku*, appreciating full well the loss of fun and innocence involved, but they fear their children will lose out in the race without such extra stimulus.

This phenomenon illustrates better than any other the potential for escalation in what could be termed the university entrance arms race.[26] The extent to which some will go in order to prepare is awesome. And the extent to which some parents will encourage or permit the sacrifice of time and money to this undertaking is truly frightening. What Americans might regard as the lunatic fringe—students memorizing whole English dictionaries or doing seven hours of preparation a night for a year—actually sets the pace in this sort of competition. Moderation is a losing strategy as long as entrance examinations measure the gross absorption of knowledge and the perfection of problem-solving and test-taking skills.

Schools and education officials have attempted to restrain the inclination to excess. They regularly condemn cram schools and, as we have noted, they ended public practice tests. Excessive concern with exams has been highlighted as a major national problem. But public school restraint has only created a vacuum in which the cramming business has expanded. Keen entrepreneurial instincts are now shaping and further intensifying the competition, and the majority of parents are going along with this trend.[27] Despite the

24. *Oriental Economist* (July 29, 1978).

25. Mainichi Shinbun Shakaibū (1977).

26. I might add that one does not regularly hear occupations discussed between adults and youngsters, as is the custom in the United States. Students learn to aim at universities more than at archaeology, marine biology, the legal profession, and the like.

27. It is interesting to note in this regard the debate in the United States surrounding claims that special cramming can improve SAT scores. In Japan, such a debate would be very widely followed, and the burden of proof would lie with those who would deny the claim. In the United States, little popular interest has been aroused by the issue.

high quality of public schools, education expenses are a large part of most family budgets, and the investment of time and money in preparation at one stage compounds the incentive to protect the investment at the next stage. Captives of their own ambitions and anxieties, parents and precocious scholar-gladiators cause the new "exam industry" to thrive.

Summary

Institutions develop, are molded, and survive largely in response to forces in their social environment. The social environment of postwar Japanese secondary education has been dominated by university entrance examinations. What was an elite phenomenon three decades ago has now become a national preoccupation. We have gained some sense of the breadth and intensity of this phenomenon by noting such manifestations as the extraordinary attention it receives in the media, the undeniable employment rewards that success brings, the readiness of so many young men to become *rōnin*, and the spectacular development of the cramming business.

High schools can only be understood in the context of the fundamental realities that direct the lives of their students. In Japan, for more than half the students, examinations are a central focus of their existence. For Nada, Okada, and Otani students, the priority of exam preparation is quite clear, and their teachers cannot but respond to this imperative. Whatever original ambitions for university may have been held by the vocational students of Yama and Sakura have been considerably blunted. They have stumbled on exams already and have been judged academically below average, so the university exams are not a motivating goal, but a rather cruel mirror reminding them of their inferior studies. The vocational schools themselves also suffer from a form of second-class citizenship, stemming from the nonacademic nature of their courses.

The bifurcation into different paths to adulthood for boys and girls is also dramatically advanced by choices made about educational goals and the appropriate amount of exam preparation. Despite coeducation and equal opportunity, a major separation of the sexes takes place during high school. This separation is not intended by educational policy but occurs as a response to the intense competition to enter universities.

The existence of most American high school students is shaped by