THE COLLEGE HILL CHRONICLES: HOW THE UNIVERSITY OF ALASKA CAME OF AGE. By NEIL DAVIS. Fairbanks, Alaska: University of Alaska Press, 1992. 627 p., b&w illus., notes, index. Hardbound. US\$30.00.

The setting of the University of Alaska attracted the earliest people that came to the Americas from Asia more than 20 000 years ago. It is still an attractive site and a great place for a university. The Russians did not try to establish a university in Alaska, and after the United States bought Alaska from Russia in 1867, it took 48 years for the idea to surface. That is only two years longer than it took for the United States to establish limited territorial status for Alaska in 1912. Indeed, the university and the territory grew up together, and there was strong resistance to both of them. It took another 47 years for the Territory of Alaska to become a state in 1959. Dr. Davis does a superb job of showing how the history of Alaska (both the territory and the state) and its university are inextricably twisted together. The opposition to both of them by outside fishing and mining interests comes to life on these pages.

After a brief history of the Russian and early American "pre-Wickersham period," Davis dates the beginning of Alaskan politics to 1906 when Congress, at the urging of President Theodore Roosevelt, finally passed a bill giving Alaska an elected, nonvoting delegate to Congress. Judge James Wickersham was elected in 1908 to be Alaska's nonvoting delegate, and for many years was the leading political figure in Alaska. Davis wrote a good biographic sketch of him, which is typical of those he provides for most of the key players in the book. In 1912 Wickersham succeeded in getting limited territorial status for Alaska, and in 1915 he obtained federal appropriations for a land-grant college for Alaska. As Davis points out, the latter accomplishment was unusual for several reasons, including the speed at which it was done. Stimulated by a potential annual subsidy of \$50 000 for a land-grant institution, Wickersham conceived the idea, wrote the bill and got it passed within a year (4 March 1915), in the face of enormous opposition from inside and outside of Alaska. He returned to Fairbanks in June, selected a site, and on the Fourth of July 1915 he conducted a ceremony to lay a cornerstone for the "Alaska Agricultural College and School of Mines." He then lined up support for two bills presented in 1917 to the new territorial legislature, which met every other year. The first of these was to accept the Federal funds and land for the land-grant institution; the second was to establish the new college with an appropriation of \$60 000. The first one passed, with some opposition, but the second one stirred a storm of protest. It passed, but the negative feelings ran strong and lingered, so that in 1919 no appropriation was made for the college. In 1921 money was appropriated for the college, including a presidential residence. But again, negative feelings were so strong that Davis writes:

The Juneau Daily Alaska Empire, reporting on the matter, said,

"The fight over the Fairbanks Agricultural College appropriation has been one of the hardest fought battles ever witnessed in an Alaska Legislature." The battle had been largely engineered by fishing and mining lobbyists who were doing their best to keep expenses—and taxes—down. (p. 44)

In an ironical development, Judge Charles Bunnell, Wickersham's political rival, was appointed as the first president of the new college.

The early days were pioneering in every way. Bunnell ran the college and kept it going for 27 years. To quote from Davis:

Bunnell himself was teaching classes and also performing duties not normally associated with a university presidency. One of the early students, Ted Loftus, recalled coming to the campus on his first day to find President Bunnell in the boiler room shoveling ashes from the furnace. It soon became obvious to all faculty members and students that "Judge" Bunnell (a title people continued to use to describe or address him) was very serious about making the college a success. By being willing to do anything that needed doing himself, be it shovel ashes or sweep the floors, he instilled in others a recognition that no duty is menial. He also had an unusual ability to cause his employees to enjoy working long and hard hours; he conveyed to them an understanding that he did expect extra effort, but he also demonstrated appreciation whenever it was performed. (p.56)

This time span included 1935, when the school had about 100 graduates under its belt and an active alumni association. Davis writes (p. 61): "At the urging of the alumni association, the 1935 Legislature converted the Alaska Agricultural College and School of Mines into the University of Alaska and replaced its board of trustees with a board of regents." It was a tribute to Bunnell's presidency during those early years.

Politics in Alaska are not dull. This may be appropriate for Alaska, "The Great Land," which is so rich in superlatives. Alaska spans the largest area of any state, has permanent glacier ice covering an area larger than that of twelve of the smallest states, the highest mountains, more ocean coastline than all the other states combined, extensive wildlife, much of which is unknown in the "Remote States," and unlikely political extremes including alliances such as that between Republican Senator John Butrovich and Democratic Governor Ernest Gruening. The political extremes were such that the actions of the 1947 Legislature resulted in a freeze of funds for many state agencies, including essentially all funds for the university. Davis writes (p. 182): "Said Gruening, '[this action] in my view, came pretty close to being a collapse of responsible government'." Alaskan voters reacted against the mining and fishing interests in 1948 by electing only one of the eight senators who were up for reelection, Republican Senator John Butrovich of Fairbanks. Otherwise the Democrats made a clean sweep and controlled both houses of the

Legislature. "So who became chairman of the powerful Senate Finance Committee? Yes, incredible as it seems, the Democrats gave the chair to Republican John Butrovich! Governor Gruening may have had a hand in that." (p. 183)

The 1949 Legislature was as good as the 1947 one was bad. It enacted a series of measures which gave Alaska the taxes it needed to operate, including an income tax. The university was authorized funds nearly equal to the amount appropriated to it by all the preceding legislatures all the way back to the initial appropriation in 1917. As Davis wrote (p. 183), "The 1949 Legislature was the most effective one Alaska ever had—and perhaps the most responsible even to the present day."

How did the university operate when funds were inadequate? Dr. Bunnell paid bills out of his own pocket by making no-interest loans to the university. The irresponsible action of the 1947 Legislature had made the situation so desperate for the university that in 1948 Bunnell secured pledges of \$200 000 in no-interest loans from citizens and corporations in Alaska. This unprecedented action was declared illegal by the territorial treasurer, but Bunnell's favorable press coverage prevented litigation. These were interesting times, to say the least. Davis writes:

Newly appointed regent Leo Rhode described the day when Cap Lathrop came through with the first part of his pledge:

"...Cap ran his businesses just like Bunnell ran his university, with an iron hand. He wanted me to go to work for him when I graduated. I already had a job so I didn't go with him—I figured he would be very tough to work for. Anyway, that day when Bunnell told us he couldn't meet the payroll, Cap asked him how much he needed, and Bunnell said \$10 000. Cap got up and went over to the telephone. He called his bank and ordered them to cut a check for \$10 000, and then he told Bunnell to send somebody down to pick it up. This was a real education for me, to see things done this way. I just hadn't seen that sort of thing before." (p. 224)

After the war, the pioneering style which had marked the university's beginnings and allowed it to survive began to change dramatically. The university launched itself into scientific endeavors as a result of its location in the midst of a gigantic natural laboratory. It was especially well suited for the study of aurora by being directly under the region of maximum auroral intensity. The Geophysical Institute was the first of a series of research institutes on the campus which now study an impressively broad scope of research areas. Much of its early auroral research was supported because of the need to know how auroral phenomena affect radio transmission in the Arctic. Federal funding and interaction with federal agencies were beneficial to the university, but they brought problems as well.

Davis describes tension in the Board of Regents between younger members (from Homer, Ketchikan, and Anchorage), appointed by Governor Gruening and, like him, more liberal than the "Old Guard" (basically from Fairbanks) which had so heroically kept the university alive through its infancy. Bunnell was in poor health. Lack of money and lack of accreditation were obvious problems. The university also had to overcome the image, in some minds, of being the University of Fairbanks and truly become the University of Alaska. Younger members of the Board of Regents wanted the university to serve the entire territory and saw problems overlooked by the Old Guard. They began thinking about a new president to face the problems.

The new president was Dr. Terris Moore, for whom the book contains a good biographical sketch. The transfer of power from Bunnell to Moore is the crux of this book. Davis considers this to be the time that the University of Alaska came of age, as stated in his subtitle.

President Moore was faced with an immediate shortage of funding, but no shortage of problems. The Agricultural Experimental Stations, removed from the university in 1947 by the U.S. Department of Agriculture, were returned to Moore's administration. The physical plant needed maintenance and expansion, and there was increasing pressure for a "branch campus" in southern or southeastern Alaska. Student relations needed immediate attention, an athletic program was beginning, and the food service was losing money. One might say this is normal at many universities, but consider three of the eight notes Moore made to himself in 1949:

- 5. Student Relations. Condition of Polar Star, the undergraduate newspaper operating in defiance of administrative control, indicates condition of unusual tension between students and administration. Dormitories described by Regents as being in possession of students with administration admitted upon sufferance only. Students reported in possession of firearms and shooting out of windows in defiance of administration control.
- 6. Need for a modern University budgeting system, for adequate control of large scale operations. Also need for delegation of authority from President's office throughout the university on a clearly understandable basis: No University organization chart in existence.
- 8. Regents and students urge need for strengthening faculty. Regents present new president with a "student evaluation of faculty teaching": very unfavorable concerning some departments. Preliminary survey reveals, in at least one case, faculty member without even a bachelor's degree. (p. 279)

President Moore launched an effort to gain accreditation for the university. One of his proposals was to form a degree council of faculty members who held earned doctorates "from some other nationally accredited college or university or internationally recognized university." Unfortunately, only seven of the university's approximately fifty faculty members held earned doctorates. Davis points out (p. 283): "That low number in itself was awkward, and equally so was the listing of the four academic officials who would sit on the

council, as Moore was the only one with an earned doctorate." And so it went.

Moore set goals and involved faculty and students in committee activity to operate the university. But he found it difficult to carry out changes partly because the well-entrenched former President Bunnell still lived in the president's residence and used his old office to confound actions of the new president. Some traumatic events occurred, fraught with misunderstandings and lack of communication. One of these involved the directorship of the Geophysical Institute, the National Academy of Science, and world-famous scientists. It is too lengthy and complex to discuss here, but is skillfully treated by the author. The growing institution was effectively launched on its way as a university by the end of Moore's time as president. It had come of age, as Neil Davis says.

Davis writes this history from the perspective of a physical scientist, and a long-term Alaskan resident who knew and respected many of the people who made the history. He also is a pack rat, and a well organized one, who has placed his collection in the University of Alaska Fairbanks Archives as *The College Hill Chronicles Files*. He has written many scientific papers, and his scientific habit of documenting what he writes resulted in 806 formal notes at the end of the book and many additional footnotes on pages of the text. But there's more: this history reads like a novel. Davis writes with a gentle sense of humor, obvious respect, even awe, for the people involved, and love of his subject. No one else could have written this magnificent book. I strongly recommend it to anyone with an interest in Alaska in general, or Alaska's university in particular.

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Progress in science depends on the effectiveness of each generation in building on the successes, and recognizing the failures, of its predecessors. The organization of our scientific disciplines, our journals, conferences, textbooks and electronic and other networks are all parts of the system which we hope produces "progress." So are review articles and books

The National Hydrology Research Institute (NHRI) in Saskatoon has just published the third in a series of publications which, in different ways, attempt to provide state-of-the-art views of hydrology as it is applied to a particular geographical region, the Arctic. The first of this series,

Northern Hydrology: Canadian Perspectives, published in 1990, included review chapters on such topics as snow, permafrost, glacier and floating ice hydrology by Canadian authors focusing on work in Canada. The second of the series, Northern Hydrology: Selected Perspectives (1991) included peer-reviewed papers by scientists associated with the Northern Research Basins (NRB) working group of the International Hydrological Program of UNESCO. The NRB group, which has met regularly for many years, includes representatives from all eight circumpolar countries and several other nations which have strong polar interests. As a result, the forty or so papers in this volume provide a useful snapshot of ongoing work in hydrology throughout the Arctic.

Like the first volume, the most recent of this NHRI series, *Northern Hydrology: International Perspectives*, published in 1994, consists of solicited review articles by specialists. But in this case each is a review of a work in a different circumpolar country—the United States (Alaska), Canada, Finland, Iceland, Norway, Sweden and the former Soviet Union. The authors used the approach of *Northern Hydrology: Canadian Perspectives* as a model, so that most chapters have sections on snow hydrology, permafrost hydrology, groundwater hydrology, glacier hydrology, hydrology of floating ice (freshwater and seawater), regional water and energy balances, water quality and water management. Most give some thought to the future of hydrology in the region concerned.

Naturally, emphases vary. The chapter from Greenland, for example, as one might expect, is dominated by the ice cap! The Icelandic contribution has a special focus on geothermal heat, electricity generation and glacier-related floods. The author dealing with the former Soviet Union makes special mention of swamps, while the Finn waxes lyrical about the beauties of snow and ice while providing an excellent overview of scientific and practical hydrology in that country. Many of the authors pay some attention to climate change, circumpolar pollution and the control of rivers in the North.

It is not easy to obtain an overview of research and current hydrological practices in such a wide range of countries even though they clearly share common cold region interests and problems. Hydrologists operate within various, relatively self-contained subdisciplines and they submit papers to different journals which publish in a variety of languages. Even with sophisticated abstracting services and electronic networking, someone, now and again, has to take the trouble to bring people and ideas together. In this case, for example, I found the comprehensive list of references at the end of the book remarkably useful. The subject matter of the articles, the affiliations of the authors and the range of journals they use for publication were all revealing to me in terms of activity in northern hydrology today.

It's gratifying that a Canadian organization, NHRI, in these straitened times, has found the time and foresight to provide international leadership in this field in this way. This series of complimentary volumes shows a persistence of purpose which is exemplary. We all know that the problems of the Arctic are international in scope and that they can be