

FROM THE GOLDEN AGE TO THE AGE OF AUSTERITY:
Planning at the University of California, 1968-1983

Patricia A. Pelfrey*
University of California, Berkeley

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ABSTRACT

A 1966 University of California academic plan estimated that future enrollments would soar to well over 200,000 before leveling off, and that by 1975 student demand would require two more UC campuses in addition to the ones opened a few years earlier at Santa Cruz, Irvine, and San Diego. The 1970 US census brought these stratospheric assumptions down to earth. Its projections of declining numbers of college-age students into the next decade and beyond, combined with the shock of unfavorable academic market and budgetary trends, became the starting point for an ambitious new UC planning endeavor. The intent was to improve long-range decision-making on the size, quality, and academic balance of the University. The strategy was to ensure that planning led budgeting; that campus academic plans were systematically reviewed at the universitywide and Regental level; and that fiscal realities disciplined planning at all levels. Two UC presidents led this experiment in multicampus system planning. Charles J. Hitch (1968-1975) had revolutionized planning and budgeting at Robert S. McNamara's Department of Defense before coming to UC. David S. Saxon (1975-1983) brought a deep knowledge of the University and its culture gained through long experience as a faculty and administrative leader at UCLA. Despite differences in background, perspective, and approach, both shared the same goal: to create a truly universitywide plan that harmonized campus ambitions with the broader aims of the University as a whole and with the coming constraints on growth. This paper considers the context, assumptions, and forces that shaped, and then reshaped, the planning directions UC chose at the end of the golden age of the 1960s.

Keywords: University of California, academic planning, PPBS, cost-benefit analysis, decision making, multiyear planning and budgeting, university organization, governance.

Charles Johnston Hitch, president of the University of California from 1968 to 1975, is remembered mostly for his battles to keep the University solvent and its doors open in the face of an unfriendly governor and thousands of protesting students determined to shut it down. His presidency was in many ways a holding action for UC, one in which the goal was to wait out the political pyrotechnics on and off campus until better times arrived. But it was also marked by an experiment in planning that had roots in the Second World War, the RAND Corporation, and the U.S. Department of Defense under Robert S. McNamara. It was an ambitious endeavor to make University planning more quantitative and integrated, less reliant on intuition and ad hoc judgment, than virtually all previous efforts.

Hitch's path to the University of California was circuitous and in some ways unexpected. Schooled at a military academy in Missouri founded by his grandfather and run by his father, a 1931 graduate in economics from the University of Arizona, Hitch was also an expert marksman whose skill helped earn him a Rhodes scholarship at Oxford. The venerable university acknowledged his obvious brilliance in 1935 with an invitation to join the faculty as an Oxford don. He was the first American to be so honored. Although Hitch served, among other things, as editor of the *Oxford Economic Papers*, one of his proudest achievements was his success in leading the restoration of the eighteenth-century upper library in Queens College, a project that included the first-ever installation of heating and lighting.

* Patricia A. Pelfrey is Senior Research Associate, Center for Studies in Higher Education. She is the co-author with Margaret Cheney of *A Brief History of the University of California* (University of California Press, 2004) and editor of *The Pursuit of Knowledge: Speeches and Papers of Richard C. Atkinson* (University of California Press, 2007). Her most recent book is *Entrepreneurial President: Richard Atkinson and the University of California, 1995-2003* (University of California Press, 2012)

His career was diverted into new channels by the Second World War. The last two years of his stay in England were devoted to analysis of the US and British war economies on the staff of Averell Harriman's lend-lease mission to London. This was followed by a stint back in the United States on the US War Production Board, the agency responsible for converting civilian industries to wartime uses, where he helped develop plans for steel, copper, and aluminum.¹ After his induction into the Army in May of 1943, he was assigned to the Office of Strategic Services, the forerunner of the Central Intelligence Agency, working on planning military air targets in Japan and Germany. Three years after the war ended, Hitch joined the RAND Corporation in Santa Monica, California, a private, nonprofit organization that conducted research and analysis for the US Armed Forces, primarily the Air Force.

When Hitch arrived at RAND in 1948 its research staff consisted entirely of physical scientists, many of whom had been Air Force advisers during the war. The postwar military was interested in expanding into the social and behavioral sciences, and particularly interested in the new discipline of operations research. Developed by the British in the late 1930s to defend against the formidable German air force, operations research employed statistical analysis and other quantitative methods to clarify the context and array of available choices in decision-making about complex problems. One of the many ways operations researchers had demonstrated their usefulness was by devising methods for calibrating the effectiveness of Allied air raids over Germany. Hitch's assignment to the OSS had involved him in a cooperative Anglo-American effort to tackle that challenge.²

At RAND, Hitch became known as one of the intellectual leaders in the field of operations research. His mandate was to establish a new Division of Economics, centered on injecting precise quantitative analysis, data interpretation, and rational choice into the study of weapon systems, logistics, and planning. The hallmark of his twelve years there, according to economist and longtime colleague Alain Enthoven, was "the development of systematic interdisciplinary policy research: economists, physicists, engineers, political scientists, and others, working together to understand the implications for a national defense policy comprised of new, rapidly changing technologies."³ The most important of these technologies was, of course, nuclear weapons, and the fundamental new questions they posed about deterrence and risk.

In a famous 1957 article that appeared in *Foreign Affairs*, then-Harvard professor Henry Kissinger argued that conflicts throughout history had demonstrated that neither technological dominance nor economic leadership ensured military victory. The success of Rome's legions against Macedonian phalanxes, of English archers over knights in the medieval period, of Napoleon's military genius over many well-armed adversaries was proof of the power of strategic thinking. Yet in the nascent world of nuclear menace, American administrations, he claimed, remained fixated on exactly those two competitive advantages—technological and economic supremacy. What American policy makers lacked, and urgently needed, was "doctrine," a clear sense of the nation's political and military aims and how to attain them. The first step was challenging the dominance of fiscal considerations in the politics of defense budgeting. Compromising on military needs in the interest of containing costs, Kissinger argued, amounted to putting foreign policy in second place behind routine battles over the budget.⁴

Hitch's response came in a 1960 book written with Roland N. McKean, *The Economics of Defense in the Nuclear Age*. The supposed conflict between policy on the one hand and technological and economic matters on the other, it maintained, was more apparent than real. On the contrary, they were inextricably bound up with each other:

Strategy, technology, and economy are not three independent 'considerations' to be assigned appropriate weights, but interdependent elements of the same problem. Strategies are *ways of using* budgets or resources to achieve military objectives. Technology defines the *possible* strategies. The economic problem is to choose that strategy, including equipment and everything else necessary to implement it, which is most efficient (maximizes the attainment of the objective with the given resources) or economical (minimizes the cost of achieving the given objective) – the strategy which is most efficient also being the most economical.⁵

This was the essence of Hitch's thinking about defense planning and budgeting: strategy, technology, and economics are a logically equivalent triple helix.

The Economics of Defense in the Nuclear Age impressed Robert McNamara, Secretary of Defense in the new administration of President John F. Kennedy. It brought together a sophisticated economic perspective, game theory, and RAND-style operations research in its analysis of the complex strategic threats created by nuclear war. What struck McNamara most, however, was its simple management prescription that budgets should be built around outputs (programs) rather than inputs (costs). The new Secretary, famous for having revitalized the flailing Ford Motor Company after the war, had decided views about how to run an organization. Public and private managers alike, McNamara said, face two choices: to act as a judge or a leader. A judge waits for others to bring him problems, solutions, alternatives. A leader "immerses himself in the operations . . . examines the

problems, the objectives, the alternative courses of action, chooses among them, and leads the organization to their accomplishment.”⁶ Few would have argued that the vast Department of Defense was optimally run and organized for its critical tasks. Kissinger’s article included criticisms of DOD’s organizational sprawl and ineffectiveness at planning that both Hitch and McNamara would have agreed with wholeheartedly. McNamara thought Hitch’s skills in rational decision-making were just what was needed to extricate DOD from its bureaucratic morass. His role at the Pentagon was to build the management architecture McNamara required to lead the largest business and most powerful war machine in the world.

Despite his standing as an expert in modern management science, however, Hitch had no direct experience managing budgets. A member of the Committee on Armed Services brought this up during Hitch’s Senate confirmation hearing in January 1961, asking the candidate if he had any trepidation about taking over a budget amounting to half of all funds expended by the US government. Hitch gave the circumspect answer that he had been told “leadership and policy guidance” were what the department really needed and promised to arm himself with individuals who had the requisite budgetary experience.⁷ (Another senator leaped to his defense on the grounds that his DOD predecessor in the job came from “the automobile business in the Middle West and had no accounting background of any kind.”) Hitch took office as Assistant Secretary of Defense—Comptroller, McNamara’s chief financial officer at the Department of Defense, on February 17, 1961.

At DOD, Hitch found plenty of planning and budgeting going on, all of it “in disarray.” The reason was a near-total separation between military and fiscal planning. Budget was under the jurisdiction of the Secretary of Defense—the civilian side of the house—and planning belonged to the military services. The two operated with different categories (navy ships versus operations and maintenance, fighter aircraft versus military construction) and time horizons that had nothing to do with the profusion of intermediate- and long-term military objectives.

The Joint Chiefs of Staff assembled a defense plan every year that projected US military needs five to ten years ahead. Mandated budgetary ceilings and reliance on annual budgets, Hitch and McNamara believed, gave the military services incentives to propose new programs whose total costs were unknown and would only emerge much later. Because the military planners essentially submitted wish lists of programs, weapons, and manpower requirements, the Secretary of Defense was left to make cuts quickly and often with insufficient information to meet Congressional deadlines for submitting the DOD budget. When the budget did reach Congress, it was ignored because of the unreliability of its fiscal analyses and its general lack of coherence. “The Department of Defense, one of the world’s largest organizations,” Hitch later wrote, “had no approved plans extending more than one year into the future. . . . The system in short did not require the military planners to face up to the hard choices that are part of responsible management. Let me emphasize that this was not the fault of the military planners but of the system. In organizations with similar systems, academic planners and business planners act just like the military planners.”⁸

The reforms Hitch introduced, collectively known as Planning-Programming-Budgeting System or PPBS, hinged on two management techniques. One, which he called simply “programming,” reversed traditional practice by organizing budgets around programs rather than expenditures. This avoided the problem of pre-set expenditure ceilings that tempted the various services to pad their budgets with large and expensive programs to justify exceptions. Further, program expenses were to be projected far enough into the future to give a sense of how much they would cost over a given period of time (in the case of DOD projects, usually eight years).

The second was the application of cost-benefit analysis to budgetary planning, by which he meant “an explicit quantitative analysis, which is designed to maximize, or at least increase, the value of the objectives achieved by an organization minus the value of the resources it uses . . . nothing more or less than economic analysis applied to the public sector.” Recognizing that many of the issues facing government and other public agencies could not be easily reduced to quantitative measures, he defined the goal as getting the best possible program for a reasonable cost. In 1961, McNamara ordered Hitch to implement this new system throughout the Department of Defense. Hitch complied, and in record time. By 1965, PPBS had become an irresistible force in Washington. President Lyndon Johnson, citing its “astounding success” at DOD, issued an executive order requiring its adoption throughout the federal government.

HITCH COMES TO THE UNIVERSITY OF CALIFORNIA

What led University of California president Clark Kerr, searching that same year for someone who could manage the fiscal affairs of a public university, to choose this expert in the economics of nuclear war? First would have been Hitch’s reputation. He was a member of a generation of experts, drawn mostly from the social sciences and university campuses, think tanks, and foundations, whose influence was reshaping policy and politics in the Kennedy and Johnson administrations.⁹ Many regarded the rise of PPBS at the McNamara Department of Defense as convincing proof that technical expertise could be a powerful engine of reform in many other societal domains as well.¹⁰ Public entities of all kinds, from the K-12 schools to universities and

other state agencies, began exploring its possibilities; nearly half the states rushed to embrace PPBS, including the State of California, which mandated its use for the budgets submitted by UC.

Hitch's work on decision-making in large-scale institutions, burnished by his success at DOD, would have had special appeal to Kerr in light of the circumstances facing the University of California. It was in the midst of a huge new wave of Baby Boom students and the establishment of three new campuses to accommodate them. In 1958, enrollment approached 46,000; in 1975, it was expected to reach 119,000, in an upward march of growth expected to continue into the indefinite future.¹¹ By 1965, Kerr and the Regents were putting the final touches on a six-year administrative reorganization of the University of California designed to take it from a highly centralized institution to one of broadly delegated authority and decentralized operations. This meant a new role for the universitywide Office of the President, moving it away from a longstanding involvement in campus affairs to expanded responsibilities for oversight of campus growth, coordination of campus planning, and review of campus performance. All three would depend on a sophisticated understanding of campus fiscal and academic plans in a newly decentralized environment. Governor Edmund G. Brown, Sr. had made the renowned UC system a centerpiece of his plans for a postwar California whose population was approaching 20 million. The State contributed almost half of the University's budget, even as federal research money was pouring into the campuses at an unprecedented rate, bounding upward from \$5.4 million in 1950 to \$120.7 million in 1966.¹²

Money was not the primary problem. Planning and organization were, including the ability to amass and interpret large amounts of data about spending, enrollment, faculty workload, and other kinds of information important to projecting UC needs into the future. The three new campuses, once completely launched, would need to begin thinking about how they would evolve in the years ahead. The State legislature and the newly formed Coordinating Council for Higher Education (CCHHE), a statewide body charged with overseeing the rapid spread of public higher education, were more interested in facts and figures than in visionary depictions of new university campuses rising amid the ancient redwoods of Santa Cruz or along the sunlit beaches of San Diego. The Office of the President needed hard quantitative evidence to defend UC's stewardship of the public's investment in expansion. It had already compiled a first-ever long-range fiscal plan that projected, campus by campus and for the University as a whole, the costs of the entire UC enterprise over ten years, from 1961 to 1971.¹³ Although it was a serious attempt to go beyond typical year-to-year budgeting, and based on careful estimates of anticipated workload, enrollments, and UC policy goals, the fiscal plan ran parallel to UC's academic plans, not integral with them.

In his discussions with Kerr, Hitch did not promise to introduce a DOD-style version of PPBS at the University of California. In fact, he was beginning to worry about the fortunes of PPBS in the federal government. As Hitch was packing for his move to California on August 25, 1965, he heard the news about Johnson's executive order to establish PPBS for most federal agencies. "I thought at the time that this was foolish," Hitch wrote, "almost certain to lead to confusion, and likely to end up discrediting the management techniques it was trying to promote."¹⁴

PPBS was the fruit of ten years of research at RAND involving several hundred professionals, and even after its highly successful four-year debut, he felt it required more refinement, more revision based on experience. "[T]here are risks and dangers as well as opportunities in trying to move too fast," he said, and he believed that one of those risks had already materialized with President Johnson's executive order extending PPBS from the military, for which it was designed, to the civilian agencies of the government, for which it was not.¹⁵ As for the University of California, he told Kerr in his letter accepting appointment as a UC vice president, "I don't believe that much of the military analysis we have accomplished here [at DOD] will be directly transferrable [to UC's situation], but the general approach is."¹⁶

What he meant, and what he said often, was that PPBS was rooted in two fundamental principles: planning disciplined by fiscal constraints, and budgets that follow plans. It was a permanent commitment "to *link*, integrate, and provide a bridge between planning and budgeting." When he arrived at UC, Hitch later wrote, he found the same kind of disarray he had encountered at the Pentagon:

[T]he relation of *academic* planning to budgeting was almost precisely the same as the relation of *military* planning to budgeting in the Pentagon: each campus had a long-range academic plan, but it was developed with no fixed constraints, was almost strictly wish lists, had no systematic university-wide or regental review, had faced up to no hard choices, and was pretty ineffective. . . . The budget was (except in name) strictly annual, and it led. The plan had to be adjusted to budgets—a year at a time.¹⁷

Hitch's assignment was to introduce planning and budgeting to each other at a much earlier point than they had been accustomed to meet. As vice president—business and finance, he was in charge of eight different offices. His efforts to integrate the UCOP budget office and the office of analytical studies, two key areas with an indistinct relationship to each other,

yielded mixed results. In the meantime, he got to work consolidating two different review boards, one for the capital budget and the other for the operating budget, into a single body that he himself chaired. This was a useful step in terms of budgeting. Yet academic planning at UC, like the military planning Hitch found at the Pentagon, continued to circle in its own separate orbit.

California's volatile politics handed him the opportunity to do more. Clark Kerr left the presidency in early 1967, his departure hastened by public unhappiness over student unrest and the election of a new governor, Ronald Reagan, who had made that issue a central focus of his campaign. The Regents chose Hitch, a far less controversial figure, to succeed Kerr on January 1, 1968. The faculty committee advising the Regents during the search praised his academic distinction, his administrative skill, and his "singularly effective" rapport with the Regents. Even Governor Reagan, a reliable critic of UC administrators in general, expressed confidence that Hitch would succeed in reforming the University's business practices, adding that "there is no question of his preeminence in this field."¹⁸

With surprising speed, however, planning for expansion at the University of California had become planning for contraction—of budgets, students, and programs. When Hitch took office in 1968, the California economy was gripped by a recession that plunged deeper in the early 1970s. UC funding in the first three State budgets of Hitch's administration was virtually identical, which meant no money to offset inflation or enrollment increases. "[T]he so-called emergency budgets of the past have become the bases for the future," he told the Regents in September 1971. "Austerity and bare bones have become routine, and the budget I am proposing [for Regents' approval] unhappily cannot escape its context."¹⁹ Part of that context was Governor Reagan's unsupportive position toward the University, which did not soften despite his initial praise of its new president. Hitch was once asked in an interview to describe his relations with the governor. "I would describe them as correct," he replied.

The 1970 US census delivered other troubling news. The era of growth was about to be overtaken by a new and extended period of decline in the number of college-age students.²⁰ Allan Cartter, a New York University labor economist with a special interest in the academic job market, was among the first to sound the alarm about this phenomenon and what it might mean for colleges and universities. The most commonly accepted assessment was that undergraduate enrollment would continue to grow for another decade before leveling off, perhaps with sharp declines setting in by the mid-1980s. Cartter also projected a potential surplus of PhDs in academic disciplines throughout the 1970s into the early 1980s, disquieting news for the future of graduate education.

For a hundred years, college enrollments in the United States had outstripped population growth.²¹ Thanks to the postwar Baby Boom, a new college or university campus was opening nearly every week in the US, as enrollments exploded from 3.8 million students in 1960 to 11.6 million by the end of the decade. In California, the college-age population surged by 70 percent. It would grow at half that rate in the 1970s. The dip was expected to be on the order of 15 percent for California, not as drastic as that for some other states, and institutional enrollment estimates well into the future were inherently uncertain. However, as Hitch testified before the statewide Coordinating Council on Higher Education in December 1971, demographic, market, and budgetary trends had led the University to embark on a long-range planning effort to bring some stability to its operations during the difficult transitions that lay ahead.²² Among other things, this would mean universitywide review and coordination of campus plans and proposals in sufficient detail to see that they were consistent with the overall aims of the University and achievable within the funding available. It was the first distant echo of what he had set out to do at DOD.

This project was to be conducted by the newly established Academic Planning and Program Review Board (APPRB), made up of representatives from the administration, the faculty (nominated by the chancellors), and the student body. The initiative for academic planning lay with the campuses. Their plans, once reviewed and approved by APPRB, the president, and the Regents, would serve as the foundation for the budget for each campus and a new academic plan for the entire University of California.

APPRB AND ITS EVOLUTION

The APPRB was chaired by Chester O. McCorkle, Jr., academic vice chancellor and professor of agricultural economics at UC Davis whom Hitch had recruited in 1970 to be his senior vice president. The University's reversal of fortune, Hitch and McCorkle reasoned, made the integration of academic planning and budgeting on a universitywide scale more urgent, not less. They were ready. McCorkle had already assembled an administrative team and visited ten universities around the country to learn about how similar institutions went about planning. During the weeks leading up to Hitch's report to CCHE, both had been talking with the nine chancellors, leaders of the academic senate, and student officers about the APPRB and its assignment to coordinate campus and universitywide planning.

The chancellors' initial reaction was chilly. Reservations centered largely on how much authority, in practice, this universitywide body would exercise over campus programs, budgeting, and academic aspirations, and especially whether it would end up

second-guessing chancellorial decisions. The response from the UC San Diego chancellor was representative: "The extension of the authority of the APPR Board over campus programs, such as initiating long-range planning, developing guidelines for the establishment of resource requirements and for the allocation of resources . . . is inappropriate and unacceptable if the policy of decentralized separation of campuses is to continue."²³ Hitch's public announcement of the creation of the Academic Planning and Program Review Board in late 1971 sought to calm these fears by emphasizing that APPRB was a coordinating body with no intention of abridging either the authority of chancellors or the rights of campuses to take the initiative in planning.²⁴

As part of the analytical work leading up to APPRB, Hitch had asked for a thorough review of earlier growth estimates. In their 1971 report, which focused on prospects for the next decade, members of the Growth Plan Task Force were especially concerned about the implications of waning student demand for future graduate and professional programs throughout the University. Their reluctant conclusion: UC needed to revisit the assumption that every general campus could reasonably hope to establish graduate programs and professional schools in a broad array of disciplines, at least during the 1970s. The goal should be "to build peaks of excellence rather than a broad plain of average quality. The peaks of excellence on the several campuses should complement each other, and thus build for the University as a whole a high plateau of excellence that includes all university disciplines and fields."²⁵

At the APPRB's inaugural meeting in January 1972, McCorkle's opening remarks underscored this aspiration to create a genuinely universitywide academic plan: "Simply stated, the objectives of this Board, this advisory body to the President, are to bring together, in cooperation with the campuses, all facets of academic planning and program review. . . . the members of the Board are expected to exercise their judgments as individuals, not as representatives of a constituency, such as a particular campus, or the Academic Senate, or the student body. Our one constituency is the University of California."²⁶ The Board had six tasks:

- Give the campuses a format and guidelines for preparing their academic plans. These plans were to cover a five-year period and be updated annually.
- Review and coordinate campus plans, along with campus proposals for new academic programs.
- Assemble the Universitywide Academic Plan, using the campus plans as its starting point.
- Create growth plans for the University.
- Review the quality of UC programs in various disciplines and professional fields.
- Prepare operating and capital outlay budget recommendations for the President.

Central to success was an intense review of academic programs in terms of quality, accompanied by a budgeting process that converted approved campus plans to a multiyear schedule reflecting costs over time. Academic quality reviews were already performed at the campus and the universitywide level, mostly to evaluate new programs under consideration or to strengthen existing ones. Future universitywide assessments would be conducted not only on the initiative of campuses that wanted new programs but on the initiative of APPRB as a way of achieving balance and academic excellence throughout the University—or, as McCorkle put it, "bringing money to quality."

For the next few years, the PPBS-inspired experiment at the University of California essentially invented itself, morphing through a variety of twists and turns, leaps forward and steps backward, in its uneven progress toward a new universitywide academic plan. Issuing planning guidelines alone took a year and a half. Each campus was asked to make a rough estimate of five-year enrollments for each school, division, college, or department, and to explain how this enrollment distribution related to campus goals. A second request was for a list of existing instructional and research programs, along with any plans for creating new programs or disestablishing existing ones, again in relation to rough estimates of future enrollments. This exercise had its uses, but the results did not offer many examples of the hoped-for downsizing. Campuses were reluctant to let go of their optimistic plans for growth. Chancellors vigorously defended campus priorities. Given the APPRB's many tasks, working through all the objections and resistances would have taken a prohibitively long time.²⁷

Accordingly, APPRB shifted its tactics. It gave each chancellor a set of data and a set of financial scenarios. The data consisted of graduate and undergraduate enrollment estimates for the current year and five years into the future. The scenarios were three in number: the campus's current per-student funding, one that was 10 percent lower, another ten percent higher. Each campus was asked to show how it would handle all three scenarios, buttressing its response with detailed information about staffing, funding, and programs for every department. APPRB would then use this information to make future estimates of campus budgets that could be looked at comparatively in planning and budgeting for the University as a whole.

This did not work either. Campuses complained that the data APPRB wanted was far too detailed and, in any case, would not be useful for comparative purposes, given the wide variations from campus to campus. Chancellors in particular disliked the

control professional planning staff, campus and universitywide, exercised over the initial planning process. McCorkle concluded they were right. He and APPRB took yet another tack. APPRB leaders began to visit campuses for in-depth talks and other kinds of give and take. Universitywide officers came away with a more accurate grasp of campus differences, McCorkle felt, and campus officers gained a better understanding of the decisions facing the University as a whole. Another sign of progress appeared in a 1972 report to the University's Board of Regents. APPRB had reviewed campus budget requests and recommended a budget for 1973-74, it explained, but expected that the time was soon at hand when campus academic plans would be sufficiently detailed to serve as the basis for their operating and capital budgets.²⁸ In part, the long investment of time and energy was to find the best way to encourage more budget realism without unduly constraining campus aspirations. In part, it was to search out workable approaches to aligning planning and budgeting, which was turning out to be more difficult in practice than in theory.

The first major product of the planning process, the 1974-78 University of California Academic Plan, appeared in March 1974. Its purpose was to articulate the fundamental assumptions and universitywide framework for planning. Intended to guide the campuses in writing their own plans, it hit hard on three broad strategies:

- Abandoning the earlier goal of nine large and academically comprehensive campuses. A broad undergraduate core curriculum would be offered throughout the University, but some majors with low enrollments would be available only at several campuses, and in some cases, only one. Graduate and professional programs would be developed selectively.
- Striking a balance between meeting student demand while also sustaining academic programs essential to the University's responsibilities as a valuable national and (at the graduate level) international asset.
- Paying for new programs by curtailing or eliminating existing ones. In an environment of low growth or no growth at all, trade-offs would need to be made between long-term commitments on the one hand and funding flexibility on the other, if UC was to pioneer new disciplines, attract outstanding faculty, and share limited resources equitably among and within campuses.

The campus plans—introduced by a separate overview volume describing the planning process and some of the critical issues involved—came to the Board of Regents for approval a year later, in March 1975. McCorkle made the presentation to the Committee on Educational Policy. When he concluded, Regent William French Smith led with a question: how do the Regents know that the policies under discussion will mean that redundant or low-performing academic programs are really being eliminated? "I am constantly trying to find out in here . . . what kind of an effective mechanism do we have that aggressively seeks those situations out rather than just sitting back and waiting for them to happen or waiting for them to become so obvious that everybody agrees that something should be done." That mechanism, Irvine Chancellor Dan Aldrich replied, was the campus chancellors. It is they who "eliminate academic programs that appear to be weak, faltering, unproductive in order to gain the resources to support something that is good, has potential."²⁹

The most publicized event of the meeting was not the back-and-forth over Regent Smith's question, however, but a comment from Governor Jerry Brown, a few months into his first term and new to the Board of Regents. The report, he said was "a summary in very abstract language of the academic political battles going on below the Regental level and . . . a very effective use of the squid process, by which ink is used to protect the organism in question from attack by other species that would like to examine what is going on."³⁰ The fairness of the squid remark was debatable. It made headlines anyway.

Despite the public fireworks, Hitch took the long view. The Regents had not acted on the individual campus plans, but in the end they had approved the strategies and directions laid out by the administration "for planning purposes," meaning they would guide future planning at both universitywide and campus levels. Even if some of APPRB's tasks remained incomplete—among them the establishment of multiyear planning horizons—a coordinated set of campus plans and universitywide planning principles had been built on a foundation laid by the APPRB, the nine campuses, and the Academic Senate. The UC budget format had not been converted to reflect program elements, as in PPBS, which Hitch thought impracticable anyway, given the cross-subsidies and other complications of university budgeting. The liaison between budgets and programs was improving, a sign of progress more important to him than any management technique or planning document. When Hitch retired as president a few months after the March meeting, he was satisfied that the lengthy UC experiment had corrected some, if not all, of the flaws in earlier attempts.

But at this milestone in the planning process, Regent Smith had revived the question the chancellors raised at the beginning: who decides what and when to cut, and who has the authority to do it? This was not something that could be answered by a body charged with coordination and review, as APPRB was supposed to be, especially when faced with politically fraught decisions like eliminating weak programs.³¹ Within a multicampus university, it could not be entirely answered by an appeal to

campus authority either. The 1974-78 Academic Plan had demonstrated that it was possible to construct a broad strategy for the University's future as an academic institution. Less clear was how to enforce it.

AN ERA OF REALLOCATION AND CONSOLIDATION

Hitch's successor, David S. Saxon, was well-versed in the complexities, political and otherwise, of the planning process. Like Hitch, he had exchanged the world of theory for administration. And like Hitch, he had a quick intelligence, an impressive grasp of numbers and budgets, and a dry sense of humor, all of which he used to good effect. These characteristics more or less exhaust the similarities. Saxon was a physicist, not an economist, an optimist where Hitch tended toward a sober realism, a cultural insider where Hitch was, at least initially, an outsider. Saxon's entire career had been spent at UCLA. As a member and leader of the faculty and later as executive vice chancellor, he had watched it grow from a good public university into an institution with a national and international reputation. This was due, in his opinion, to the UC philosophy of cultivating high academic and faculty standards in places beyond the Berkeley campus. His views on institutional planning were shaped not by management theory—he once said jokingly that the science of administration was the art of applying the seat of your pants to a chair—but by a visceral conviction that nothing was more important than protecting academic quality, existing and potential, throughout the University.

A few years into his presidency, Saxon saw threats to that goal emerging from within and without. Most significant was the passage of 1978's Proposition 13, which slashed property taxes by nearly 60 percent and raised dark visions of the future in every institution or agency dependent on public funds. Saxon retained the APPRB and its machinery for coordination and review while transposing planning itself into a new and more urgent key. "An environment of pervasive uncertainty," as he put it, required "translating principles into choices."

This is best illustrated in a report produced by the Joint Planning Committee, appointed by Saxon in January 1979 and consisting of the vice president of the University, the academic vice president, and representatives from APPRB, the Academic Senate, and the student body. "The University of California: A Multi-Campus System in the 1980s" was finished quickly and submitted the following September. It had continuities with the 1974-78 Academic Plan: a focus on quality within UC's financial constraints and harmony between campus aspirations and universitywide goals. Selective development and more intercampus cooperation, features of the old 1974-78 plan, might be "more central and fundamental" to the new.³²

Nothing in the earlier plan, however, would have prepared the reader for what the Joint Planning Committee report went on to say. Most striking were not its formal recommendations but a background paper that offered six organizational alternatives for the University to consider:

- Continuing its current structure;
- Dividing the campuses into three different types—comprehensive graduate campuses, specialized graduate campuses (with a "severely restricted" array of doctoral programs), and primarily undergraduate campuses;
- Dividing campuses into just two categories, comprehensive graduate campuses and primarily undergraduate campuses;
- Creating a leading campus, or possibly two, that would have first call on the University's resources, leaving the remaining campuses with undergraduate and graduate programs, developed selectively within available resources;
- Merging two or more campuses;
- Mothballing a campus, i.e., retaining only what is needed for the security and maintenance of the physical plant—"an extreme step short of closure."

The structural options in the Blue and Gold Bomb, as this incendiary report was immediately branded, found few enthusiasts. "Although [the structural options] may have served as useful stimulus to discussion in the preliminary stages of planning," an Academic Senate committee observed, "they have no place in the final draft of the University plan."³³ Their most immediate contribution to the conversation about planning was to demonstrate how much the landscape had shifted during the 1970s. Hitch's private opinion was that the University might well have opened one too many new campuses in the 1960s. Events seemed about to prove him right.

University planners of the early 1960s had estimated that enrollments would climb to approximately 196,000 before leveling off toward the end of the century. The 1966-1976 Academic Plan assumed an even higher long-range figure, and a general campus enrollment of 146,000 by 1975, which would necessitate two new campuses in addition to the three general campuses that had just been established. These grand projections were shattered by the 1970 census (and as it turned out, UC did not top 196,000 general campus students until 2006-07³⁴). A year after the census appeared, estimates for 1980-81 were lowered to 139,500. In 1974, the numbers were ratcheted down again, to 116,500. By the time the Joint Committee was at work, even this projection seemed overly optimistic. The prospect of actual declines in enrollment during the 1980s—as opposed to slower growth—

appeared disturbingly close. The minimalist State budgets of the 1970s offered little hope for the future. The University, already struggling before Proposition 13, was in a state of persistent alarm afterwards. It served to harden Saxon's conviction that the institution had reached an inescapable point of reckoning.

This meant establishing "a basis for internal reallocation of resources, between units on a campus and between campuses, and for seeking additional non-State funds. No administrative or academic units are exempt in principle from scrutiny, and no source of revenue, including student fees, can remain unexamined."³⁵ The reference to student fees was a signal that he was ready to break with some longstanding University practices—in this case, the tradition of using student fees only for activities that directly benefited students.

PLANNING TAKES ANOTHER DIRECTION

As the devastating effects of Proposition 13 on State budgeting became clearer, however, Saxon's chief worry was being forced into an indiscriminate shearing of vital academic assets, even the unthinkable step of closing one of the University's campuses. He went so far as to consider merging the Riverside and Irvine campuses, but that idea never went beyond a few Regents and UC administrators. Planning became a way to buy time to moderate panic into everyday anxiety. "[W]e were planning because there was this terrible pressure on us to consolidate, condense, and eliminate, and we were trying very hard to protect the core of the University," he explained in his oral history. "I think it succeeded. I think it diffused a lot of the pressure. It's possible to explain to people, to make them understand, why it made no sense to close Riverside or Santa Cruz."³⁶

Saxon was unapologetic about planning as a strategy of delay. It helped ensure the University's control of its own destiny amid a welter of conflicting internal opinion, outside political forces, intercampus competition, the potential for irreversible negative consequences, and the sheer difficulty of assessing risk in an environment that had begun to feel like free-fall. Circumstances were forcing Saxon to attempt two kinds of planning at once. The first retained APPRB's goal of bringing money to quality through rigorous program review. The other leaned toward waiting out decisions until sufficient clarity emerged to avoid making drastic mistakes. A 1980 draft planning statement noted that given the clouded outlook for the next few years, the University would be taking a new approach, one that differed from that of earlier academic plans. In July 1981, Saxon told the Regents that the latest planning statement was coming to them in loose-leaf form, "a symbolic as well as a practical gesture, indicating that the planning process, far from being at an end, is subject to revision as needs and circumstances change."³⁷

What had happened to translating principles into choices? As the imperative to cut intensified, Saxon responded by combining his strategy of delay with the pursuit of a set of institutional policies that, logic dictated, would be necessary to face the worst, if that came to pass. He began with in-depth systemwide reviews of a sampling of academic fields.

APPRB had conducted such reviews in the early 1970s, as part of the effort to encourage selective peaks of excellence across the University; the Joint Planning Committee's report recommended them as a way of answering "the blunt, tough questions academic planning must ask."³⁸ Now Saxon and the universitywide Academic Senate jointly established a new body, the Program Review Steering Committee, to oversee a series of cross-campus assessments. First up were engineering, law, foreign languages, humanities, and education. What made this different from earlier review committees was its mandate to develop policies for curtailing or ending programs and laying off faculty, should that be necessary. It had the advantage of simplifying and clarifying the underlying problem of planning for austerity: how to combine specific decisions, value judgments, and budgetary trade-offs with the policy power to act. It had the disadvantage of running up against persistent internal barriers. Larger campuses saw the reviews themselves as intruding on discretion over their own programs. Smaller campuses foresaw painful reductions if their newer academic programs compared unfavorably with those at Berkeley and UCLA. These reviews continued for several years, during which there were times when the committee itself was forced to work up information about academic programs because the campus in question failed to provide its own evaluations.

The cross-campus assessments were halted in 1983, when the Academic Senate called for a cessation of any further work on layoff and retrenchment policies. One alternative remained. "The university president [David Saxon] could have enforced a retrenchment policy via the budget-setting mechanism," a member of the Steering Committee later wrote, "but this would have been dangerous and difficult. . . . even though a multicampus university system should, in principle, be able to advance the cause of academic quality by setting priorities across the system, it was difficult to bring this off."³⁹ The Senate's action was a response to word that the new governor, George Deukmejian, was in discussions with the new UC president, David P. Gardner, about reinvesting in the University of California.

THE UC PLANNING EXPERIMENT AND ITS OUTCOMES

McCorkle and Sandra Archibald argued in a 1982 book on university management that planning in academic institutions during the 1970s unfolded in three stages. Allowing for some minor variations, the University of California traversed all of them. Stage

one, stimulated by declining enrollment projections in the wake of the 1970 census, was marked by fitful efforts to trim redundant courses and programs, a bias toward projecting current conditions into the future, and what turned out to be a counterproductive reliance on formal, published plans that often laid the groundwork for resistance rather than consensus. Stage two grew out of the dawning realization that the drop in public support would not be temporary and that shrinking enrollments, combined with the rising inflation of the 1970s, would squeeze university budgets hard. The result was a series of efforts to review academic program quality in order to assess strengths and weaknesses, to stem proliferation and overlap, and to give these reviews some weight in budget decisions. The planning that began with Hitch's selection as president in 1968, and culminated in 1975 with the University of California 1974-78 Academic Plan, embraced these two phases. Stage three, like the last stage of grief, was acceptance. David Saxon's goal was to impose some order and sense of direction on a planning process beset by internal discord and multiplying external pressures. The Joint Planning Committee's 1979 report was intended as a tentative map for this new terrain.

The sense of institutional dislocation aggravated the obstacles familiar to organizations with interdependent decision making. Campus resistance to centralized planning and differences over jurisdiction are examples. The Academic Senate's key role in reviewing academic programs was never in question, but even so a Senate committee chair once asked if, should the University opt to consolidate such programs across campuses, the responsibility for doing so would fall to the Office of the President. The move to spell out a formal policy on dismantling them, for financial or other reasons, aroused deep anxiety because of its implications for faculty status and tenure. Neil Smelser has described the wider institutional tendency to oppose eliminating programs as a manifestation of "structural accretion," the bias within universities to add new activities alongside weaker ones instead of replacing or getting rid of them.⁴⁰ Most simply, all the campuses wanted to grow. Berkeley and UCLA had their excellence to protect. Smaller and younger ones had nascent academic programs, and the faculty to run them, that they did not want to forfeit to retrenchment. The underlying tension between campus strivings for expansion and the universitywide goal of selective excellence began to ease only when State support rebounded in the early 1980s.

Hitch's idea that planning must lead budgeting ran into its own constraints. Despite the State of California's early enthusiasm for program budgeting, legislatures and the Department of Finance continued to produce and demand annual budgets. Under Governor Reagan, who promised to "squeeze and cut and trim" government spending of all kinds, management innovations in the budget process became irrelevant to the outcome of negotiations with the State.⁴¹ Frederick Balderston, a UC Berkeley management professor who was involved in planning under both Hitch and Saxon, explained the stubborn political challenge of planning and budgeting over a number of years:

Universities found that although they tried to show the multiyear budgetary implications of programs, their funding sources were unwilling or unable to look beyond very short commitments—typically, the single budget year. Administrators were very much aware that most of what they were trying to sustain in existing programs or initiate in new ones had implications for costs, and horizons for results, that stretched far beyond the upcoming fiscal year. But they have generally not been able to use a multiyear horizon except for very contingent internal planning.⁴²

Saxon, for his part, did not share Hitch's aversion to annual budgeting. He often insisted that the enterprise of planning should not be judged solely on its immediate results. Having been a member of APPRB during the year leading up to the Regents' discussion of the Academic Plan in March 1975, he was aware of how the planning process itself could be productive, not only of ideas and provisional solutions but of a greater understanding of the art of the possible. Comprehensive knowledge of what the University's current resources were, how they were deployed, and where unexpected savings or relatively modest shifts in support might be made could generate ways to extrapolate from the present toward a new sense of direction. If you want to see a vision of the University's values, he would say, look at the annual budget. It was the sum of the institution's choices and its implicit blueprint for the future.

His most characteristic response had to do with the use of Regental funding reserves available for times of severe financial stress. By and large, Saxon was reluctant to direct them toward solving budgetary shortfalls at what he considered the margins. Taking this approach would relieve some of the pain of the moment but would never "improve [the University] or keep it vital." A better strategy, he believed, was to employ reserves as the source of seed money for ambitious and intellectually promising projects. This was behind his willingness to support a major faculty proposal to build the Ten-Meter Telescope, the first innovation in telescope design since Newton's reflector telescope. He was convinced the fields of astronomy and astrophysics were ripe for important new advances that justified this large institutional investment, even in a time of austerity.⁴³

What came out of this planning experiment under two presidents? Hitch took the temperately optimistic view that the planning enterprise he launched at UC was a productive step toward learning how to be "more adept and sophisticated in costing out the consequences of our academic program decisions."⁴⁴ McCorkle and Archibald believed that one of its major achievements was

simply persuading campuses and chancellors to lower their expectations about the future size of enrollments and budgets and the scope of academic programs.⁴⁵ They also felt that campuses and chancellors, however much they disliked the planning exercise in general, had ultimately bought into the process itself and brought UC closer to planning that was more grounded and realistic. As far as decision making was concerned, McCorkle and Archibald's account makes clear how much of the job was to persuade, placate, and negotiate the way to consensus between individual campus positions and universitywide goals. In the end, "a planning process based on personal discussion among those who have leadership and advising responsibilities for planning and management at all levels more easily elicits good plans than impersonal, centralized, and staff-run systems."⁴⁶ They remained more optimistic than Balderston about the possibilities of multiyear planning, however.⁴⁷

Controlling change was the theme of Hitch-era planning; adjusting to it became the goal of later efforts. But planning under Saxon did more than stave off forces threatening the University's commitment to quality. The very starkness of the Joint Planning Committee's structural options settled decisively the question of whether the University's answer to austerity would be merging or disaggregating its campuses by status, budget, or mission. Instead he focused attention more directly on the external obstacles that blocked access to the University and thus to growth—the decline of the K-12 schools, once among the best in the nation, inadequate student preparation, and neglect of the deep-seated societal and educational barriers minority students faced. In doing so, Saxon used the planning process to give greater prominence to the emerging dynamic beneath California's demographic numbers, its transformation into the nation's most racially and ethnically diverse mainland state. Kerr had established an equal opportunity program for students in the 1960s and Hitch convened a task force to examine the status of Chicanos in the 1970s. Saxon was the first president to put the interlocking problems of minority preparation in the schools and enrollment at UC squarely and prominently on the institutional agenda—a lasting legacy of his administration and of his planning initiatives.

Universitywide planning on the scale envisioned during the Hitch and Saxon administrations has not been replicated. The state's higher-education coordinating agency, the California Postsecondary Education Commission (the successor to the Coordinating Council on Higher Education), was abolished via budget cut in 2011, and along with it some of the incentive to produce formal planning statements. Over the longer term, shrinking budgets, serial retrenchments, the constant search for new sources of funding—all culminated in greater discretionary power delegated to campuses to deal with the retreat of public support. These trends were both cause and effect of a gradual shift in policy and preference toward greater local control. They have tended to redefine planning mostly as negotiations between the University and the State over UC funding, and between the Office of the President and the campuses over budgets and enrollments. The outcome has been to render long-range, universitywide planning just as challenging to do as it was in the 1970s, if not more so. Those who worry about the University's prospects for the future are more likely to look in other directions: toward entrepreneurial funding ventures, new management techniques, or reinventing governance.

AND ABOUT ENROLLMENTS . . .

When he was still executive vice chancellor at UCLA, before he became president, David Saxon remarked in a light moment that "the University of California plans for everything except what actually happens." This statement turned out to be at least partly true. Fears about the long-term withdrawal of public support were realistic. Despite two bright interludes of dramatic budget increases in the mid-1980s and mid-1990s, public disinvestment in higher education has been a steady pattern in California and throughout the country.

But not because of collapsing enrollments. In the face of the bedrock assumption of fifteen years of planning, students continued to flock to UC campuses. The first sign was a leap in the percentage of students who did not just apply but also went on to enroll at UC, defying historical trends. Rising tuition at elite private universities in the 1980s made UC's high-quality public education increasingly attractive to students and their families. The University's commitment to draw more minority students to its campuses, driven by a sense of public responsibility and an equally lively sense of its own self-interest, gained support for growth in California's increasingly diverse legislature. (This was a strategy proposed in the Joint Planning Committee's 1979 report and one Saxon considered imperative regardless of the budgetary situation.⁴⁸) And by the mid-eighties, demographic projections were beginning to sound a lot like those of the 1960s, leading President David Gardner to announce in 1988 that the University would need to enroll an additional 63,000 students to meet demand by 2005. California's resilient, innovative economy and several governors willing to help UC expand, beginning with Deukmejian, paved the way for the University's tenth campus, UC Merced, which opened that year. Students have chosen UC campuses in ever-greater numbers from the 1990s and into the 2000s, in a wave that has not subsided yet.⁴⁹

HITCH, DECISION MAKING, AND PPBS

The work that Hitch and his colleagues did at RAND and DOD was aimed at demystifying choice. It sprang from the conviction that applying modern management concepts and rational tools to evaluate alternatives could make large institutions more

responsive, effective, and efficient. This confidence was buoyed by the success of the vast war effort, rising faith in the transformational power of the social sciences—especially economics—the general air of American postwar optimism in the 1950s and, in the 1960s, the ambitions of social reformers. But the new techniques of decision making did not revolutionize planning at UC or other universities or, judging by experience, render their decision making much easier. Balderston concluded that PPBS was, in the end, a “noble experiment” that nonetheless failed to introduce major improvements in the way large public organizations go about making decisions. “A more sophisticated analytic spirit, both within the university and in state and federal agencies,” he wrote, “is perhaps the most enduring legacy of the program budgeting experience.”⁵⁰

He was not alone in this view. The ascendancy of PPBS in the minds of public administrators and bureaucrats soon faded. After an initial burst of acclaim, the system attracted many critics. Hitch, remarkably detached from the major achievement of his economic and administrative career, made no real effort to refute them. When he left the Pentagon and the UC presidency he took no files, wrote no memoirs, left no oral history. He did offer some explanation and elucidation in a few lectures and articles, and to read them is to catch a glimpse of a more modest and pragmatic version of PPBS than can be found in many of the critiques. He thought systems analysis, a prime target for the opposition, played a “very partial role” in optimizing decision making and was amused to learn he had been chosen to head the Operations Research Society of America (ORSA):

I have never been a wide-eyed enthusiast for SA [systems analysis]. In fact, I think I can fairly claim to have been the leading, or a leading, internal critic of SA as it was being practiced by the OR [operations research] fraternity in the 1950s. I particularly criticized the overemphasis on techniques and elaborate computer models; the corresponding underemphasis on careful and sensitive definition of objectives; and the neglect of intangibles, externalities, and uncertainties. No one was more amazed than I when the members of ORSA elected one of their principal gadflies their president in 1959.⁵¹

He did not regard most of the cost-benefit analyses done within higher education as successful. The case of year-round operations at UC was an example of its limits; the modelers paid insufficient attention to operating costs and missed some other important reasons it was a less than workable strategy for saving money. (He thought the issue of library acquisitions, storage, and access was a different matter.) According to a colleague, Hitch’s immersion in large-scale planning at RAND led him to the view that it was a domain in which operations research was useful only as “an advisory art with many limitations.” Yet after contrasting it with intuition and noting that intuition itself is a form of analysis, he concluded that decision making will always rely on analysis of one kind or another.⁵² Given this inevitability, judgment requires all the shoring up it can get.

He discussed the APPRB experiment in a 1978 retrospective on his time as comptroller of the Department of Defense and president of the University of California. Although he took care not to mention it during his politically volatile presidency, he found some analogues between the Department of Defense and the University of California: the president and the secretary of defense, for example; the service secretaries and the chancellors; the uniformed military, which sees itself as “the *permanent* DOD,” and the faculty, “which considers itself *the* university.” What had he learned from his leadership of both?

- Despite similarities in large organizations, the differences are important. “It never occurred to me that a management bag of tricks developed for the Pentagon could be transferred to a university.”
- His Pentagon experience notwithstanding, decentralization (especially for research and development and other kinds of creative endeavors) is the better path. “The benefits of centralization are usually obvious and short term; the costs frequently hidden and long term.”
- Incentives are more powerful than rules and procedures. “We paid too little attention to incentives in the McNamara Pentagon and we didn’t do enough imaginative, constructive thinking about them in the University of California. The problems are hard in an organization with no profit bottom line.”
- Costs matter, “but costs and benefits have to be considered broadly and with great sophistication.”
- People are the most important force in any organization. “I spent a tremendous amount of time on this function. I judge a manager importantly by his appointments, and will be glad to be judged by mine.”⁵³

Both Hitch and Saxon went on to active post-presidential lives. Saxon accepted appointment as Chairman of the Corporation—the board of trustees—at the Massachusetts Institute of Technology, his alma mater, in 1983. He was drawn by the opportunity to conclude his professional life having served two “absolutely excellent” centers of learning. MIT’s intense intellectual environment and problem-solving culture made it a congenial choice. After seven years as Chairman, Saxon went home to UCLA and to many years of engagement with the physics department, the campus, and the University.

Hitch returned to Washington, D.C., in 1975 to head Resources for the Future, a think tank concerned with environmental issues. He believed he had at last found a set of problems hospitable to the kinds of solutions operations research had to offer, among them air and water pollution:

Objectives appear amenable to classification; economic criteria are clearly applicable; and we know or think we can learn how to structure the important relationships. There are enemies, more akin to nature and therefore with reactions to our strategies more predictable than enemy governments; neutrals with the same incentives as neutrals in war to sit out conflicts and let others bear the costs; and active and potential allies. Formidable difficulties—all interrelated—include the intensity of political interactions, disincentives built into economic systems, and the overzealousness of friends demanding immediate and total victory.⁵⁴

This was to be his last professional commitment. He came back to California in 1980. At the Lawrence Berkeley National Laboratory, high above the Berkeley campus, he spent his time thinking and writing about the escalating problems of environmental decision making. He warned activists about the dangers of wanting it all—refusing to accept anything less than the total eradication of a pollutant when a 97 percent solution would be almost as effective and far less costly.

During his undergraduate days at the University of Arizona, Hitch had been introduced by a favorite professor to the study of bristlecone pines. His fascination with these ancient trees, some of which have survived more than five thousand years, persisted throughout his life. At the close of a career devoted to the puzzle of choice in a world full of threat, he might have found some relief in contemplating their slow, organic success in conquering the adversaries of desert, climate, and, in human terms at least, time itself.

ENDNOTES

- ¹ Hitch's wife, Nancy Squire Hitch, was also an economist who worked at the War Production Board—where she met Hitch on a blind date—and then at the OSS from October 1943 to May 1945. Her OSS responsibilities included research reports on the organization and operation of certain German industries and Austria's lumber holdings as part of a broader study of that country's postwar economy.
- ² In his history of operations research in Great Britain, Maurice W. Kirby notes that by early 1944 a sub-section of the British Air Ministry's Research and Experiments Division (R.E. 8) devoted to evaluating the effectiveness of bombing raids over Germany "was effectually an Anglo-US organization incorporating such distinguished American scientists as Charles Hitch . . ." Maurice W. Kirby, *Operational Research in War and Peace: The British Experience from the 1930s to 1970* (London: Imperial College Press and The Operational Research Society, 2003), 127.
- ³ Alain Enthoven, "Tribute to Charles J. Hitch," *Operations Research and Management Sciences Today* 22:6 (December 1995). Available at <http://www.orms-today.org/orms-12-95/dec-toc.html>.
- ⁴ Henry Kissinger, "Strategy and Organization," *Foreign Affairs*, Vol. 35, No. 3 (Apr., 1957), 379-394. Available at <http://www.jstor.org/stable/20031235>.
- ⁵ Charles J. Hitch and Roland N. McKean, *The Economics of Defense in the Nuclear Age* (New York: Atheneum, 1960), 3. The book was originally published by Harvard University Press.
- ⁶ Quoted in Charles J. Hitch, *Decision-Making for Defense*, H. Rowan Gaither Lectures in Systems Science (University of California Press, 1965), 27.
- ⁷ Hearing before the Committee on Armed Services, United States Senate, First Session, January 18, 1961, 15, 18.
- ⁸ Charles J. Hitch, "Decision-Making in Large Organizations," The Fourth Royal Society Nuffield Lecture, October 25, 1966. Reprinted in *Proceedings of the Royal Society*, B, vol. 168, 140-147, 1967. 142-143.
- ⁹ Theodore H. White included Hitch in his famous *Life* magazine series as one of the new "action intellectuals" willing to leave the seclusion of academe for the hurly-burly of real-world problems. Theodore H. White, "The Action Intellectuals," *Life* magazine, June 9, 1967, 23, 1967. They were purveyors of new ideas "to shape our defenses, guide our foreign policy, redesign our cities, eliminate poverty, reorganize our schools." In an interview with *Life* managing editor George P. Hunt that appeared in the June 9 issue, White raised the question of why, if the action intellectuals as a group were so bright, "things are so bad." His answer: "The trouble is that every brilliant proposal runs into an equally brilliant counter-argument. If all of these guys could agree with one another, it would be a wonderful country."
- ¹⁰ "Social scientists not only played a major role in two wars—the Vietnam war and the War on Poverty—they also devised and implemented throughout the federal government a comprehensive technocratic system of social planning and budgetary decision making, the Planning, Programming, Budgeting System (PPBS). In his statement introducing this new planning technique, Johnson hailed it as a revolution in policy decision making that would help to plan and coordinate his effort to end poverty in America. It was a high moment in the technocratic movement. To use [Senator Daniel] Moynihan's phrase, it was clear evidence of 'the professionalization of reform.'" Frank Fischer, *Technocracy and the Politics of Expertise* (Sage Publications, Newbury Park, London, New Delhi, 1990), 152.
- ¹¹ "A University Plans its Future," University of California Office of the President, 1962.
- ¹² Loren Furtado, *Budget Reform and Administrative Decentralization in the University of California* (Berkeley Public Policy Press, Institute of Governmental Studies, 2002), 20. These figures do not include the three Department of Energy Laboratories at Berkeley, Livermore, and Los Alamos, New Mexico, managed by the University for the federal government.

- ¹³ Furtado, 17.
- ¹⁴ Charles J. Hitch, "Management Problems of Large Organizations," *Operations Research*, Vol. 44, No. 2 (Mar.-Apr., 1996), 259. This article is a reprint (after Hitch's death in 1995) of his Phi Beta Kappa Address at Trinity College in Hartford, Connecticut, delivered on April 28, 1978.
- ¹⁵ Hitch, "Decision-Making in Large Organizations," 146.
- ¹⁶ Charles J. Hitch to University of California President Clark Kerr, April 17, 1965. University Archives.
- ¹⁷ Hitch, "Management Problems of Large Organizations, 259, 262.
- ¹⁸ "Regents Pick Economist as 13th UC President," *Daily Gazette*, September 23, 1967.
- ¹⁹ Charles J. Hitch, "President Hitch's Statement on the 1972-73 Budget," Regents' Meeting, September 17, 1971.
- ²⁰ Yet another impetus came from the California legislature's Assembly Concurrent Resolution 132, a warning shot across the University's bow about legislative interest in greater efficiency and accountability and more faculty investment in undergraduate education. ACR 132, passed by both houses in October 1971, called on the University to document the amount of faculty time devoted to instruction and to see that research projects unrelated to teaching "contribute to the solution of important contemporary problems." But it also mandated that UC "review its academic programs, department by department, campus by campus, and also, in relation to the University as a whole, looking for ways to eliminate unnecessary duplication of courses and programs and possible inefficiencies." Governor Ronald Reagan's Department of Finance was also studying operations at UC, had testified before legislative committees on the subject, and reportedly favored "recentralization" of authority within UC to achieve greater efficiencies. The San Francisco *Chronicle* hailed the establishment of the APPRB as a preemptive move by the University ("UC Gets Jump on State Report by Recentralizing," December 9, 1971). Hitch's April 1972 report to the legislature, however, described the mission of APPRB as an important aspect of the University's response to ACR 132, but emphasized the decentralized role of faculty and campuses in assessing academic programs and new initiatives. Charles J. Hitch, "Priorities and Program Review at the University of California: A Report to the California Legislature in Response to ACR 132," April 1, 1972.
- ²¹ *Three Thousand Futures: The Next Twenty Years for Higher Education*, Final Report of the Carnegie Council on Policy Studies in Higher Education (San Francisco: Jossey-Bass Publishers, 1980), 1.
- ²² Charles J. Hitch, "Statement to the Select Committee on the Master Plan of the Coordinating Council for Higher Education," December 21, 1971.
- ²³ Chancellor Herbert F. York to Vice President C. O. McCorkle, Jr., November 11, 1971.
- ²⁴ President Charles J. Hitch to Chancellors et al., December 1, 1971. University Archives.
- ²⁵ "Growth Plan for the University of California, 1971-1981" (submitted to President Hitch on June 30, 1971), 26. Frederick Terman, provost at nearby Stanford University, was well known in the 1960s for his success in promoting Stanford's rise to distinction by systematically investing in areas of academic strength, a strategy he called cultivating "steeple of excellence."
- ²⁶ Vice President C. O. McCorkle, Jr., "Opening Comments by Vice President McCorkle, Chairman, APPRB Meeting January 6, 1972." University Archives.
- ²⁷ Chester O. McCorkle, Jr., and Sandra Orr Archibald, "Establishing a System for Effective Planning," in *Management and Leadership in Higher Education* (San Francisco, Washington, London: Jossey-Bass Publishers, 1982), 56-76. In my account of the APPRB process, I have drawn extensively on that chapter and on information the authors shared with me during a personal interview on July 18, 2016.
- ²⁸ "Progress Report of the Academic Planning and Program Review Board," Regents' Meeting, July 14, 1972.
- ²⁹ At a meeting of the APPRB Steering Committee after the March 1975 Regents' discussion, members noted that decisions to disestablish academic programs or professional schools inflicted considerable internal pain and were not highlighted publicly for that reason, even though the administration recognized there were "those who feel that good management is not being exercised unless there is a great 'flow of blood' all over the place." APPRB Steering Committee Informal Minutes, March 19, 1975. 2-3. University Archives.
- ³⁰ Transcript of the meeting of the Educational Policy Committee, Regents' Meeting, March 13, 1975.
- ³¹ The 1974-78 Academic Plan described APPRB's mandate as follows: "The program review process at the universitywide level includes the authority to disapprove programs which result in unnecessary duplication and to reorder campus priorities to assure that all programs judged to be of scholarly and professional importance are presented somewhere within the institution." "University of California 1974-78 Academic Plan," Office of the President, March 1974, 18.
- ³² The 1979 report, one of the early UC planning documents to discuss California's future as the nation's most demographically diverse mainland state, noted that minority enrollment in the K-12 schools was expected to climb 25 percent higher than white enrollment by 1990.
- ³³ "The Response of the Academic Senate to the Joint Planning Committee Report," January 15, 1980. Prepared by the Universitywide Committee on Planning and Budget. University Archives.
- ³⁴ "University of California Budget for Current Operations, Summary and Detail, 2015-16," available at <http://regents.universityofcalifornia.edu/regmeet/nov14/f1attach2.pdf>
- ³⁵ David S. Saxon, "Report on Universitywide Planning Initiatives," Regents' Meeting, January 19, 1979.
- ³⁶ David S. Saxon, "University of California President David S. Saxon," Vol. II, Oral History Program of the University of California, Los Angeles, 1994, 532.
- ³⁷ David S. Saxon, "Universitywide Long Range Planning Activities," Regents' Meeting, July 17, 1981.
- ³⁸ "The University of California: A Multi-Campus System in the 1980s," C2-3. The report noted that the initial reviews conducted by APPRB had turned out to be time-consuming, expensive (since they included members from outside the University), and sometimes barren of results (thanks to campus aversion to cutting or curtailing programs). The report urged the universitywide Academic Senate to work hard to ease faculty anxieties and encourage cooperation with the new round of reviews.
- ³⁹ Balderston, 298-99.
- ⁴⁰ Neil J. Smelser, *Dynamics of the Contemporary University: Growth, Accretion, and Conflict*, Fifth Clark Kerr Lecture series (Berkeley: University of California Press and the Center for Studies in Higher Education, 2013), 12-14.

- ⁴¹ See Frederick E. Balderston and George B. Weathersby, "PPBS in Higher Education Planning and Management: Part II, The University of California Experience," *Higher Education*, Vol. 1, No. 3 (Aug., 1972), 299-319. Available at <http://www.jstor.org/stable/3445702>.
- ⁴² Balderston, *Managing Today's Universities*, 160-161.
- ⁴³ The Ten-Meter Telescope—now the Thirty-Meter Telescope—began as a partnership between UC and Caltech, with support from the W. M. Keck Foundation, to use its radically new instrumentation in studying the assembly of galaxies, the evolution of the universe, and the formation of stars and planets. In 2003 the partnership was expanded to include the Association of Canadian Universities for Research in Astronomy (ACURA) and the Giant Segmented Mirror Telescope, a partnership between the National Optical Observatory and the Gemini Observatory.
- ⁴⁴ "Management Problems of Large Organizations," 262.
- ⁴⁵ McCorkle and Archibald, 24.
- ⁴⁶ McCorkle and Archibald, 74-75.
- ⁴⁷ "The major innovation of the approach to management [described in their book] . . . compared with traditional approaches to management, is its introduction of an intermediate step between strategic planning and annual resource allocation in which long-term objectives and strategies . . . are converted into definite multiyear goals and program plans to be realized in a 'rolling' two- to three-year time period, and, at the same time, resource allocations are set in a context that transcends the annual budget cycle. This approach both shortens the planning horizon so that plans and priorities are made more realistic and concrete and, at the same time, lengthens the resource allocation time line beyond one year in order to provide more certainty and sufficient lead time to adjust resources to achieve planned program changes." McCorkle and Archibald,
- ⁴⁸ The prospect of declining numbers of high-school graduates galvanized campuses to do more than provide information to students interested in applying, the traditional approach to admissions. They adopted strategies more typical of private universities—actively recruiting applicants by emphasizing their special characteristics, physical setting, student activities, and academic programs, for example.
- ⁴⁹ Assuming UC maintains its Master Plan eligibility target of 12.5 percent of California public high-school graduates, it is "likely to see moderate growth in student enrollments between now and mid-century," according to Saul Geiser: "Expanding Off-Campus Enrollment Capacity at Berkeley: A Concept Paper," Research and Occasional Paper Series, Center for Studies in Higher Education, UC Berkeley, February 2017. Available at http://www.cshe.berkeley.edu/sites/default/files/shared/publications/docs/ROPS.CSHE_.2.17.Geiser.EnrollmentCapacity.2.21.2017.pdf.
- ⁵⁰ Balderston, 160-161.
- ⁵¹ "Management Problems of Large Organizations," 259-260.
- ⁵² Hugh J. Miser, Introductory Note to Charles J. Hitch, "Management Problems of Large Organizations."
- ⁵³ "Management Problems of Large Organizations," 263-64.
- ⁵⁴ Charles J. Hitch, "The Environment: A New Challenge for Operations Research," North-Holland Publishing Company, 1972, 29. In 1977, Hitch published *Modelling Energy-Economy Interactions*, a book on addressing critical energy shortages.

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