University of California Bancroft Library/Berkeley
Regional Oral History Office

William Ray Dennes

PHILOSOPHY AND THE UNIVERSITY SINCE 1915

With an Introduction by

Stephen Coburn Pepper

An Interview Conducted by
Joann Dietz Ariff

Berkeley
1970

WILLIAM RAY DENNES CHRONOLOGY, from Who's Who

born: Healdsburg, Sonoma County, California, April 10, 1898, son of Edward Frederick and Harriet Ray Dennes.
educated: A.B. University of California, 1919, M.A., 1920; D.Phil., Oxford University, England, 1923; Doctor of Laws, New York University, 1951.
married: Margaret Munroe Stevenson, June 22, 1923.
children: Richard Merriam, Margaret Stevenson (Mrs. Edwin Honig)

career: Mills fellow in philosophy, U.C., 1920,
instructor in philosophy, 1923-24,
assistant professor, 1924-27,
associate professor, 1927-32, and 1933-36,
professor since 1936,
chairman of department, 1941-43,1944-48,
Mills Professor of intellectual and moral philosophy, civil polity, 1958-65,
emeritus, 1965-,
dean, graduate division, 1948-55,
associate professor of philosophy, Yale University, 1932-33,
visiting professor of philosophy, Harvard University, 1935, and Stanford University, 1941,1943.

service: U.S. Navy, 1918-19,
Assistant Director, Manhattan District, Los Alamos Project, 1943.

awards: University medal, University of California, 1919,
Rhodes Scholarship, Corpus Christi College, Oxford, 1920-23,
Guggenheim fellowship in Germany and England, 1929-30.

memberships: President, association of graduate schools of the Association of American Universities, 1952,
Chairman, graduate council, Association of Land Grant Colleges and Universities, 1952,
Conference on Science, Philosophy and Religion, 1952,
Fellow, Royal Society for the Arts,
American Philosophical Association (pres. Pacific Div., 1945),
Mind Society, Great Britain,
Alpha Kappa Lambda,
Phi Beta Kappa (pres. Alpha Chapter of California, 1941-42),
Faculty Club, University of California at Berkeley.

INTERVIEW HISTORY

The following interview with William Ray Dennes is a part of the Regional Oral History Office's University History series. The Preface and lists following refer the reader to the other interviews in the series.

Time and Setting of Interviews: William R. Dennes was interviewed by Mrs. Joann Ariff in August and September 1967. After one meeting at Professor Dennes' home at 15 Eucalyptus Road, Berkeley, he and Mrs. Ariff recorded the remainder of the interviews in Professor Dennes' campus office.

Conduct of the Interviews: Mrs. Ariff conducted the interviews from notes gathered on Professor Dennes' life and organized in a chronological fashion. Outlines of the questions to be asked were not submitted in advance; rather, Professor Dennes' sharp memory and interest in the project gave order and momentum to the interviews.

Editing and Completion of the Manuscript: Following transcription, the interviews were edited in the Regional Oral History Office, chaptered, and rearranged slightly as the divisions in the Table of Contents indicate. In March 1968 the manuscript was sent to Professor Dennes for his editing and for his addition of material on the Miller Institute for Basic Research in the Sciences. He understood and appreciated the need for retention of the conversational quality in the manuscript, and with reassurance that his anecdotes didn't outweigh the material surrounding them and that they were in fact essential to this kind of history, he returned the corrected manuscript to the office in May 1969.

The edited manuscript, when typed, was given the careful proofreading of Mr. James Sisson, University Archives, The Bancroft Library. The Introduction was prepared by Stephen Coburn Pepper, an interviewee himself in the first series of University History interviews, and an interested advisor to the project.

The General Library
University of California, Berkeley
17 December 1969

INTRODUCTION

by Stephen C. Pepper

I first saw Will Dennes when I came to Berkeley in 1919-20. That was the year he was getting his M.A. under C.I. Lewis. We saw quite a little of each other. He was clearly a coming young philosopher--a tall, blond, fine-looking fellow, extremely brilliant, a little stiff in manner, rather conscious of being a westerner, and coming off a farm, modest, and cultivated, yet still rather "green" to the world, and obviously a good boy. There were not many boys like him in Berkeley at this time. The regular fraternity boy aspired to the senior's broad brimmed hat and corduroy trousers and rough, strong voice, and gait in the image of a forty-niner. I can understand many reasons why Will and his friend Scofield left living at his fraternity and moved down to Mrs. Day's quiet, cultured surroundings.

One remark of his sticks in my mind and reveals a lot about him at that time. We were walking in the hills, as occasionally we did, and looking across the bay at San Francisco. I remarked on what a shame it was to have laid out the city in an uncompromising grid across those beautiful hills. His reply was, "How else would one lay out a city?" With my memory full of old Boston and the many cities of Europe, I was perfectly astonished, and immediately realized he had never seen anything different.

His question was a real question. He really wanted to know. Nothing could have developed him more completely than the Rhodes scholarship which he earned. When he came back from Europe three years later, he was culturally as fully rounded out by Oxford and travels on the Continent as any man could be.

There was never any question, so far as I recall, that we wanted him in our Department as soon as he received his Oxford Ph.D. And it seemed fortunate to Ellen and me at the time he returned that as we were to be away that year on a leave-of-absence, Will and his bride, Margaret, could rent our house while looking for a more permanent place of their own. Then that September came the terrible Berkeley fire. We were in Paris that fall with my parents. And the

Tolmans, who were neighbors of ours in Berkeley, were there too. There was an item in the New York Herald of Paris about the fire, very brief, but we figured out it must have swept our district. Presently, we received telegrams confirming the loss of our two houses, and later letters telling all about it.

Will's letter was detailed and vivid and characteristically as concerned about our loss as his. Actually in proportion the Dennes' lost much more than we, for they lost practically all their possessions while we had many valuable things out in storage. We also had our clothes. And, as Will says in his brief account in the oral history, his brother-in-law, with friends, managed to get out a good deal of our furniture.

I found the letter he wrote at the time recently, and sent him a copy. It is such a moving account, and so characteristic of Will and Margaret too, that it would seem to me a fitting and valuable addition to this biography. In a way, the calamity brought us intimately together as nothing else could have done more quickly.

From that time on our mutual story would be the almost family-like intimacy of our membership in that small, great Berkeley Philosophy Department of the '30's and '40's. Our philosophical views were almost diametrically opposite once Will espoused the new positivistic theory. But such differences were part of the policy and the strength of the Department.

It does not come out in the oral history that he was not a positivist when he first arrived fresh from Oxford. He was an ardent Crocean under the discipleship of his Oxford teacher, J.A. Smith. This came out right after his arrival in Berkeley at the weekly Department meetings that we had at lunch time in the Faculty Club. No one in the Department was particularly keen about Croce and we were also surprised because Will did not seem the sort of person to remain happy as a doctrinal Crocean. Most of us at that time regarded Croce as a soft, latter-day idealist. (Since then I have changed my mind about him on finding the germs of the contextualist aesthetics in his writings.) The Department, much as a family does, jumped on Will's infatuation, and apparently during the year I was away shattered it. For when I got back in 1924, I think Will had already turned positivist to the exact opposite extreme of any idealism, out-distancing even our naturalists Marhenke and Prall in the radicalness of his empiricisms. He became, according to the positivist formula, completely anti-metaphysical, which none of the rest of us in the Department were. I half believed that this was his revenge on us for taking away from him his faith (almost) in Crocean idealism.

And on this metaphysical versus anti-metaphysical issue the Department nearly exploded in a schism a little later, with me at one pole and Will at the other. For I, with my theory of world hypotheses, was the outstanding defender of the importance of speculative metaphysics in the Department. The uprising came about in the collaboration by all the Department in a book which finally received the title of Knowledge and Society, published in 1938. Appleton-Century, publishers, looked enviously on our big introductory philosophy class of over 1,000 students divided into three or four sections. There was money for a text book by the famous Berkeley Department good for over 1,000 copies a year in Berkeley, and who knows how many more for other colleges across the nation on the stimulus of Berkeley. The Department accepted the challenge. It was decided that every member should contribute and the subjects of the chapters should be distributed among those who were not specialists in those subjects. This (it was our bright and novel idea) would keep the expositions simple and free from the technicalities of the experts.

So, inevitably I was allotted the chapter on logic and scientific method which was Marhenke's field. Marhenke was assigned the chapter on free will which incidentally was the one chapter in the book to be lifted out in the years to come as a classic essay, reprinted in other collections and widely referred to. This is not to disparage the other essays which built up the structure of the book. It is simply that Marhenke found in the free will problem a fresh subject matter for the exercise of his exceptional analytical powers.

To return to the metaphysical issue. When the first drafts of these papers were passed around the Department for mutual criticism, it was discovered that the metaphysics chapter was a completely anti-metaphysics chapter. Perhaps we should have foreseen that outcome, having given it to Will. But we all agreed that would not do. We were all, of course, practicing metaphysicians in our several ways except Will. The Department never got so internally heated up over an issue as we did over this one. There was even a suggestion of giving up the whole enterprise. But it was finally resolved in a friendly way as all issues were in that grand old Department. The metaphysics chapter was enlarged into four sections--sandwich-like--with Pepper writing sections two and three about what he conceived to be constructive metaphysical speculations, and Dennes writing sections one and four giving the typical positivistic criticisms. In this one instance the chapter was written by the specialists in their mode of thought. It came out a better chapter than any one man could have done alone. Indeed, I thought it was one of the better chapters in the book and representative of the thought of the period on that subject.

The book was quite a success. It was widely used for about two decades. The publishers could be well satisfied with the venture. It was, moreover, something of a tour-de-force. What other Department of Philosophy could successfully have conceived and brought to completion a systematic introductory survey of philosophy in which every member participated? For, though the metaphysics chapter was exceptional, we all had a hand in critical suggestions for every chapter. And the style of the book was unified by Donald MacKay, whom we all agreed had the best literary style of any of us. And we furthermore agreed that his stylistic judgement would be final, even though many personally treasured gems of phrasing dropped into a waste basket.

Let me add that I think Will's sections giving the positivistic criticisms of metaphysical speculation is the most succinct and penetrating essay on the subject that can be found.

Will is over modest in the oral biography about his unusual intellectual powers. He ascribes them to compensation for his lacking the athletic abilities of his brother and other boys in his schools. No doubt this competition increased the motivation to excell in intellectual areas. But his natural intellectual gifts would have come out inevitably. To be medalist in the big classes of the University of California is not something due to accident of environment only, or to unusually good preparation in the grammar school.

One soon notices after being much in his company two rare gifts--a remarkable retentive memory, and, what only an older psychological term suitably describes, an amazing apperceptive range. As regards the latter, he has no difficulty at a social gathering sitting between two persons in following the complete conversations of them both. He can be talking with one person giving his full attention to him, and have so well attended to the neighboring conversation too that he can interject a pertinent item of information into the latter conversation also. This is perhaps trivial, but I think it is this same trait that makes it possible for him to keep in mind the huge assemblage of persons with whom he has cooperated in his unusually varied and expansive life. In his oral history one is impressed with the enormous range of his active acquaintances, persons whom he keeps up with. His close friends are few and enduring. But his acquaintances are multitudinous and equally enduring. These are not like a doctor's patients, or a politician's supporters, whom the politician can also name and characterize; Will's acquaintances are warm in his relations with them. They are, I notice, all of high intellectual calibre, not only philosophers but even more numerous the scientists, including nearly all the greatest names in the American and European scene. This is not just because of his being a Rhodes Scholar, a member of the Los Alamos staff, and a graduate dean

of one of the greatest Universities at the height of its reputation for scholarly achievement. Rather the reverse. He attained these honors and opportunities because he possessed this gift of wide warmth of human contact.

Another trait that has augmented his success in human relationships is what may be called his deference to those he meets. He rarely makes a statement that is not in the frame of a question. The attitude is persuasive and disarming. It dispels antagonism, and unites the other man with the speaker's desire for the truth. Even in his writing Will uses this technique. The argument comes out as a succession of questions. And they are not just rhetorical questions. They are more like requests. It is an unusual technique with the touch of that modesty that runs through his character. It must not be confused with submissiveness, for below the surface Will maintains a very firm body of beliefs--even sometimes to the edge of dogmatism--as we have already noticed in his positivistic attitude.

And there is his humor, a highly intellectual humor. Nothing amuses him more than evidences in work or action of human inconsistencies. There are examples of this all through his oral history. So, he is full of anecdotes of human foibles, his own included. For instance, his friend Oppenheimer's extraordinary lapses, that came out in the "trial", are explained by Will in terms of one of Will's own childhood contrary-to-fact exaggerations in a laughable incident. I feel the suggestion is that with a bit more of such a sense of humor on the part of the U.S. government, the nation would not have been deprived of the advice of this man's genius in his later years nor have loaded him with such unnecessary pain.

Will has left a broad swath of achievement and good will behind him in the areas of his duties. And still other achievements will surely continue throughout his retirement extending far beyond the limits of his study and his vegetable garden.

Stephen Coburn Pepper
Mills Professor of Intellectual
and Moral Philosophy, Civil Polity

Berkeley, California
December 1969

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FAMILY AND EARLY EDUCATION

California Pioneers

[1st Interview, August 1, 1967]

Dennes: I've always felt that I was very lucky to have had on my mother's side a family who had crossed the plains in covered wagons. We have no detailed records, but the Rays had come to this country from Scotland. They were MacRaes, but at some time in Vermont the Mac dropped off, and it became just Ray. So from Scotland to Vermont to Kentucky my mother's people, who were farmers, moved farther and farther west for more land and new country to develop. And finally my mother's father and the second of his three wives set out to cross the plains--he was not polygamous, but life was hard for pioneer women who brought up children, worked hard, and two of his wives, well, three of them died before he did. But he crossed the plains, and according to the memories of the family, though I do not know any way to document this, he was with the Donner group as far as Salt Lake, when luckily for him, and me, he diverged, and he and his family went by the Oregon Trail to Oregon and later came down by ship to San Francisco, from the Columbia River. And I say lucky, because I might have been descended from cannibals or not descended at all, depending upon whether he had been eaten or had eaten. You remember it seems that the Donner party finally were driven to cannibalism that awful winter in the snow.

My mother was born some years after her parents got to California, in 1858 at Pine Flat up in the hills near Geyser Peak in Sonoma County. And, as I say, she came from a family that had pioneered, had broken the wilderness lands and were very devoted members of the Disciples of Christ Church, generally called the Christian

Dennes: Church. Are you acquainted with it, the Campbellites? It's the Church of Christ, which has joined now with the Congregationalists.

My father came as a boy of fourteen to this country. His parents had died when he was five; they were swept off by an influenza epidemic. He grew up in Bristol, England, and an aunt sent him to an excellent English boarding school; and although he only stayed there till he was fourteen, his Latin and his algebra, when I reached these studies, were still very fresh, and he was a lot of fun to talk with about them. And of course he amused me a great deal, because he pronounced Latin in the English way, āmo, āmas, āmat instead of ămo, ămas, ămat, as we do. And he was a Church of England man, an Episcopalian. So from earliest childhood I had both the experience of the pioneering sort of fundamentalist, Bible-searching Christian Church members, who were really the most cooperative, hard-working people imaginable, and also what was to me the more interesting and beautiful ritual of the Episcopal Church, which I joined and grew up in. But I was always very glad to be acquainted with both.

My mother had taught school before her marriage, and this meant a certain amount of reading and books around me in my childhood.

Ariff: Did you say your mother's family settled in Pine Flat?

Dennes: Well, that was where they had a ranch, in Pine Flat, which was perhaps twelve miles from Healdsburg. Pine Flat was simply the ranch center. It is still called Pine Flat, but I don't think it's in any sense a village.

Ariff: And where did your father meet her?

Dennes: He came to Healdsburg because he had a sister and a brother-in-law who were ranching in that neighborhood.

The aunt who had more or less looked after my father and his sister, Rose, after their parents' death, in correspondence with my father's sister and her husband, Mr. and Mrs. Robert Moore, decided

Dennes: that my father and his sister should come to California to try it out, and if they liked it, to live here. And they liked it and lived here.

They really were very lucky to get to California, because the ship, for one thing, took twenty-one days from Bristol in England to New York, though it was supposed to make it in ten to fourteen days. It had a stormy passage, head winds and so forth. And they were innocents as far as American ways were concerned. They were hungry for fruit when they got off the ship in New York. A fruit dealer offered them an apple or two, and they didn't understand our money, so they gave him a gold piece--I suppose, five dollars--and he gave them ten cents back! They got into the train, and had to change at Chicago. There the sixteen-year-old girl and her fourteen-year-old brother, who was her protector and, in general, in charge of the journey, were approached by a man with an express wagon who said, "You know, I will help you get your trunks from this station to the other station to go to San Francisco."

Ariff: What year was that?

Dennes: Seventy-seven, 1877, in November or December.

So he hoisted their trunks onto his express wagon, and my Aunt Rose and my father got in with him. He'd only gone a block or two when he was stopped by the police and they were rescued. Apparently he was known as a man who robbed innocent immigrants of all that they had, and my father always thought, probably would have tried to do, heaven knows what, with these two children.

Well, my father and mother met in Healdsburg, and mother was, she always says, forty when I was born; actually thirty-nine, but my mother always said it was noon as soon as it was half past nine. By the time it was the second of January it was always the next year so I'm sure five days after she was thirty-nine, when she was indeed in her fortieth year, to her she was forty, which is unlike the habit of most ladies, isn't it?

Some Early Memories

Dennes: Well, if I ask myself how I became interested in intellectual work... My parents had a good deal of interest in what was going on in the world, particularly my father. He loved reading the London Graphic. He was also very fond of music; he played the piano a little, and the flute. And he was a good citizen, had become a member and head of the volunteer fire department in our village. Healdsburg was a little place of a couple of thousand people. One of my earliest memories, in 1901--I wouldn't remember January 22nd except that I know that Queen Victoria died that day--was of my father hurrying from our house to the town hall to get the fire bell to toll because news had come that Queen Victoria, his Sovereign Lady, had died at eighty-two that day. I was not quite three then, but I remember this bell tolling, and of course my father's excitement no doubt had a good deal to do with impressing it on my memory. That is one of my earliest memories.

The next, two months later, was the birth of my little brother. You ask my position in the family. Mother had had first a child, a boy who was a blue baby and died at the age of a few weeks or a month or two, whom I of course never saw. And I was the second, but I was the eldest surviving child.

Ariff: Essentially you were really the first as far as your experience was concerned.

Dennes: Then my younger brother came along when I was nearly three. He was, and is, an absolutely charming person, merry, with curly dark hair. Two years ago he retired as a vice-president of the Bank of America. I was a somewhat stringy and rather puny, pallid kid, and he was all that was charming and attractive. I think I reacted pretty well to this in the sense that I took a kind of parental pride in him. But he was good at hunting and fishing and competitive sports, and I think that more than my parents' intellectual interests, probably the fact that I wasn't very good at competitive sports and so forth, and was certainly outshone by my brother in every

Dennes: respect--I mean his wit, humor, his charm were, and are, very great--I think probably the fact that I found I could get along very easily in school and liked it tended to make me balance up and escape from the disappointments of competing with children more robust and athletic than I was. Of course our tiny village school did have such athletes as were not easy to compete with. In that tiny village, school-mates of mine included Ralph Rose, the world record shot-put champion. He was the world champion, I believe, with the sixteen pound shot. And Eddie Beeson, who was the world champion high-jump record holder. In a little school of a few hundred students, you would have to do pretty well to compete, to hold up your head with such persons!

My first three or four years of education were in a small private school that I remember with great affection, kept by Miss Lilian Braman. All eight classes, all eight grades in one small schoolroom. The shiny tin pail of water at the back of the room and the dipper. If you raised one finger, you could go back and get a drink, if the teacher said yes. If you raised two fingers, you could go from the school house, out to the primitive toilet.

I am sure that Miss Braman had never heard of progressive theories of education. In fact, they didn't exist in the beginning years of the century. But we learned to read and write, for example, without ever having had a spelling lesson. In the fourth grade I moved to the public school. I could read and write quite easily, but one of the lessons was a lesson in spelling, and I asked the teacher, "What is that?" And she said, "Well, here are these fifteen words. Now you must memorize the letters in these words so that when I dictate them you can write them down."

Well, I set out to memorize the letters in the words, but when the dictation came, I had memorized only the first three. The fourth word was "altogether," and I had been able to memorize only a-l-t-o, the first four letters of it, so that as against fifteen words, I had only three and a half correct. It looked as if it were a total disaster; but then I discovered that really all you had to do was to write the words down,

Dennes: and I was in the habit of writing and reading, so from then on I had no trouble with spelling. But of course a progressive educationist would say that that is the way to learn to spell; I mean, not to memorize the letters in the words but to read the things you want to read, and write the things you want to write, and get the general look and structure of the words. It was a good little school, and hearing what the older boys and girls were talking about, were reciting, I think, widened my interests.

High School and the University Visitors

Then I went to the public schools in our little town of Healdsburg and was very impressed by the visitors that the University of California sent to examine our high school. The University used to send around, if possible every year, to the high schools that were accredited or wanted to be accredited, a visitor from the faculty who spent a half-day or a day in the school and tried to get some idea of how well the work of the school was going. Men like Leon Richardson and Karl Meyer, a great biologist in immunology and preventive medicine, were among the visitors to our little high school, a high school which had, really, remarkably fine teachers.

Ariff: What were you interested in, in high school?

Dennes: I think I enjoyed literature and history most, but I was fascinated too by mathematics. Miss Studley, the mathematics teacher, who a few years later went on to be head of mathematics at San Jose Normal School, which later became San Jose State College, was an excellent teacher. Ruby Studley in elementary mathematics discussed with us questions about the role of definition, such as, "Is it true that the sides of a square are equal, or is it simply the case that you have defined the word "square" to mean that; so you wouldn't call it a square unless its sides were equal?" Questions about the role of definition versus evidence I became interested in, in the

Dennes: work in mathematics. These are essentially philosophical questions, you know. But, I think, at that stage, any interests of mine that might have gone into philosophy were rather more on the side of doing good in the world in respect of religion, morality and virtue and the highest aspirations of the English poets.

On the whole I got along well with my schoolmates and classmates, but I'm afraid I was a rather over-good little boy.

Ariff: Were you interested in any outside activities?

Dennes: Oh, I liked playing baseball--for the most part I was never good enough to be in the top school team. I loved bicycling and many times a week would bicycle to Litton Springs, which later became the Litton Orphanage of the Salvation Army. The country around Healdsburg you may not know; part of the Redwood Highway country, it is very rich, indeed exuberant, in hops, vineyards, apples, prune orchards, cornfields, and lovely wild flowers, and, of course, isn't now what it was then. Lots of the vacant land has been put under plow. But I worked a great deal cultivating cornfields, picking prunes, picking apples; and my father, who was a merchant, had for a while a market and then a hay, grain, and wood business. I worked there after school often, and on Saturdays.

I was by no means a sedentary, merely bookish, child. I must say I could hoe corn and pick apples with the best of them. With the best, because in the case of picking apples or picking prunes, you got paid by the box. That was a very easy test to show whether you were doing as well as the other boys who were working with you. I remember the pride with which I was able to buy myself a silver Elgin watch (an immense thing it was) at the end of one summer when I was a seventh grader, from my earnings picking prunes. You picked prunes by crawling on your knees over the plowed ground. The prunes were shaken down from the trees when they were ripe. It was quite strenuous work.

In general I had really excellent teachers: one of them, Miss Larson, a teacher of English. Certainly in my studies thereafter I felt I had

Dennes: been well introduced to English literature. And not only recent literature, for she read Chaucer with us with great enthusiasm and as scholars think Middle English was pronounced, and Shakespeare. And our German and Latin teachers, in fact, our teachers in general, were good enough that when I came to the University I enrolled in twenty-four units the first semester. So many of the subjects were so interesting I wanted to get a taste of them. Professor Leon Richardson, who served as my advisor, said, "Well, you can't really do that much, but get a taste if you want to."

The principal of our school, who taught us physics and chemistry, had used the chemistry book used as text in Chemistry 1A-B at the University, and it was only in the last month or two of the course here that I had reason to exert myself. In Latin and German we were reading things far more difficult, and reading them faster, in my village high school than was the class with Professor Price, who was a good teacher of Latin. We read Cicero with him in Latin 1. Clair Hayden Bell, who died the other day in his eighties, was my German teacher, and was surprised to find that I had already read some Goethe in high school. Actually, most of the boys and girls hadn't had as good preparation as I, not that I was any brighter, but the result was that far from these twenty-four units being a stiff course, I sailed through them and had lots of time to walk up in the hills and down to the Bay, which was then walking across open pastures, most of the way.

Ariff: When was it that you came here?

Dennes: It was the autumn of 1915. There was a great debate in the family whether I should go to Stanford or to the University of California. But the visits of the University visitors, like Richardson, Meyer, and S. S. Maxwell, and I forget the names of some of the others, made me feel that this must be a wonderful place, and I chose to apply here. In those days any good graduate of a good high school I think had no trouble being admitted. I don't remember any trouble.

Ariff: Your mention of Latin surprises me. I must have been under the erroneous impression that it wasn't

Ariff: taught in California or required.

Dennes: You see, I was in high school from 1911 to 1915, and from the time that village school was set up in the seventies (and how long it continued after my time, I don't know) there was the academic course and there was the commercial course. If you took the academic course, you would have to do at least two years of Latin (I did four), and at least two years of another language, and at that time they'd lost the French teacher and couldn't afford to replace her, so there was no choice but German. I got a really good start in German. Later I lived a year in Germany, and, of course, I had some studies in German here at Berkeley; but really the start I got in that little school was my fundamental command of German.

THE UNIVERSITY OF CALIFORNIA, 1915-1920

The Campus in 1915

Ariff: Tell me how the University looked when you first came here.

Dennes: Well, California Hall was here; the Library had just been completed; and one building in the agriculture group, Agriculture Hall, with Benjamin Ide Wheeler's motto carved on its pediment: "To rescue for human society the native values of rural life." As I passed that, I used to think laughingly, that's me they're rescuing for human society, one of the native values of rural life!

The campus was mostly like a neglected ranch: foxtail and other dried grass in August, when the term then began, ragged and for the most part not gardened, an ivy bed around California Hall. And Benjamin Ide Wheeler was very concerned that the boys and girls shouldn't make paths across his ivy bed. The President had a garden by his house, which is the house now occupied by the Chancellor. But the hills were unbuilt above the Greek Theatre--north and south, mostly perfectly open terrain. Between Shattuck Avenue and the Bay, University Avenue had a scattering of buildings here and there, but for the most part it was open land. I loved walking in the hills and if one wanted to walk up in the north Berkeley hills and had the dime, five cents each way, the Euclid Avenue streetcar went up to Cragmont. It was one of those streetcars with an open end once called a dinky in San Francisco. And it was really on a bright, clear day, as it still is, magnificent to go up Euclid Avenue, look out over the Bay to Tamalpais, and the land was very largely unbuilt so that one walked through open country. The year or so that I lived in a fraternity house on the corner of Hearst and

Dennes: La Loma, some of my friends and I used, nearly every afternoon at five o'clock, to walk up to Grizzly Peak and back and take a shower before the six-thirty dinner. Have you ever walked to Grizzly Peak? Well, if you have, you've driven part way and then gone on to the peak. I have no doubt that this exercise stood me in very good stead. I mean, I think that from a rather puny boy such exercise turned me into an individual who's been able to last quite a while and enjoy the mountains and a fair amount of vigorous activity.

But I do think that as a child at school, and it went on I'm sure in college, the fact that I wasn't good at and didn't like competitive sports--I'm sure I didn't like them because I wasn't really good at them--and I didn't like dancing--and I'm sure again that this was sour grapes, I mean, I wasn't good at it--so all these things tended to make me compensate by concentrating on my studies.

Charles Kofoid

I had a wonderful lot of teachers when I began my work here. In biology, Charles Kofoid--I thought I would probably do medical studies--Kofoid was a very great zoologist. The questions that he raised about the maintenance of form interested me, how with totally different nourishment each species of plant or animal, if it survived at all, kept a very specific pattern and structure. And if it was the same sulfur, carbon, hydrogen, oxygen, nitrogen in a rosebush and a mouse and a man, the great question was how each maintained, or was controlled by its form. He didn't know then about the genes and the factors in the genes that are now supposed to control development of cells in animals and plants, so this was a "philosophical question" that some people turned mystical about. Indeed the Greeks, the Pythagoreans, to some extent Plato, thought that form or character was the explanatory factor that controlled the processes and events and the changing patterns of matter. In other words,

Dennes: matter didn't explain existence, but structure or form.

Mr. Kofoid later, when I was Graduate Dean, had given his savings, which were considerable, when he died, partly to support the Kofoid Library of the History of Biology, partly to support some "eugenics fellowships." As Graduate Dean, I found a lot of problems involved in this, because the eugenics fellowships were not for the study of eugenics, but it was Kofoid's view when I was his pupil that the less intellectual, less bright part of the population were multiplying rapidly, that something was dreadully wrong when the intellectuals and professionals took longer to get educated, longer to grow up, and longer to marry, and had fewer children than the less gifted people did. He though it very important that intellectuals marry younger and have children. That's why his money went to these two University foundations, the Library of the History of Biology and the eugenics fellowships.

These fellowships were for some of the brightest boys and girls, graduate students, who were married or would undertake to be married by the beginning of the autumn term for which they were given the fellowships. They were given on the same basis as the University Fellowships, which are supported by the State, but there was this one further qualification, that the recipients must be married or undertake to be married. And when I was Graduate Dean, I used to wonder about this "undertake to be married." If a boy got an appointment, having undertaken to be married by September, but then he came in September or August and said, "I tried and tried; I proposed to her again and again, but she wouldn't take me," now had he undertaken to be married? We timidly always settled it by appointing only people who were already married. I mean, a candidate, boy or girl, man or woman, a graduate student who was already married, and there always were good ones, seemed to us a more reliable bet than one who had merely undertaken to be married by August.

Ariff: Yes, you would get into all kinds of complications that way.

Dennes: As a boy who'd grown up in a rural community, much of the campus looked like rolling hill pasture land and woods, and seemed very much like home. The views out over the Bay and to Tamalpais were a great delight to me. In the second semester, leap year, February 29th, 1916, all the boys on the campus built the trail up to the Big C, which probably you have never even traversed, because the Radiation Laboratory, although it hasn't erased the trail, occupies most of that hill. But in those days every Leap Year day, February 29, was a labor day. We men dug the trail, and the girls made coffee and roasted wienies.

I shall never forget the sight. The Key System Transit Company sent some freight cars full of picks and shovels to the corner of Bancroft and College. Their trains came up to that point, and then we boys in a long, long line took up and passed the shovels and picks. The man on my right would give a tool to me, I'd get it, then I'd give it to the man on my left. And so two or three hundred shovels and two or three hundred picks--the look of it was that these tools were just climbing up the hill. You see, as against trying to carry shovels and picks up to the top of the hill, we stood in line and passed them hand to hand.

That was a fine trail. We built some benches along it, and I'm sure Mr. Kofoid's hope that the intellectuals would fall in love early was promoted by those benches along that trail, because to walk an evening, of a moonlight evening--! Although I didn't get engaged, in spite of the attraction of the trail, it was a very nice thing to do.

Professor Hildebrand was my teacher of chemistry, and I greatly enjoyed his course, though as I say, there wasn't much work for me to do in it, because my high school teacher had carried instruction in chemistry so far and so well. He had used the same text that Hildebrand used, and may have been in Hildebrand's course, I don't know. He was one of the early M. A.'s of Johns Hopkins, so I think most of his education was there. He would have been a very good teacher at a higher level in chemistry. He had studied and taught us carefully the theory not only of atoms but of ions, which Mr. Hildebrand, in the chemistry of solutions, recognized as a very important factor

Dennes: to take account of. Mr. Hildebrand was fond of talking about the purpose and the uses of science, and this, of course, involved the kinds of questions that people work at in philosophy.

Charles Rieber

My teacher in logic was Charles Rieber, of whom you may have heard. He was a very influential man who resigned when the plan was made to build the stadium. What was his house still stands on Canyon Road, right above the south gate of the stadium. And he felt that it was a desecration to build the stadium over the canyon.

Ariff: It blocked his view?

Dennes: Hardly at all, really. But he loved looking out over the trees in the canyon, walked in the canyon, he said, every morning at four to compose his logic lectures. In the second year I was here he let me take his graduate seminar in logic. There were four or five of us in it, one of us, Jack O'Melveny, since the head of the great law firm in Los Angeles, I suppose the most powerful law firm in the south. The final examination was set for the last Saturday of the semester; and we had nothing to do for four or five days before, so we wondered if we could take the examination earlier and get home. Mr. Rieber said, "Fine," and was glad to give it to us earlier. The problem was to find a room on the earlier day. "Well," he said, "why don't you just come up to my house and write the examination."

"All right, when shall we come up Monday morning?"--or whatever morning it was.

Rieber said, "Well, you know I walk at four in the morning. Come as early as you like."

Well, we thought it would surprise our professor and amuse him if we came very early. O'Melveny had a big, black Cadillac touring car,

Dennes: which in 1916 was a very grand equipage for a college student to have. He gathered us up, the five or six of us, and we got up to Rieber's house at about five o'clock or, perhaps, six o'clock, and knocked at the door. After quite a wait, down came the professor in a nightcap. Now, I'm not suggesting that he didn't often walk at four in the morning. He had always told us that he started the day walking and composing his logic lecture. But he took it in good part, our finding him just out of bed [laughter], had his cook prepare us breakfast, and we sat by the fire and were brought bacon and eggs and coffee while we wrote our examination.

(Episodes like this I seem to remember more than the important things, but when I get to talking of the Depression, the Budget Committee crisis, the Oath, and my Graduate Dean chores, maybe I'll have more important things to say. These, however, are the gossipy kinds of incidents that do stick in one's memory, the kinds of things one tells one's children, for example, and I don't know what bearing they have.)

Campus Traffic and Housing

Rieber, Kofoid, with his eugenics fellowships... and I think of Leonard Bacon, with his high leather boots because of the mud you had to plow through on rainy days to get to his classroom. Anybody wanting a little added impression of what things were like in 1915 might find these things interesting. I may say that in those days the main automobile route from north Berkeley to, say, Telegraph Avenue, was to enter the campus near the President's House, drive right across it between the Library and California Hall and out Sather Gate.

Ariff: Well, how very nice.

Dennes: Yes, when there weren't many automobiles. I was a good friend of Dr. Burnham, who lived on what was then called Bushnell Place (I think it's now a continuation of Spruce Street). His office was

Dennes: in the building that stood where Sproul Hall now stands, the corner of Bancroft and Telegraph, and he, and everybody else who had to come north-south, south-north, drove right across the campus. But by the time I came back here to teach, cars were abundant enough that students walking around had to dodge them all the time; so it was very nice to have Sather Gate closed long before the Student Union and all the rest were built.

Of course, now they've closed the main avenue in front of the Library, and I'm sure that lots of people who have to go east and west used to find that convenient. I did. Now that my office has been moved to Moses Hall (it was in Dwinelle), I did find it very convenient to go to Moses, and then if I had errands down on Shattuck, to drive through. But you can't do that anymore, and I guess that's a permanent closing.

Ariff: It would appear so. They said they were going to try it for two or three weeks as an experiment, but they still have the barriers up.

Dennes: Entering the Library is one of the main tracks of the students, isn't it? So that to have a lot of traffic right across the main front entrance to the Library did mean students had to do a lot of car dodging.

The campus at that time had three residences for professors along what is now Allston Way.

Ariff: On Allston Way on the campus?

Dennes: Yes, along Strawberry Creek opposite the north side of the present men's gymnasium. On my first visits to Stanford about that time, I thought Stanford was in that respect much wiser than California because the Stanford Farm, the big Stanford estate, was able in those days to lease on a ninety-nine year basis to its faculty, for ten dollars or so a year, land on which they could build. This enabled them to have much more space around them than one could afford here. Of course, the realtors divided Berkeley into very small lots. Living on hills, small lots are not so bad; if you were living on the flat on lots as small as most Berkeley lots, you'd really feel very hemmed in, wouldn't you?

Ariff: Yes, I do think so.

Dennes: Our lot, for example, is narrow, but living on a hill, our windows give us the whole stretch of the Bay, and out to the east the Berkeley hills.

Ariff: You do have a nice view.

Dennes: Upstairs we have an even broader view. If it were bright, you'd see Tamalpais as well as San Francisco.

[2nd Interview, August 8, 1967]

War and Urgent Debate

Dennes: Even before I came to the University as a freshman in 1915, I was very interested as a little boy to learn that professors of the University had answers to questions that puzzled me, like the very eccentric behavior of the Russian River near our house, which instead of flowing through the almost flat alluvial land to the Bay, struck out sharply west, cut its way through mountains, sometimes cutting a canyon a thousand feet deep. My father told me that Professor Holway, whom I later came to know at the University, had explained this by a theory of the meandering course of the river. Many thousands of years ago, when the whole area was filled several hundred feet deep with sediment, the river took the meandering course and continued it as the sediment was cut away. Well, this impressed me very much with what a wonderful place the University must be, even when I was a little boy, if it had people who had answers to questions that had completely baffled me.

From 1915 to 1918 the University was a place where problems--moral, political, religious, and theoretic--were being discussed with great urgency and a great deal of concrete application as against merely abstract consideration. The war was on in Europe, and eminent members of the faculty exhibited

Dennes: the widest range of opinion, from enthusiasts at one extreme who wanted the United States to enter the war at once on the side of France and England and Russia and urged young men to enlist in Canadian, British, or French military services. One example of such enthusiasm was a young teacher of philosophy who kept telling us that our lives were not our own unless we demonstrated the right to give them up for a cause so noble as this. He grounded his convictions on the very loftiest moral and metaphysical principles. Professor Charles Mills Gayley, a professor of English who impressed me a great deal, was as enthusiastic a supporter of the Allied cause but on more realistic grounds.

But there was a wide range of opinion. Many people thought that, with Europe destroying itself, the greatest service that the United States could do was to keep independent of the holocaust and remain a strong country to help rescue the world when the war was over. Some people thought the Germans, with their magnificent achievements in science and industry and the arts, had been hemmed in unduly by England and the surrounding countries, and that they deserved a larger place in the sun. Many of these people thought that, though the war was a confused and dreadful thing, and the martyrdom of Belgium was terrible, in the long course of history this was probably the inevitable way for the Germans to force their neighbors to give them the place in the sun that they deserved.

Ariff: I have heard that Wheeler was criticized for this attitude.

Dennes: Many people thought that President Wheeler took this view. He had been Roosevelt Professor at Berlin, had met the Kaiser, had greatly enjoyed and no doubt been flattered by his experiences as a visiting professor at the University of Berlin. (I have myself been a visiting professor in a few great universities, and I know how agreeable it is [laughter] to be a visiting authority.) Well, I had occasional talks with Mr. Wheeler and, of course, heard him make speeches at the University meetings of the time. To me he never expressed any view except the rather middle ground of the importance of maintaining neutrality and being

Dennes: ready to help at the end of the war, because it would have to come to an end sometime, probably in a compromise. He thought we should then be ready to help the Europeans, who would be exhausted and their cities destroyed, to rebuild their civilization. But many people who knew him far better than I did--I was, of course, an undergraduate and indeed a lower division student--thought that he definitely took the view that the Germans deserved to break out of the encirclement that their neighboring countries had put around them.

Well, as a result, questions of this kind about the moral values in terms of which political judgments and all other judgments of conduct ought to be made were being debated, as I say, not just abstractly and as people often say, academically, but with a great deal of urgency and ardor so that almost any young person would be aware of the kinds of questions we've come to call philosophical. The one lecture I heard from the founder of the Philosophy Department at the University of California, George Holmes Howison, who had retired years before, was a really excellent discussion of Plato's Euthyphro and a development of Plato's argument that the only way we have to choose between conflicting religious revelations or conflicting theologies was by our best human judgment of the excellence of the values that they enshrined. In other words, what was lovely and of good report, to use the phrase of the Scriptures, the values that we cherish most, were our guide in selecting a religion, rather than the other way around. For there was no way of finding on a revelation the signature of the Deity; and if there were a signature, was it authentic or not? He argued, you see, that what is right is the standard by which you choose which religious revelations, which commands of Deity to accept. If it is right, it can't be made any more right by being commanded of Deity. Howison argued that these are as fundamental questions about the relation between religion and morality as the whole history of philosophy has developed.

I was really very impressed as a freshman hearing Howison's lecture. I think that was his last public lecture at the University. He died a few years later. He was a very old man. I did

Dennes: meet his widow when I came here to teach at the University. Indeed, when just after our arrival the Berkeley fire completely burned us out, she offered me some of Professor Howison's shoes. [Laughter] My feet were too big to make any use of them.

Then there was Professor Stratton, a professor of psychology, who had just spent some weeks every waking moment from the early morning until he went to sleep at night wearing prism spectacles that exactly inverted the retinal image of everything that he looked at. For some days he was totally confused, because everything looked upside down. Then, everything looked normal, just as it had always looked, although the retinal image, the image on his retina, was exactly inverted by the prism spectacles that he wore all day. He made this a very powerful argument for the principle that the mind creates the ordered world--organizes it as we know it. Of course, the students of the philosophy of Immanuel Kant, and the admirers of Kant, found this a magnificent confirmation of their view that the mind's interpretive activity gives order and structure to the data of experience.

You see, they were lively times. The University was small enough that by some accident or other, perhaps from the kind impression that people like Leon Richardson had got of me when they were school visitors when I was a high school boy, I became acquainted with people like those that I have named. And I counted them as my good friends, in some cases, for pretty nearly half a century. Richardson lived to be ninety-seven or eight. He was born in 1866 some weeks before the University was chartered, and we all hoped he would be with us for our centennial and his. But he didn't quite make it.

As I said the other day, Kofoid, my professor of zoology, was perpetually raising the question of how, unless there was a non-mechanical factor of form that guides the development of living tissue, kittens would so persistently grow into cats and not into elephants: in other words, why is organic form maintained? It is a source of wonder. Anyone who is not impressed by the fact that events are not a miscellaneous scatter but

Dennes: follow such regular patterns is a very dull soul. But to argue that they can only follow, they can only exhibit, this regularity if there is controlling form that makes them do so, is really to assume that we know what nature would be like, and that left to herself she would be a miscellaneous scatter, and that if she isn't, then there must be controlling patterns that shape and restrict the processes of existence. And this, you see, is to claim to know what nature really is other than by observing the regularities exhibited, and to argue that it wouldn't be so regular naturally, so that there must be controlling principles that produce and maintain the regularity.

In the second term of zoology a very great man, J. Frank Daniel, Professor Daniel, thought I was doing pretty good work; so that instead of a final examination he allowed me to do a research project on the nervous system of Mustelus Californicus.

Ariff: What is that?

Dennes: A shark, a fish. Mr. Daniel was a world authority on the elasmobranch fishes--these are fishes that don't have bony skeletons but cartilaginous skeletons: the sharks and rays.

Well, I discovered a branching of the hyomandibular nerve of Mustelus Californicus that had never been reported before. As a seventeen-year-old, I thought the thing to do was to honor my professor by naming it after him, "the Danielian juncture." Professor Daniel wouldn't accept this compliment; no doubt he thought that an item to carry his name ought to be a little more impressive than a tiny branching of the cranial nerve of a fish. But this probably has been my one clear contribution to natural science! Professor Daniel's great work on the elasmobranch fishes carries a page in which there is a drawing I made of the cranial nervous system of this fish, and the acknowledgment that the work was done by W.R. Dennes, and,as I say, this is probably, other than being a critic and interpreter of some areas of science, the one actual contribution to science that I have made. [Laughter]

Dennes: It was only in my second year that I got into really stiff courses in philosophy. The freshman course in logic, which I enjoyed a good deal, didn't have very difficult content. The professor of it, Charles Rieber, was chairman of the Department of Philosophy. The ardent young teacher of philosophy who wanted us all to take up arms against the Germans, had been so enthusiastic for this cause that when the United States entered the war, and he was subject to the draft--he was a bachelor--the chairman of the department didn't ask for his deferment, because he thought it would break his heart if he were not allowed to shoulder a rifle and defend the principles that he had expounded.

This infuriated the young teacher, because he was so sure that his work interpreting the meaning and issues involved in the war was so precious that it would be a catastrophe if the University were deprived of his teaching. Anybody could fight, but it took a man of great philosophic gifts to interpret and justify war; so he was furious at not being urged for deferment. A lot of his friends joined in urging his deferment, and he got it. I have always somehow imagined that the effort he made a few years later to ease the chairman out of the University when the chairman objected to the stadium being built in the canyon in which the chairman said he walked every morning and composed his logic lectures--I've always imagined that the fury of the young teacher, because he was not urged for deferment as indispensable to the University, probably had a good deal to do with the young teacher wanting to help get rid of the chairman. When he threatened to resign in protest against the stadium, some of his junior colleagues immediately construed his step as irrevocable. In any case, he was transferred as professor and dean to UCLA. How far the earlier difference entered into the motivation is a speculative matter. I'm not sure about it.

But one of the two very ablest of my teachers, Clarence Lewis, while he didn't ride a high horse or take a terribly lofty stand about the war, quietly enlisted when the United States entered the war, though he had a wife and children. He was a good mathematician and was trained for a commission, but the war ended before he saw any active duty in combat.

Relativity Theory

Dennes: It was a time also in which not only moral and political questions were very urgent and acute among all the members of the University, but with the publication of Einstein's papers on the special and the general theory of relativity, and Planck's results with respect to quantum phenomena, the physical scientists and mathematicians were debating very actively such questions as: Didn't relativity, in order to make sense, require a stable frame of reference against which the relational differences were to be measured? Mr. Campbell, later to be President of the University, then head of Lick Observatory, very strongly held that relativity itself required strict Newtonian, or even Euclidian, frames of reference, or else talking of relational changes didn't make any sense, because they had to be changes measured against some fixed and stable frame of reference.

Gilbert Lewis, a professor of chemistry, and no doubt a great many others of the younger people, took the view that for convenience you could choose a frame of reference against which you measured change, but this didn't mean that the frame of reference was fixed and unchangeable. In other words, you could read it off in terms of the events to which it was related just as well as read them off in relation to it.

I remember once arguing this issue a bit with Clarence Lewis. He was a professor of logic, who revered Kant, and was one of the two most influential teachers of philosophy that I had. Lewis took the view that Immanuel Kant was right, that the mind must employ some fixed modes of intuition in order to experience--let alone to measure--process or change. I remember discussing the question whether Newton was really right about absolute time. Was it really true that the pendulum swinging back and forth, or the earth rotating on its axis, that these occurred at absolutely constant rates? Or, if you measure a heartbeat against the pendulum or against the clock that is the earth's rotation, couldn't you measure the earth's rotation against the heartbeat as a clock?

Dennes: I remember using the example of the heart of the King of England, because that never stops beating, since the minute Queen Victoria's heart stopped beating, she was not Queen and not the monarch, but Edward VII was. So the actual monarch's heart is always beating. Another example I gave, since we were talking about Galileo in Italy, was, isn't the Pope's heartbeat as good a clock, theoretically, though not as convenient a one, as Galileo's swinging pendulum? Because if you read off the Pope's heartbeat by its relations to the swinging pendulum, you can read off the swinging pendulum by its relation to the Pope's heartbeat. I thought at that time that probably the Pope's heart never stopped beating, but I didn't realize that the camarlingo, who fills in when a Pope dies until a new Pope is elected, would really make a break in the Pope's heartbeat.

A later teacher and friend, Moritz Schlick, chose the heartbeat of the Dalai Lama to make this point, because when the Dalai Lama dies, at that instant somewhere a new Dalai Lama is born. It may take five or six years to find the baby who is the Dalai Lama, but the heart of the Dalai Lama never stops beating.

I'm sure that we were right about this. In other words relativity theory is I'm sure correct on points like this that the clocks we choose as standard we choose not because we have any way of proving that they measure isochronous intervals, since to prove they did, we'd have to have another measuring rod for time, and we'd have to assume that it was uniform. So I'm sure that this is right.

But poor Moritz Schlick, when the Nazis began taking over in Austria, was criticized for using examples like the Pope's heartbeat, or even the Dalai Lama's. This was a little too sceptical and positivistic for a lot of the Austrians, so he changed over to a rabbit's heartbeat; but even that didn't save him. He got shot. Not, however, in a Nazi concentration camp, but by some jealous graduate student who'd taken a doctorate with him. Schlick was a very gifted, genial man, and the man who'd taken the doctorate felt Schlick hadn't exerted himself to get him a job. He got all sorts of other people jobs,

Dennes: yet hadn't got him a job. This disturbed young man was under psychiatric treatment in Vienna, for a while in a mental hospital. (And one thinks of Vienna as being the very focus of psychiatric skill in the years between the wars.) They released him, saying that his threats against Mr. Schlick were all being taken out verbally, that he'd never do anything; he talked so much about killing Mr. Schlick that he was getting satisfaction for his aggressive impulses that way. But two weeks after he was released, in the corridors of the University of Vienna, he shot Mr. Schlick and killed him.

They sometimes speak of the academic life, particularly philosophy, as one that doesn't involve any heroic risks or any heroic dangers [laughter], but you see, it is a risky life too.

It was extremely interesting in those days to hear the scientists debate. Could there be quantum shifts? Could a physical existent change its energy level or its orbit without the operation of an impressed force? It was, of course, one of the most fundamental principles of Newton's mechanics that a body will not change its state of rest or its direction and velocity of motion unless an impressed force operates on it. But if Planck was right, the fine scale particles that make up all physical existence were constantly shifting their orbits or their energy level without evidence of impressed forces--indeed when all external forces were as totally excluded as it was possible to exclude them.

Well, some of the scientists and some of the philosophers argued that the world would be just unintelligible, would be irrational, if there were these shifts except when there was an impressed force that produced them: they would be happening without any cause, and this would be unintelligible.

This, of course, was another example of a human proclivity, a very natural human proclivity, to think that the things that happen in the world wouldn't happen as they do unless, distinct from the happenings themselves, there are forces that make them happen that way: the notion that causal laws enforce and control the processes of nature. I was later, of course, to read not only the Greek

Dennes: sceptics, but David Hume, and it is quite extraordinary how hard the conviction dies, how hard it is for people to free themselves of the notion that nature couldn't just be as she is, that events couldn't be just as they are, unless behind these events are forces that control them and make them develop as they do.

Already in some limited areas, people were talking differently. I think there was a time when I was a schoolboy that people thought that gravitational phenomena, the block of wood falling to the floor, the moon not veering off from the earth, but bound to it, the earth's revolution around the sun, all these were controlled by a force distinct from these motions, the force of gravity that made bodies move this way. Well, by the time I was studying elementary physics in college, my teachers were very sceptical of interpreting gravity as something distinct from the motions of bodies, that makes them move as they do, and were interpreting gravitational laws as descriptions of the ways in which bodies in fact move. And so there was, independent of Planck and Einstein, some movement away from the kind of transcendentalism that pretended that nature would only be intelligible in case certain rational structures were basic to it and controlled it.

Well, I decided to major in philosophy, partly out of interest in some of the questions scientists were discussing; but more out of an interest in getting light on issues that teachers of literature like Charles Mills Gayley were discussing about the war. Some took the view that the anarchy of Europe, not the wickedness of the Germans, was responsible for the outbreak of war. I think Professor George P. Adams (he and Professor Clarence Lewis were the teachers who taught me most, most influenced me, when I was an undergraduate in philosophy)--I rather think that Professor Adams, as against thinking that the Huns, the Germans, were the devil incarnate and the source of all the world's troubles, thought that the European anarchy (as Lowes Dickenson had described it), in which <u>not</u> the reasonable development of resources for the well-being of all but cutthroat competition controlled the productive activities of countries of Europe, was the real cause of the war; and that beating the Germans wouldn't by itself remove it.

Naval Training

Dennes: Nevertheless, when we got into the war, or shortly after, when I was nineteen, I enlisted in the Navy. But luckily for the reputation of the United States Navy the war ended shortly after my training was completed [laughter], because although my training in navigation and astronomy by Professor Einarsson (still with us as a retired professor of astronomy) was excellent, the rest of my naval training was given us, my fellow members of the naval unit and myself, by officers themselves trained in five or six weeks of earlier courses, or perhaps three months of courses. And most of them seemed more interested in dining and dancing in San Francisco than they did in meeting the evening classes--for example, they would turn these over to petty officers who would spend two or three hours with us in the evening boxing the compass!

Did you know that the compass besides the four directions, north, east, south, and west, has a hundred and twenty-four other points listed?

Ariff: In-between these.

Dennes: In-between north and northeast, north by northeast and so on and so on. And we'd go through these hundred and twenty-eight points, backwards and forwards, as part of our preparation to be naval ensigns [laughter]. If we had seen combat--and I told you the other day we did successfully defend the Pacific Coast, because the Coast was never invaded or captured by the enemy [laughter]--but if we had seen combat, if there had been German submarines in the Pacific, and my colleagues and I had stood on the bridge and recited the hundred and twenty-eight points of the compass, whether they would simply have fallen back in amazement and left us alone [laughter], I don't know. In other words, at that time of day to memorize the points of the compass as a substantial part of preparing prospective ensigns--well, I'm sure we would have done our best, but I'm afraid we wouldn't have been a great credit to the United States Navy's reputation.

Dennes: Our unit was commanded by a very dear, very elderly, retired admiral, Admiral Cove, who, of course, didn't do any teaching and I think was mainly concerned to try to keep all his staff and all his naval unit happy. One of my clearest memories of him is that whenever he reviewed us, when we were drawn up in serried ranks for the admiral to pass, he asked us to sing "Smiles." He wanted us to be happy.

Ariff: Oh, yes.

Dennes: Have you heard of the song? "There are smiles that make you happy, there are smiles that make you blue," or something, or sad.

Ariff: "Gay."

Dennes: "Gay." Well, anyway, the only thing the admiral did, as far as I know, for my naval training, was to see that my leggings were properly laced and clean, and my uniform in order, and that I was cheerfully singing "Smiles" [laughter] as he reviewed us.

I came back from the naval assignment at the end of 1918. The armistice came November, 1918, and students, university students in good standing, could return to their studies quickly. I remained in the Naval Reserve for some years, but was relieved from active duty by December, 1918.

I guess the severe influenza that most of us had that autumn left me with some hepatitis, some liver inflammation, because that last semester of my college course, the spring of 1919, I was ill in the hospital. They couldn't seem to figure out what was wrong with me. A physician friend, Dr. Burnham, a very eminent citizen of Berkeley, came to see me one day. (He wasn't with the staff at the infirmary, as we then called our college hospital.) He noticed that my eyes had turned a bright orange, and he said, "Oh, you've got jaundice." The nurses and doctors had probably not seen me in a clear light.

I was advised, since I already had units enough to graduate in June, to go home and rest in the country, which I did the last month or two of my senior year, though I did write term essays

Dennes: for one or two of my courses, Professor Adams's seminar in ethics, for example. And I came back, rested and recuperated, on June 4, 1919, to graduate and was astonished at being given the University Medal, which had also been given four years before, in 1915, to one of the closest friends of mine, René Guilloû, who has remained a dear friend to this day.

René Guilloû

In passing, as an obiter dictum, the career of René Guilloû is of real interest. He was a brilliant mathematician, engineer. The departments of engineering and mathematics both wanted him to do graduate studies and join them. He felt, with a war on in Europe--he graduated in 1915--that he wanted to do something more useful than build bridges or railway lines. He decided to raise food. He bought a farm, five or six miles from my home in Sonoma County, and there I came to know him. His father had given up theology and an ecclesiastical career because he couldn't believe that all of the books of the Pentateuch were written by Moses or any other one man. He was a student at the Yale Divinity School, but the Bishop of Connecticut couldn't ordain him,for he regarded his views on this matter as heretical. He visted Harvard; went to Boston and saw Phillips Brooks, the Bishop of Massachusetts. Brooks told him, "You know, Guilloû, I think you're right, but I can't ordain you over a brother bishop."

This was very disillusioning to Mr. Guilloû; he gave up divinity and studied law, started practice in Philadelphia and married one of the Brewster girls, Carrol Brewster. To settle an estate he came out to Ventura County because a large acreage of land there was involved. He so fell in love with the country that he took a chunk of Ventura County instead of a fee, brought his wife and one child out, and my friend René Guilloû, his son, was born there. And the older Mr. Guilloû discovered that his land, that had just been used for cattle grazing, was ideal for growing beans and

Dennes: apricots. He and Senator Bard were fathers of the bean and apricot industry in Ventura County.

My friend René's land in Sonoma County analyzed chemically very similar to the land in Ventura County that had been so fine for growing beans. So he bought it and bought expensive bean planting and bean harvesting machinery. As a matter of fact the hard pan was nearer the surface; there weren't the summer fogs that in Ventura County had kept the little bean blossoms moist to mature. In the end he worked as hard as a day laborer for less than a laborer's income. Brilliant as he was, he had invested a good deal of his part of the family fortune in this land, and to earn a mere living he turned to raising milk cows and milking them at four in the morning and four in the afternoon. He raised chickens to eat the skimmed milk--he sold the cream.

As I say, brilliant as he was, and he was a most interesting man to talk with, his farm, well, my parents thought they could tell it wasn't fertile because the oak trees were less than gigantic; they judge the richness of the soil by the natural vegetation; if the natural vegetation wasn't as lush as it was in good soil, you could be sure it wasn't good land. As a proud young man, the situation was a challenge, and he was determined to find a way to make this thing work. As I say, for twenty-five years he worked as hard as a day laborer on his land. Then the University, thank heaven, got hold of him, got him to do research for them here and finally at Davis on dehydration of fruits, and other work. Now he's retired at Davis but still acts as a valued consultant in this and other countries.

I have always found this whole little history very interesting, his father's having to give up the divinity school and the Episcopal ministry by taking a view which is now more or less the usual view, and living in New York for a week or two trying to see if the Bishop of New York would ordain him a priest, living there luckily by having had a gold tooth fall out--he was able to sell the gold tooth to buy enough bread and milk to last him for the two weeks that he lived in New York. [Laughter]

Thesis: Mathematical Logic

Dennes: Well, this is all very much by the way, but I came back from the Navy, rested in the country, graduated. Then, my great friend and teacher, Clarence Lewis, talked to me about a problem in logic that he thought very much needed working out. Bertrand Russell and Alfred North Whitehead, authors of Principia Mathematica, had used a definition of "implication" in their logic, the definition that goes by the name of "material implication." If p and q are propositions, they defined "p" implies "q" to mean merely that in fact p is true and q is true, or p is false and q is true, or p is false and q is false, but not p is true and q is false. Lewis thought this was nonsense, to say that a true proposition is implied by any, and that a false proposition implies any proposition; because, you see, if you have two propositions, p and q, and if p is false and either q is false or q is true, this would mean that p implies q. According to this, a proposition like 2 + 2 = 4, if true, is implied by any proposition, e.g., is implied by the proposition "the puppy's teeth are filled with zinc," or by the proposition "the moon is made of green cheese." But what is a false proposition? Is a proposition false if it asserts events to occur that do not in fact, or relations to hold that do not in fact? For example, "Today is Friday" is false since yesterday was Monday, and the calendar and today's newspaper and radio and TV all list the day as Tuesday. If you define implication as the relation "not-p or q," "either p false or q true," then if any p is false the relation "p false or q true" holds, or "p implies q." Thus, if "Today is Friday is false," then we must say that any other proposition, q, is implied by it, for "either today is Friday is false or q is true" must hold.

I don't think Clarence Lewis ever did justice to Russell's recognition that the relation of implication is not a relation that justifies inference. In other words, Mr. Russell--Lord Russell as he became--didn't, I'm sure, think that from a false statement you could infer all statements,

Dennes: or that a true statement was one that could be inferred from any statement, though even as late as 1935 when I was teaching as a visiting professor at Harvard, I felt Professor Whitehead was making rather ambiguous use of the principle of material implication.

I attended Whitehead's seminar, at his invitation, as a kind of advocatus diaboli--that's a devil's advocate [laughter]--because he knew that I held different views than he held. But in defending such theses as the thesis that any event entails the primordial nature of God, when we taxed him on this, Whitehead explained that by the primordial nature of God, he meant all possibilities, and possibilities are infinite, since on his definition of possibility, which is a very good one, anything the occurrence of which would not require a self-contradictory statement is possible. The only thing absolutely impossible is that sugar should and should not be sweet. It's not necessarily true that it is sweet or that it is not sweet; but it is not merely false, but necessarily false, that it is sweet and is not sweet. These are the only impossibilities. So everything is possible--possibilities are infinite. And if it is true that possibilities are infinite, then the true proposition that possibilities are infinite is implied by any proposition; since, if you mean by "imply" the relation not-p or q, p false or q true, then p false or q true is true if q is true, because all it takes to make a proposition "not-p or q" true is either not-p or else q, and in this case q is true. So in this way he was arguing that any event entailed the primordial nature of God.

It does seem to me that anybody listening to him would think Whitehead meant that you could infer God's primordial nature from any event, whereas of course you couldn't at all. Speaking of "the primordial nature of God" (a phrase which almost makes tingles run up and down one's spine) sounds as if one were getting at something very deep. To mean by that no more than the infinity of possibilities, no more than what is meant by saying that everything is possible the statement of which is not self-contradictory, this seems to me in some ways a misleading way of using religious language. Because there may not be good

Dennes: grounds for holding to any one of the established religions; therefore, to alter the conception of Deity to the point where you can prove God's existence but Deity becomes merely the infinity of possibilities, seems to me seriously to denature an idea that has meant a great deal to many human beings.

Lewis thought that the notion of material implication was completely haywire, that p implies q only if it is impossible that p be true and q be false; and as students of logic know, Mr. Lewis offered some postulates and definitions for a system of strict implication which would allow us to say p implies q only if p necessitates q, not simply if it is true that either p is false or q is true. The material implication notion has a certain plausibility. You can say, "Either the streets aren't wet or else it rained last night." Either it's false that the streets are dry or else it rained last night. Or you can say, "I'll eat my hat, if today isn't Friday," and since most everybody thinks it false to say, "I'll eat my hat," then not-p or q means "I'll eat my hat" in this context implies today is Friday.

Lewis thought the only serious implication was strict implication, where p necessitates q. And Lewis thought that it would be a fine thing if I or somebody would develop a calculus of ordinary inference, a system of logic that had analogues to all the propositions in the first seven parts of Principia Mathematica, the great work of Russell and Whitehead, but using strict implication, as against material. So I set out to do that for my master's thesis, and it was a big job.

Any gifted logician would have seen right at the start what I discovered only at the end, that if it is a paradox to say p implies q if p is false or q is true, it is also a paradox to say that p implies q if either p is necessarily false or q is necessarily true. In other words, it would be a contradiction to assert p or a contradiction to deny q. These paradoxes may seem even more objectionable than the Principia Mathematica ones--and these turned up in the system of strict implication in the course of my work for the master's degree. But they didn't faze my teacher

Dennis: Clarence Lewis, because he said that anybody who's crazy enough to assert a contradictory proposition, for him, anything goes. If he'll assert "p and not-p," "p is false and p is true," then, he'll say anything. On the other hand, a necessary proposition is, of course, true; so that he wasn't bothered by the paradoxes which I thought developed in his system, perhaps in a more aggravated form even than in that of Russell and Whitehead. It certainly was a way of learning something about logic, even if the net result was not to my mind really important.

For a while I kept more or less acquainted with work in mathematical logic, but not for long, because in the period from 1920 or so on to the present time, the activity in that field was so intense that even a great genius like Van Quine at Harvard insists that nobody knows any very large fraction of what is being accomplished in mathematical logic. Certainly I don't any longer.

Well, that's the way I spent my graduate year at Berkeley--along with teaching six weekly section meetings in Professor Loewenberg's new course: Introduction to Philosophy.

The Triumvirate and the Barrows Presidency

Ariff: When did you get your M.A.?

Dennes: I got my M.A. in 1920 at the end of the graduate year. In the middle of that year, due very much to the initiative of Professor Gayley and a few other teachers of mine, who applied in my behalf--they thought I was still in the Navy--I was given a Rhodes scholarship, and this was very exciting.

You know, speaking of oral history and the relevance of anecdotes to establishing the temper and atmosphere of a period, a greatly admired teacher of history, Henry Morse Stephens, who certainly has turned up in other discussions recorded for the Oral History Program, relied very, very heavily on the personal anecdote in his

Dennes: teaching of history. It was very entertaining and often, I think, gave us some sense of the history he was talking about, but I do think serious history needs the combination of this sense for the personal and for local color with the actual arguments of statesmen, and the analysis of the actual political and economic forces that in one way or another influenced historical change.

Morse Stephens*was charming, delightful, friendly to us students. I never became, as some of my contemporaries did, one of his apostles--disciples, I guess, is the word to use. I never admired him that much, so that my judgment of Morse Stephens, who in my graduate year here was one of "the triumvirate," may not do him justice. Mr. Wheeler had retired when I graduated, not because he couldn't stay on with me gone [laughter], but I guess he was of retiring age, although the rumor ran around that the Regents tired of his cool attitude in the early stages of the war, and indeed some thought him pro-German. As I say, I of my own knowledge only knew him to be a neutral who felt that we should keep hands off and be ready to help when the war was over. Well, in that graduate year, 1920, there was no president of the University; it was administered by a triumvirate, Gayley, Morse Stephens, and William Carey Jones, the Dean of the Law School. I think my own impression, if it were worth anything, would lie sort of halfway between the people who adored Mr. Stephens as a great historian, and the people who thought his gifts were mainly theatrical. I thought one could definitely profit from his highly personal rendition of history, but that for the whole story, we needed both kinds of historian.

I think he was so impressive, so charming, and such a lion at dinner parties that the grandees of San Francisco and these parts might give, that he succumbed to the temptation to be a charming, rather than a careful, historian. I know that some of my contemporaries, and I think some of the teachers of that time, thought his teaching was largely histrionic, while others thought he was just the greatest that there was. I would put him somewhere between these two extremes. You may have had comments on him in the course of your other oral histories. In my time he was certainly one of the conspicuous people around. As I say, he was

*Henry Morse Stephens had died April 16, 1919.

Dennes: one of the three men who formed the administration of the University through the year that they searched around and finally got Mr. Barrows for President.

Before Mr. Barrows was inaugurated I went off to England as a Rhodes scholar. He lasted, as you know, only three years as President, and the stories that went round were that he was too impatient of detailed work, that the details of the University budget he didn't work over awfully carefully. A story, probably apocryphal, circulated at the Faculty Club, that when the chairman of the Regents' finance committee phoned the President's office to get advice about something, he got the answer from his secretary, "Oh, the President is parading in San Francisco."

Mr. Barrows was in active service during World War I, and he remained in the National Guard and became a general in the National Guard. This kind of story was always being told about him, that he preferred parading in the National Guard to doing some of the duller kinds of work that fall on the shoulders of a college president. I, of course, as a mere student--I had been his student in his introductory course in political science, which I enjoyed--as a mere student, and then as a student in England when he was the President and was criticized for being fonder of parades than of detailed work, I have no idea of what there was in all this.

By the time I came back from Oxford, three years later, he had been replaced by President Campbell, and I daresay some of the people who have given you their recollections knew, or thought they knew, much more of the inside of what went on in that shift of presidencies. I knew nothing of the inside at all. I did hear on all sides the rumors that I have mentioned.

[3rd Interview, August 14, 1967]

David Prall

Ariff: This morning we were going to talk about your time in England on the Rhodes scholarship, but before that you wanted to talk about the influence of David Prall.

Dennes: David Prall, who was never formally my teacher, but who was certainly one of the great teachers of literature and philosophy of our time, I met first when I was a sophomore here, and the professor of logic asked me if I wanted to coach a student. I had never coached anybody, but I said, "All right," so he sent me what I thought was a very young freshman, slim, very graceful--never walked along the corridors, but it seemed to me danced--and I supposed he was my junior. Actually he was thirteen years my senior. He had been an assistant professor of English at Michigan and Cornell, and had found himself tortured by the fact that though he could tell his students which poems he thought excellent and which not, he could not tell them by what standards he judged.

He went to Texas, incredibly, to be an assistant to Professor Caseby, who was a Marxist and who thought you could explain and evaluate poetry and painting objectively by the state of the industrial arts and the geographical influences that operated upon poets and novelists and painters. Prall assisted him until he had a serious breakdown, a heart ailment that....

Ariff: Prall did?

Dennes: David Prall did. It nearly killed him. And after a year's rest, mostly at Santa Ana where his family had moved from Michigan, he thought he'd resume studies, came up to Stanford and Berkeley, and talked to Professor Gayley. Gayley told him that if he wanted to study standards of literary judgment, that, really, he would do just as well,

Dennes: even better, to do aesthetics in the Philosophy Department, rather than studies in the Department of English. So here was David Prall, in his early thirties, beginning studies, formal studies, in philosophy; and to take the logic examination, he needed to know the elements of logic, which I had studied the year before. He learned them, I may say, very quickly; and he and his family became great friends of mine.

His father had died. He'd that year bought for his mother and family a perfectly lovely small house on La Loma at Buena Vista, which had been designed by Arthur Pope, the professor of aesthetics here.

Ariff: Which corner of...

Dennes: Well, it's a little off the corner. The thing right at the corner is now the Calvins' house, and although it's always described, or then was, as 1420 La Loma, corner of Buena Vista, it's one house back from the corner, really, on the northwest side. As you go up La Loma and cross Buena Vista, the Pralls used to cross right through what is now the Calvin garden to their house. That house, now Professor Calvin's, the Pralls bought for their daughter Dorothy when she married Max Radin, a professor of law. Dorothy was a very gifted linguist; I always thought she had to know many, many languages, including Russian and Polish, because she had so many things to say--she was a wonderful conversationalist. David's younger sister, Margaret Prall, was a gifted violinist, who had studied with Ysaye in Belgium.

Sometimes when David and I had worked at logic and walked home skirting the Berkeley hills--and in those days there was practically no building east of La Loma Avenue--as we walked home, we'd sometimes gather mushrooms. Dear old Mrs. Prall, if there was something that went with mushrooms, like steak or chicken, would ask me to stay to supper, and Dorothy, the linguist, if she gave us tea, in the Russian manner put a little strawberry jelly in the tea, and, indeed, though she was dubious about offering a spoonful of rum to a boy--what was I? eighteen--sometimes a little rum in the tea, also in the Russian fashion. And it tasted very good.

Dennes: David Prall went on to a doctorate at Berkeley while I was a student at Oxford. Our teaching overlapped only a year or so, and then he went back to Harvard, where he was a professor of philosophy and became chairman, but died very untimely in his early fifties. His heart condition remained anything but good. He was advised to lie flat at least eighteen or twenty hours a day. Actually, I've never known anybody more active; physically, not specially active, though he loved walking and walked every day with the graduate students in Berkeley. But the intensity of his talk on issues philosophical and literary exceeded anything that I have ever run across anywhere in anybody.

David Prall was a great influence on many students at Berkeley, and I'm sure though he never argued with me, never tried to convince me that I ought to spend my time studying philosophy and not go into medicine, I think he and his family had a good deal of influence on my taste and intellectual activities and my turning to scholarship.

Dear old Mrs. Prall was a great reader, a great writer of amusing jingles, so that at a party there would always be a placecard in verse for each of her guests. With an old bronze box that she gave me when I graduated, she had some verses to the effect:

> We wish you luck, we wish you health,
> If you desire, we wish you wealth.
> Find these wishes in this box,
> Which has hinges, but no locks.

This was typical of the old lady's humor. (She was also a very great gardener; her garden was one of the most fragrant and pretty small gardens I have ever seen.)

The Clinton Day Home

Dennes: I ought also say a word or two about an old house at the corner of Piedmont and Bancroft that lasted until a year or two ago (until it was torn down to build a new addition to the Law School), which was so representative of the Berkeley that is gone.

When I was a senior in the last semester after I came back from the Navy, there lived there, as she had lived I suppose for forty or fifty years, a widow, Mrs. Clinton Day, and her daughter and her Chinese servitor. My great friend, Richard Scofield--he and I were classmates and members of the same fraternity--had come to feel that fraternity life was too distracting, too talkative and tiresome, and it would be fun to pull off somewhere where we wouldn't have all the clatter of all the other boys. In that fraternity we slept on two long sleeping porches. Two or three of us shared a room in which we studied, but there were these double deck bunks on the sleeping porches--anything but privacy. Well, someone had suggested that maybe Mrs. Day, who had a big old house, might rent us rooms.

We stopped by, all dressed up, because we were told it most unlikely that she would be willing to face the noise and rumpus of having students in the house. We got ourselves up in as dignified garb as we could muster, and rang the bell and stated our purpose. Her response was, "Oh dear, no, nothing like that, nothing like that. But come in and sit down." [Laughter] We came into the classical California Victorian house; heavy walnut paneling, Victorian furniture, which the cats, two beautiful cats, were always clawing. Mrs. Day went about draping paisley shawls over the scratched places on the upholstery; and by the time Richard and I finished there, there were paisley shawls draped over practically all of the chairs. [Laughter] We talked and she said finally that she would take us.

Each of us had a room and a bath, and it was a very comfortable place to live and a wonderful place from which to take walks each day, because

Dennes: Piedmont Avenue was just at the edge of open country. The Chinese servant, Lee, was typical of California households, fairly prosperous ones, of that epoch. He was a Chinese who, like others, attached himself to a family, lived to the end of his life with them, or saved up enough money to go home to China for the last year or two, and to be buried with his ancestors. Mrs. Day represented Lee as absolutely her slave; her word was law. Richard Scofield and I soon found that he was far from a slave, he was a tyrant. He told her what the menu should be. Even when she served dishes at the table, if she was awkward--and her sight was not very good--he would say, "You let me serve, you let me serve," and he would take the serving things out of her hand. Well, he was an excellent cook and certainly devoted to Mrs. Day and her daughter Carol, a woman of forty, very fond of the theater, and reading plays, and amateur theatricals.

I'm glad to say that after her mother's death Carol sold this ancient house and went east to New England, where she had friends, and for twenty or thirty years took middle-aged or elderly woman's parts in plays, summer theater, amateur plays, and really had a very, very good time at it.

Old Mrs. Day's husband, Clinton Day, was a pioneer architect out here and designed the three or four red brick chemistry buildings, which have now disappeared except for the cupola of one--have you noticed in the courtyard of the chemistry complex an odd lantern, an odd cupola? Well, it once stood on the top of one of the 1870ish or 1880ish brick chemistry buildings that Clinton Day had designed. They were very ornamental Gothic.

This old lady, who had grown up in New England, sat for a while every day at her gate--there was a brick wall with an iron fence above it all around her garden and a high iron gate. She sat at the gate nearly every day giving away clippings of the Boston Evening Transcript. She still took this paper, which she thought was the only good newspaper in the United States, and it seemed to her too interesting and too enlightening to use for garbage or to throw away so she cut it

Dennes: into clippings and distributed it appropriately to the interests of the scholars who passed as they went down to their work at the University. To Walter Morris Hart, a literary scholar, she might give a review of a book or something bearing on literature; there would be an item for an historian as he came down from Faculty Hill up on Prospect Street and Canyon Road and Panoramic Way; for Clifton Price, the Latinist, there would be something about Italy.

Ariff: Did Clinton Day design that house?

Dennes: Yes, he designed and built the house that he lived in. And as I said: heavy oak paneling, heavy walnut furniture from Italy, the most curlicued and rococo you could imagine, a very good background for a lot of well-burnished silver and Sheffield silver plate. The dining room was huge and often Richard and I would be alone, certainly alone at breakfast--neither Mrs. Day nor her daughter would be around at breakfast time. It was a rather rich-seeming room with all its heavy walnut furniture and silver, kept well polished by the Chinese servant, Lee.

Ariff: Was the exterior of the house always yellow ochre and brown, the way it was in recent years?

Dennes: Yes, it was. It had a porte-cochere, which you may have noticed, with a room over it, but the driveway to it was fenced off. The time had long passed when carriages drove in. There was a side door at this carriage gate, porte-cochere, and a room over it. Yes, until it was torn down, it remained very much as it had been when I lived there.

Carol Day, the daughter, who now lives in a retirement community near Palo Alto, we saw a year or so ago. She couldn't quite bring herself to go up to see what was being built on the site of her old house, as I'm sure is the experience of many old Berkeleyans who see changes that seem to obliterate what they have loved and remembered.

Walter Morris Hart, who lived at the other corner of Piedmont and Bancroft, when his house was sold and torn down to build the stadium, moved to the very pleasant John Galen Howard house up on

Dennes: LeRoy and Buena Vista. When he became Vice-President of the University, he had remodeled his house and turned his study, which had joined the living room, into an enlargement of the living room. The critical students said, "Ah, you see, when he becomes the Vice-President, he doesn't have to read books anymore, he doesn't need to study." [Laughter] "He makes a social room of what had been his study." This was an unkind cut, I'm sure.

OXFORD, 1920-1923

Life in Corpus Christi College

Dennes: We were going to talk a bit about university education in England, weren't we? Shall we go on to that?

There couldn't have been a greater contrast than that between the University of California and Oxford, a contrast heightened by the fact that I had grown up in the country in California, had gone to a very excellent but very small-town high school. Here I found myself at Oxford in the smallest of the colleges, Corpus Christi, and certainly one of the proudest and most traditional of the colleges, where each of us undergraduates had two or three rooms assigned us, a living room, sometimes a separate study, and a bedroom. Our very, very conservative president, Thomas Case, thought that every gentleman had to have such quarters. Consequently, when the Parliamentary commission was making grants after the First World War to help support the colleges, he wouldn't let them in at all, because he was afraid that this would be an entering wedge to their trying to tell him how to run his college (if they were going to give him money), how he should economize and break up sets of three rooms for two undergraduates, two bedrooms and a shared sitting room--which would be perfectly all right, in fact, luxurious by the standards that American college boys in my time were accustomed to. Well....

Ariff: Before we go any further into that, you mentioned that someone recommended you for a Rhodes scholarship. How did this come about?

Dennes: Oh, Charles Mills Gayley had put me down--he thought I was still off in the Navy, as I wasn't--as a candidate, and the Rhodes committee told me

Dennes: this and said I ought to fill out the application form, which I did. A good deal to my surprise, I was given a Rhodes scholarship and crossed in the old Aquitania to England with thirty or so other young Americans who were taking up Rhodes scholarships.

Lord Beaverbrook, the Canadian (Max Aitken he had been), who had become a journalistic grandee in England and owned The Daily Express, The Evening Standard, and some other newspapers, was on board the ship. And critics of the Rhodes plan, if they had heard Beaverbrook's imperialist talk to us young Americans, would certainly have thought that if he was any sample [laughter], that it was very dangerous to expose young Americans to this imperialist Britisher. Many years later the Chicago Tribune published an editorial in which it denounced Rhodes scholars as being secret agents for the King of England and his interest in this country, perverting the country, leading it into wars on the side of England, and the editor of the paper got a good many critical letters--one from me. That was Mr. McCormick, the editor of the Chicago Tribune. In his reply to me he offered me the hospitality of his columns to prove that I was a loyal American, if I could. [Laughter] I didn't--it's very difficult to prove that you're loyal--I didn't make any attempt to do that.

But we got to England, and here I found myself living in a beautiful, not very old building, the Fellows Building at Corpus, in which I was given a set of rooms. This was one of the newer buildings. Most of the college was sixteenth, seventeenth century. There was a pelican sundial in the middle of the principal quadrangle. I found myself living in three rooms with a scout (i.e., a college servant), who woke me in the morning by repeating, "It is half past seven, sir; it is half past seven, sir," louder and louder until I opened my eyes. He would then ask me what I wanted for breakfast, which was brought up and served, if it was winter, by the fire in my living room, and what I would wear that day. Perhaps I had two suits, I don't know, not much choice. But for a California farm boy, who had been to the University of California, this shift to being taken care of by a servant

Dennes: who laid my fire was tremendous.

However, my wife always says probably I would have rotted to the core, but after the scout had laid out my clothes and I rose from the bed, he poured a bucket or two of cold water over me! [Laughter] The college held very strongly to the view that plumbing is not civilization, and there was no running water in any of the students' rooms in those days. There was a pitcher and basin on my washstand, and there was a tin tub he took out of the clothes closet. When I got out of bed, I stood in the tub, and the scout poured two buckets (a little like watering cans except they didn't have the spray, they had a spout) over me. My wife has always thought that this probably saved me from being corrupted by the luxury of it all. [Laughter]

I am sure that even Corpus, even my college, has abandoned many of these extravagances, because it was terribly extravagant to have breakfast served to each of us students in his room, and lunch too. If we were having guests in, we could always order up the college silver. Corpus had been rich enough that in the Cromwellian Wars, the civil wars, it hadn't had to sell its silver plate, as most of the colleges had had to do, to help support the king and his cause; so it still had its Elizabethan silver. As a mere student, one could have a tolerable lunch, particularly in the summertime, when cold chicken, and cold salmon mayonnaise with slices of cucumber were quite tasty food. The dinners in the hall were a little monotonous, although the president of our college was given a deer from the deer park of Magdalen once a term or once a month, I can't remember which, so sometimes we had venison.

As an undergraduate (and every student at Oxford is an undergraduate, however mature, until he takes an Oxford degree, and so although I came with an M.A. from California, I was an undergraduate until I took the Oxford doctorate), I had a moral tutor to guide my steps, as well as an intellectual tutor. As a still youngish twenty-one-year-old California rustic, to be able to tell one's scout one wanted to have six people to lunch and would like salmon mayonnaise, and would like the college silver! My living room looked out over the little

Dennes: garden of the college, the fellows garden, and across that to the east side of the Cathedral of Christ Church, which was the college adjoining Corpus. And it was really very beautiful, and certainly very elegant and luxurious.

President Thomas Case

I said that our president was a great Tory, a great conservative. He was so afraid that outsiders would meddle with his management of the college that when R. B. Mowat, the history don, the history fellow, who seemed to produce a book and a baby every year, wanted to have his newest little boy (who was named Richard Fox Mowat after the Founder of the College) baptized in the college chapel, the president ruled that although Mr. Mowat was clearly a member of the college and could use the chapel, that his baby son was not a member of the college, and having him baptized might be the entering wedge by which non-members of the college would try to trespass.

Richard Fox, our Founder, was Bishop of Winchester. The Winchester bishops were great founders of colleges. Another bishop of Winchester had founded New College. That was Bishop Wykeham, William Wykeham. It was universally believed (I have no way of checking on this) that Mr. Case had been brought back from London where he was a stockbroker, by Jowett, the Master of Balliol, because he (Jowett) was sick and tired of the fancy idealism, as he thought it, of Thomas Hill Green and Edward Caird. Case had taken his degree at Balliol but had resisted the dominant idealism and had become a physical realist. Jowett wanted Case to bring some good, tough, realistic common sense back to Oxford. So Case came back and presently was made Waynflete Professor of Metaphysical and Moral Philosophy, which carried a fellowship at Magdalen, and the fellowship at Magdalen carried the privilege of the deer from the deer park at Magdalen, once a month or once a term. And when he (Mr. Case) was made president of Corpus and went to live at the President's

Dennes: Lodgings at Corpus, my college, they kept him on as honorary fellow at Magdalen, so he still got a deer now and then, which he turned over to us undergraduates. But the story was that he continued as Waynflete Professor and gave one or two lectures a term even after he became president of Corpus and enjoyed the emoluments of the two appointments, both of which for England and for that period were quite high. He asked the electors of the Waynflete chair whether it was allowable for him to hold the chair (the Waynflete Professorship), when he was also head of a college. The story was that it took them five or six years to decide that college headship was not compatible with the professorship, during which five or six years he'd enjoyed the emoluments [laughter] of both appointments.

When I arrived, he had me in to see him. It was towards luncheon, and he ordered up some sherry, perhaps the first I'd ever tasted, I don't know. He offered a toast to California, and I had enough Latin to respond, "Floreat Corpus" [laughter], as a toast to his college, Corpus Christi. And he said, "Now, you're going to read philosophy, Mr. Dennes. Hmm. Now, Kant, he was a silly old fool, wasn't he?" Well, I thought pretty highly of Immanuel Kant, but I was a little at a loss how to respond to this very impressive man. If I had told him, "Why no, Mr. Case, Kant was a fine philosopher," he might have resented my uppishness. On the other hand, if I had said, "Why yes, he was a silly old fool," I would have been lying. So I think I evaded the issue.

He warned me against Bosanquet. "Bosanquet," he said, "is a very fashionable philosopher. He is no good." (An idealist, whom I at that time was much impressed by.) He said, "I will now give you the most precious gift I can give anyone who's studying philosophy, namely, the reliable norm of reality, the standard by which to judge what is really real, and that is this: The real is physical existence, but the test of it is not that you can see it or even touch it, but that you can squeeze it in your hand. If it's hard and resists pressure, then it's really real." So the first principle of metaphysics, physical realism, was that in order to decide what is real, you grasp it and squeeze. [Laughter]

Dennes: Well, I must say that Mr. Case was not typical of Oxford scholarship, and I had very great teachers. Joachim (the nephew of the great violinist, Joachim) was a very great teacher of Spinoza. And J. A. Smith, who was Waynflete professor at my time, introduced me to Croce, Benedetto Croce. Smith's seminar, called Informal Instruction, certainly opened my eyes to what a competent Greek scholar could do by spending six months in examining two pages of Book Z of the Metaphysics of Aristotle. Of course, he brought to bear all that the medieval commentators had to say about Metaphysics, Z.

In the end, having developed the most ingenious analyses and arguments, he came to the conclusion that I had in a simple-minded way held before about the puzzle of Book Z. In Metaphysics, Z, Aristotle at times says, "What is really substantial is matter;" at other times, "What substance really is is form or character;" at other times in that chapter, he says that it is the combination of the two. And people have regarded this as very contradictory. I had felt myself, and Mr. Smith concluded from his extremely scholarly and erudite, not to say recondite, analyses--the alternative views were each expounded as if Aristotle believed them, but only for the sake of expounding them and disposing of all of them except the last: the view that what is really real is a combination of process and character, of matter and form, which I still think is a very sound metaphysical view.

Sir Paul Vinogradoff

Vinogradoff, who became the supervisor of my doctoral studies, was a fellow of my college. He was the Corpus Professor of Jurisprudence. He had grown up in Russia, had gone to German universities for his doctorate, had taken not one doctorate, but three. He had taken a doctorate in philosophy with Kuno Fischer, a doctorate in law with Gierke, a doctorate in history with Mommsen, in other words, with the three giants of

Dennes: nineteenth century German scholarship. Well, Vinogradoff was very interested in my studies in philosophy.

My intellectual tutor was F.C.S. Schiller, a pragmatist who, when he talked with me, spent most of the time denouncing the idealists who held the chairs of philosophy at Oxford. He felt that he had been most unjustly discriminated against by them. Dr. Schiller told me that he thought that I ought to go on to the doctorate. I had begun reading for an Oxford A.B. in Greats, which probably would give one the best education Oxford could give: the Classical A.B. in Greek and Latin literature, history and philosophy. I don't know whether Mr. Schiller, my tutor, thought my Greek wasn't good enough or whether he thought I was mature enough that I ought to try for the new doctor's degree--it was a very new degree, the D.Phil. In fact, it was put up largely to take care of American graduate students who had been going to Germany to take Ph.D.'s. It was thought that if Oxford and Cambridge offered doctor's degrees, more young Americans would come to England. [Laughter] So Vinogradoff offered to supervise my studies, and my committee were Vinogradoff and R.R. Marett, the anthropologist, and C.C.J. Webb, the philosopher of religion.

Vinogradoff, with his triple doctorate, with his large size and vigor of mind and body, always impressed one as a person who might easily have been a prime minister. He had had to flee from Russia in 1905. The 1905 Revolution, in which many intellectuals participated, which tried to introduce a limited constitutional monarchy into Russia and curb the power of the czar--Vinogradoff was one of the active people, and they were being exiled to Siberia. The 1905 Revolution failed, of course, and he managed to escape and was made very welcome indeed in England, and was presently elected to the chair of jurisprudence at Corpus.

Ariff: I notice so many people have three initials. Was this fashionable at that time?

Dennes: C.C.J. Webb, F.C.S. Schiller. Yes, I think it was. I think in the case of sons, they wanted to honor a good many of the ancestors or relatives. And indeed sometimes it went so far as to repeat a name

Dennes: twice in a boy's name. The professor of philology, whom I used to listen to sometimes, was named H.F.B. Brett-Smith, and it turned out that the B. was H.F. Brett Brett-Smith. In other words, the family was so fond of their Brett connection that although the name entered hyphenated as Brett-Smith, he was also named Brett Brett-Smith. [Laughter] It seemed to me going quite far.

Ariff: So, you were talking about C.C.J. Webb.

Dennes: And Marret and Vinogradoff, who were the committee that guided my doctoral studies. Although Vinogradoff was a professor of jurisprudence, he was profoundly interested in questions of what is involved in explaining historical processes, social processes, as well as legal development, and I was going to study philosophical questions about what is involved in explanation in the social sciences. One might have said behavioral science or social science nowadays, but I chose the title "group psychology" because a lot of the Germans called it by that name, and McDougall had just published a book called The Group Mind. The title of my doctoral dissertation was "Method and Presuppositions of Group Psychology," although a modern psychologist wouldn't say there was much psychology in it; it was mostly philosophic analysis of the nature of the self, the nature of society [laughter], and the nature of explanation in these areas.

Ariff: It certainly seemed to come in handy in your later work.

Dennes: Yes, it did.

In July, 1923, I left Oxford with my degree and my wife--we had been married in June. In those days the Rhodes scholars had to be unmarried men. A few of my classmates had secretly married, and I believe now that restriction has been modified a little, particularly for veterans of the wars. I had told Mr. Barrows, by this time President of the University of California, in letters about Vinogradoff's interest and distinction, and some friend of the Berkeley Law School, or friends, had assembled enough money to make a gift to the University to invite Vinogradoff to come as a visiting professor of law for a term in the autumn of 1923, the term in which I began to teach

Dennes: at the University. And believe it or not, Sir Paul Vinogradoff accepted the invitation, which was quite--for those times--magnificently paid, ten or twelve thousand dollars to come for a term at the University of California.

The term then began in August and went on till Christmas, and then the second semester, January to May. Vinogradoff assumed that a term beginning in August would end six or eight weeks later, because Oxford and Cambridge terms were just eight weeks long, and a professor could always terminate his work at the end of six or seven weeks. Professors were very, very free agents at those universities. So he came, but came understanding that the appointment would be from the middle of August till early October, when he could go back to Oxford for the Hilary term, the autumn term at Oxford. And it was quite an embarrassing predicament, because nobody ever thought of paying people ten or twelve thousand dollars to teach six or eight weeks at Berkeley. But when people discovered that the mistake was made in good faith and that he had thought we meant by a term what Oxford and Cambridge meant by a term [laughter], they paid him for what they had expected to be a full semester's residence and teaching.

Vinogradoff had a good deal to do with my becoming fond of Italy, as did J.A. Smith, who swore by the work of Croce, in verbum crucis, "the word of the cross." To swear in verbum crucis [laughter] was to swear "in the words of Croce." But my first spring in Italy, and the Oxford spring vacation is six weeks, you know--in fact, the vacations add up to more than the terms; the terms are three, of eight weeks each which adds up to twenty-four, leaving twenty-eight weeks vacation, in which, of course, the scholarly read and go on with their work, take walking trips with their friends to read and talk, and so on. Well, in the spring of 1921 I went to Italy with my great friend Richard Scofield and a man who was also to become a life-long friend, Frank Wilcox. These two young men were students in Belgium. We spent most of the six weeks in Florence.

Vinogradoff had wanted me to read the Italian criminologists, because he thought they had some light to throw on explanation in the social

Dennes: sciences: Garofalo, Lombroso, and Ferri. These were men who attempted physiological and indeed physiognomic explanation of human character and criminality, physiognomic in terms of the turn of features in the face and so on. During that spring in Florence, fragrant with roses and wisteria, it was quite a chore and went much against the grain to read the Italian criminologists, although, of course, it helped me to learn Italian. I really came to hate "my criminal studies;" I didn't learn much from them. Actually I had plenty of time with my friends to visit the galleries and architectural glories of Florence, and to walk up into the hills and all over the city; but I also carried out my promise to Sir Paul to read the criminologists. I read, as well, some Croce and some Dante and The Little Flowers of Saint Francis.

We were a jolly trio, the three of us, and Richard had his lovely young sister with him. She had come over from California, a girl of eighteen, I suppose, and a very pretty creature. Her lovely blond hair was in what was then the fashionable (I guess "boyish") cut, with a curl (or was it a wave?) around the level of the ears. I suppose the style had a name. But, really, the way the Italians in droves turned to look at Alberta, as the four of us walked along the streets of Florence--it was not we three men [laughter] who attracted the Florentines. It was Richard's sister.

Ariff: That reminds me of Henry James' novel about Italy; it must have been about that time.

Dennes: Well, it was a little earlier, my dear--about 1880!

Ariff: It was?

Dennes: Yes. What was it called? Daisy Miller.

Ariff: That was one of them. And there was one about an urn.

Dennes: The Golden Bowl?

Ariff: The Golden Bowl.

Dennes: That, written about 1904, I ought to read but haven't. I read Daisy Miller. I must read the later book, because I love Italy, and I'm rather fond of Henry James too.

Well, I'm sure that I hated Sir Paul for inducing me to read those criminologists; and how I know that I had a lot of aggression was that going back to England, as we changed trains at Ventimiglia, I told the porter, "Be careful of my rather fragile, worn suitcase," because it was full of photographs of pictures, and books of pictures of Italian building and sculpture and painting that I had collected. "Be sure you don't drop it; it would surely break apart." Oh, he would be very, very careful. Well, he thought I didn't see him, but I was outside the train, and he tossed the thing out of the window onto his barrow, and it broke apart. I nearly beat him with my walking stick. I didn't, but you know psychologists say that we easily transfer aggression; when we get cross at people, it's very often somebody else that we are irritated by. Well, my irritation at this fachino, at this porter, which almost made me strike him I'm sure was irritation at Sir Paul for making me study the Italian criminologists.

But I had my revenge, because I read a paper in Sir Paul's seminar when I got back to Oxford in which I dealt, among other things, with the physiognomic traits which, according to Garofalo, went with the most dreadful kinds of criminality. One after another the head of our seminar, Sir Paul, had these physiognomic traits [laughter], had, for example, the ears that came down without lobes, and my fellow members of the seminar--I wasn't looking at Sir Paul as I read my paper--were suppressing giggles and laughter. This was my revenge: I had read the Italian criminologists, and I was able to present a paper according to which the head of our seminar, Sir Paul, must really be possessed of the most dreadful criminal tendencies. [Laughter]

Ariff: This was deliberate then?

Dennes: Deliberate on my part?

Ariff: On your part.

Dennes: No. My paper was deliberate, but I had never thought that Sir Paul had the traits of countenance that Garofalo described.

Ariff: It was an unconscious revenge.

Dennes: Yes. I felt that the score was settled. Oh, when I say that I was angry at him, I must add that my total feelings for Sir Paul were always very appreciative, although I thought he had given me a bum steer to spend hours in Florence in the spring [laughter] reading these people. But heaven knows, I had plenty of hours every day and every evening to enjoy Florence.

The Conservation Principle

At that time also, I heard the lectures of a professor named Lindemann, in chemistry, and he was somewhat interested in questions of the nature of explanation, which are relevant to philosophy, certainly. Lindemann later became Lord Cherwell and was the chief scientific advisor of Winston Churchill during the Second World War. But what particularly impresses me as I remember Lindemann was his confidence that although the atom could be split--it was possible to achieve atomic fission--the work done to break down the cohesion of the atomic particles would be exactly equivalent to the energy released; in other words, that atomic fission couldn't possibly release any more energy than you put into the job of breaking the atom apart. It's a little surprising that in the early 1920's Lindemann didn't know better than that, physical chemist as he was, but that was his view as expressed in his lectures.

Of course the conservation principle since the time of Parmenides has had a very powerful influence in Western thought. It is the principle that you can't get anything from nothing, that matter cannot be created or destroyed, or more lately, that total energy is constant, that energy can't be increased or diminished. That principle tended to make one receptive to the

Dennes: argument that you couldn't get from the splitting of the atom any more energy than you put into the job of splitting it, because the cohesion, the power that holds the intra-atomic particles together, must be of exactly the magnitude of the power you'd have to exert to pull them apart. Of course, Ernest Lawrence and others had soon after this split atoms, and when, in the 40's, my colleagues in Berkeley began to tell me that there was a real chance that the release of atomic energy by atomic fission would have a force 1,750,000 times as great, ounce for ounce, as exploding TNT, and hence would be a most astonishing source of power, I didn't believe them, because Lindemann, now Lord Cherwell, had taught me that you couldn't get any useful work out of splitting the atom, because you'd have to put as much work in as you got out.

My Berkeley colleagues, of course, had the last laugh. When I went down to Los Alamos, I still was very dubious about atomic fission being productive of more energy than was focused on the atom to break it up. It took the focusing of enormous electrical energy on the few atoms originally broken up in the Berkeley laboratories; but, of course, what they found was that this was a self-maintaining process, a chain reaction. If you could start it, it would go a long way with the right kind of unstable uranium. I began at Los Alamos, as I say, by doubting that atomic fission would yield any usable power, more than went into splitting the atom. And, of course, it's possible all of those thousands of scientists and collaborators working for years--it's possible that the work they put in on the job was as great as the explosion that came out of it! I am, of course, joking.

Even some of the scientists thought that the amount of money, time, and expert skill that went into the work at Los Alamos might possibly yield more useful results if put into the building of airplanes that would carry ordinary TNT explosives. Of course, they were by no means sure they would succeed in producing atomic bombs. Oppenheimer, up until the last moment, wagered that the experimental bomb would not go off, bet ten dollars that the Trinity Experiment out on the White Sands of Alamogordo would fail. I'm sure this was the

Dennes: kind of wager that a man or woman makes who very much wants an expected child to be a boy or a girl, and bets the opposite so as not to tempt fate. I mean, Oppenheimer bet that it would fail partly so that he'd at least be right if it did fail, and because he didn't want to boast or didn't want to be too confident.

Oxford and Berkeley Administration Compared

One of the great things that anybody comes to recognize at Oxford is the way in which the very great university, composed as it then was of twenty-five largely independent colleges--there are now four or five more--how largely the scholars themselves could administer the whole enterprise of university education. The scholars I refer to are the fellows and master of each college or the fellows and president--the heads of colleges were some of them called masters, some provosts, some wardens, some presidents, some deans, some principals--they had a great variety of titles. Some of the college heads were simply first among equals, who carried out what the fellows of the college voted. Some were like Jowett at Balliol, who was of course before my time: apparently a very tyrannical head of his college, he advised one should "make one's decisions and let the men howl." But in most colleges it was the fellows who elected the president or master. The fellows had lifetime appointments, were the teachers of the college, and practically all the decisions were made by their vote. The head, the president, no doubt having extra influence, and as the man who administered the decisions made by the vote of the fellows, would have of course opportunities to administer as he thought fit, but by and large this great university didn't have the enormous administrative organization and machinery that is characteristic of large American universities. I mean, the teachers themselves in the small groups that were the fellows of each of the colleges made the policy decisions, and thus largely controlled the program of the university. The contrast in this respect with California was enormous.

Dennes: While I was at Oxford, the great revolution took place in 1921 or 1922 at Berkeley. The faculty, rebelling against the extent to which the administration ran things without consulting the faculty, secured the beginnings in Berkeley of provision for a large measure of Senate advice to administration. Senate advice through such committees as those on Educational Policy and Budget was inaugurated while I was in England. And although the Senate committees were only advisory, committees like the Budget Committee did their work so thoroughly, they worked so hard and reached such carefully examined results that, not because the President and the Regents were in any sense obliged to follow their advice, it was extraordinary how high the batting average of agreement was between the President and such Senate committees.

In the years after I returned to Berkeley, I saw gradually that, although the University wasn't a mere community of groups of scholars, as was Oxford, nevertheless the opinions and the advice reached by the faculty committees became I think as influential in Berkeley as, indeed I think more influential than, in any other American university. Many people have regretted that Mr. Sproul was not at home in a field of scholarship so that he would have had the independence that came of an academic alternative to turn back to. Mr. Campbell was after all an astronomer; Mr. Barrows, a political scientist; Mr. Kerr, an economist. Many members of the faculty have felt that if a president was a scholar or scientist in some field, this not only gave him a better understanding of the work of scientists and scholars, but it also gave him a certain independence in that he wouldn't feel that the president's job was his only field of competence. I mean, after all, he had another string to his bow, could go back to political science as Barrows did, to economics and business administration as Mr. Kerr has done, if the foundations leave him any time to do work in those fields.

But although it may be a disadvantage to a president not to be thoroughly at home in a field of science or scholarship, I think there is also, or was, in the case of Mr. Sproul, the advantage that knowing that he couldn't be a judge of able

Dennes: men in fields of scholarship with which he was not acquainted, he took very, very seriously the advice of his academic committees. I think the committees of the Senate which in the 1920's the Regents had said would have to advise the President with respect to appointments, promotions, and the like--I think their advice became as influential and powerful in this University as it did partly because the Senate committees worked so hard and so faithfully and so thoroughly and partly because the President, Mr. Sproul, probably gave more weight to their advice than he would have given if he had been himself a professor and thought that he was thoroughly able to judge competence in fields of science and learning.

Friends and Traditions at Oxford

Ariff: Before we leave Oxford, I wondered if you met any people there or had friends there with whom you've continued your friendship since then.

Dennes: Yes. One of my greatest friends, Richard Scofield--I've already mentioned him--followed me to Oxford and Corpus a year later. He now teaches at St. John's College, Annapolis. He and Frank Wilcox, whom I mentioned, and whom I must say something more about sometime, have been friends through my life. But I made some friends at Oxford who have meant a great deal to me. One was A. J. Carlyle, a very great scholar in medieval history and political theory, and my wife's tutor. My wife was a Wellesley graduate, who'd gone to Oxford for graduate study. Carlyle, as a medievalist, was wonderfully learned in Italian literature and history, and he and his wife were in Florence on our first visit to Italy, the visit of Scofield, Wilcox, and myself. It was quite wonderful going about Santa Croce and Santa Maria Novella with Carlyle to interpret the historical Ghirlandaio pageants painted on the walls, or to discuss the Giotto frescoes at Santa Croce. Carlyle was a widely learned but very modest man--I really think as a personality much finer grained than the more

Dennes: confident and impressive people like Vinogradoff and J.A. Smith, who were also my teachers. All these are now dead, Smith, Vinogradoff, A.J. Carlyle. But we still see, when we are in England, and we correspond with, "the Carlyle girls," about my wife's age and mine.

Hamish Paton, a philosophy don at Queens College and a friend of J.A. Smith's, was then a proctor. He took me walking a time or two and had me to one of those delicious Oxford breakfasts of chicken and so on--Sunday breakfasts at Oxford were very delightful and very nourishing affairs. I had a letter from Paton a few days ago. He lives in retirement at Saint Andrews in Scotland. Paton was a Kant scholar and came to Berkeley for a summer session and returned once or twice. He gave the Foerster Lecture here.

Whether Oxford still has proctors as it did in those days I don't know, but there were two proctors, the senior and junior proctor, who were to look after the behavior of the students, the undergraduates, in the town of Oxford, particularly at night. When I was matriculated, I was struck by a book in the Sheldonian Theater by the vice-chancellor of the university [laughter]: tapped by a book, as a queen taps one of her subjects with a sword when she makes him a knight...

Did you by any chance see the cartoon a year or so ago in which the queen had tapped with a sword a long-haired subject who was kneeling before her, and she then said, "Rise, Sir or Madame, as the case may be." [Laughter] Having conferred a title on the subject, the queen was being cautious because she couldn't tell whether it was a man or a woman who was kneeling before her.

...Well, I swore to obey the regulations, which included not to play marbles in the Bodleian Library and not to shoot arrows in the High Street, not to speak to a woman, unless to relieve a necessity--if a woman were run over by a cart, I suppose I could pick her up. [Laughter] And every Oxford student, every undergraduate, had to wear his gown, and either a mortar board or nothing on his head--no hat or cap. You had to wear a gown when you were outside your college at night so that the proctor could quickly tell students from townspeople.

Dennes: All the places where liquors were sold were out of bounds, and an undergraduate would be "progged" if caught. The proctor, as a don, a fellow of a college, would of course not run to chase a naughty undergraduate running from him, but he had some bulldogs, some paid servants in bowler hats, and he would tell one of them: "Get his name and college." The rule of the game was that if the bulldog man could catch you, you were honor bound to give him your name and college. If you could run faster and get away, all right. And if he got your name and college, then he gave it to the proctor, and the proctor would have you up to the proctor's court to fine you a pound or two if you'd been at a pub, whether or not you were drinking beer at the pub. If you were at a place that was out of bounds, you were violating a rule. Now whether this has been given up at Oxford, I don't know. A few years ago it was still going on.

But Paton was proctor, and when I first met Smith and him together (I'd already met Paton), Smith introduced me, and I said, "Oh yes, I know Mr. Paton," and he said, "Oh, you've been progged?" and I said, "No, I met him at the Philosophy Club." To be progged is for a proctor to haul you up in his court to penalize you for some mischief, like playing marbles in the Bodleian. [Laughter]. Well, Oxford holds on to its traditions. No doubt there was a time when if not playing marbles in the Bodleian, then shooting arrows in the High Street might be the kind of mischief that an undergraduate would be tempted to be up to.

But my own college, Corpus: I mentioned the fact that our president stuck to tradition to the point of still wanting two or even three rooms for each of his undergraduates. It was the tradition at Corpus not to speak, not to say "hello" or "good morning" to one's fellow members, not to speak unless one had something to say. At a small college of sixty or eighty people I suppose it was rather reasonable. I mean, you'd be saying "good morning" all the time if as you went through the quad you said "good morning" to everybody you knew, because you knew everybody in the college. But after life in an American university, life in a fraternity, where your acquaintances were called Bill and Jim from the first meeting--at my college at Corpus you

Dennes: might have dined the night before with other members of the college, and the next morning as you walked through the quadrangle, they would pass you with unseeing eyes; they wouldn't say "hello" or anything. This is an example of the persistence of tradition in Oxford.

They were very kind, very hospitable to a stray American. On the other hand, they stuck to many traditions which seemed very severe to me, as to any American.

Marriage, in the Church of St. Peter's-in-the-East

My wife and I were married in the parish church within which my college stands, the Church of Saint Peter's-in-the-East, a very ancient church with a Saxon crypt and a Saxon foundation. I was very busy finishing my doctoral dissertation, and so we decided to save ourselves the time and money of going up to London and getting the American Embassy to issue a license to us two American citizens to marry. The alternative was to have banns read in the church where we were going to be married.

You may not know about banns. They are read on three successive Sundays, and the parson who reads them announces that Bill Jones, a bachelor in this parish and Mary Smith, a spinster, propose to marry on such and such a date. "Is there any reason why they shouldn't? If anyone knows reason why these two cannot legally be joined in matrimony, let him come forward or else forever hold his peace." For three Sundays running this notice is given, and if nobody intervenes, the parson is able to issue you a license to be married.

Well, one of my English fellow students, Harris, now dead, intervened, rose--I didn't go to church very often, the college chapel was enough for me--and said that we were clearly too close of kin. We were very similar in color. (I was then quite blond.) [Laughter] I don't know whether we otherwise looked alike. Well, I talked with the parson, and he finally took this as the joke that

Dennes: it was, and he discounted it--although to prove that you're not in one way or another cousins, natural or other, which is what Reggie Harris, my fellow student, alleged, would be very difficult, wouldn't it?

Ariff: Yes, you'd have a lot of letter-writing to do and so on to try to substantiate it.

Dennes: I don't really know how you would do it, if "natural cousinship" was included [laughter] in the possibility.

But we were married there and went off by train to Salisbury, and I remember being bothered by a piece of rice that had gotten into my ear. We'd been pelted with flower petals and rice as we left the church, and in the little inn, the George Inn in Salisbury, after we had registered, but before dinner, I asked the room clerk if he could--I don't know whether they're called that in England--anyway, manager of the hotel, if he could recommend a doctor, that I had been married that afternoon, or that morning, and had some rice in my ear. With complete poise and as if getting rice in your ear was the natural course for a bridegroom [laughter], he said, "Oh, yes. I can recommend Dr. So-and-so, who is a fine aurist." So I walked over to Dr. So-and-so. (I guess the rice had gotten moist from the wax of my ear, and began to swell and feel uncomfortable.) The aurist sat me down facing his bookshelves which were filled with books of Immanuel Kant. He had come to Berkeley as a young man to study Kant with George Holmes Howison, the founder of the Berkeley Philosophy Department. This was a most extraordinary coincidence, I thought--but what impressed me most of all was the way in which the hotel keeper without snickering or giggling took it with complete aplomb as if of course it was the most natural thing in the world to do, have rice growing out of your ear. [Laughter]

Six years later, when I had my first sabbatical leave from Berkeley, we applied for a passport, which in those days you did through the Federal courts. We went to the clerk of the court in Oakland to apply--my wife and I--and we brought our birth certificates, and pictures of ourselves and our two-year-old boy. He asked my wife for her wedding certificate, and she said, "Oh, that burned

Dennes: up in the Berkeley fire." The clerk said well, he was sorry, but in his eyes we were little better than friends. [Laughter] It was only as I left the courthouse that I realized I should have answered, "Well, isn't that doing pretty well? Some people are not better than friends by the time they've been married six years." [Laughter] But by the grace of the Church of Saint Peter's-in-the East, I was able to have a certified copy of our marriage certificate sent.

Saint Peter's-in-the-East appealed to me some months ago for money to repair the fabric. I'm not a great builder of churches, but I must keep that church standing, because my wife's honor depends upon its [laughter] still being in the record that we were married there. And I'm sure it may rot and fall into the earth, but it will never burn down, because the damp stone of that ancient church, partly Saxon, is certainly not going to burn.

More Oxford Friends

Alden Miller was another English friend. And some of the men now dons at Oxford and reaching retirement like Gilbert Ryle and H.H. Price, were men I was acquainted with. It's been a help over the years, as I've had reason to correspond with them about their work or mine or about sending Berkeley students to England to study--it's been a real help to have known them as fellow students years ago.

When Ryle (among other things he's now editor of Mind) retires in 1968, he wants to visit us in California--I hope he can.

Ariff: Mind is a scholarly magazine?

Dennes: Yes. There was once a Christmas number, a satire on Mind, published with a format that looked like it but with an exclamation point after the word, Mind! and full of jokes.

Dennes: When Ryle visited us some years ago--he'd been in Australia and flew across the Pacific by Quantas--I picked him up at the airport. He wanted to see something of the Pacific shore. We drove along the shoreline road and at one point digressed to go into the country a little way, and, by George, with him so very English as he is, riding with me and our talking philosophy and talking about what was going on in England, coming to an intersection I followed the left-hand rule of the road, as in England. There was no traffic, nothing happened. But I told him that, "You see, wherever you are, it is England." Do you remember Rupert Brooke's poem? That a hero of the First World War wrote:

> If I should die, think only this of me:
> That there's some corner of a foreign field
> That is forever England.

[Laughter] So wherever Ryle was, was England. And you can see that my acquaintances who went on to be philosophers in England still have a good deal of influence on me [laughter] in the sense that driving with one of them, I reverted to the left-hand rule of the road.

Paton, whom I mentioned, went to Glasgow as Professor of Moral Philosophy, then back to Oxford as Whyte's Professor, and finally retired and married only in his sixties, a wife who died. Then he married again, and we met the second Mrs. Paton when we were last in Scotland. She was a very great gardener, and I thought how delightful for the two of them to be living at Nether Pitcaithly, Bridge of Earn, near Saint Andrews, and gardening in their old age; but she died a year or two after that. So he's again alone; he's now eighty, still very active in writing. He tells me the next letter I have from him will certainly be from the Tower of London, where he will be in prison because he's bringing out a book highly critical of England's treatment of Scotland and of Parliament's handling of the Scottish universities, which he feels have very different virtues and very different needs from the English universities, and have not been treated fairly, so that he's sure the Queen will order him imprisoned in the Tower. [Laughter]

He complains of the contraband laws and of the heavy excise taxes on whisky, which taxes amount to

Dennes: 100,000,000 pounds sterling a year, and which encourage other countries to tax Scotch whisky at higher and higher rates. He is sure the taxes are going to kill the goose that lays the golden egg, that Scotch won't be bought and drunk abroad as much as taxation increases at such a terrible rate. He added that his own personal grievance is that he now pays 50 shillings for what he used to get for two and six. Well now, he's eighty years old and goes back before the First World War, but I can't think that at any time you could have bought a bottle of good Scotch or any kind of Scotch, for two shillings and sixpence. Maybe his pen slipped, and that should have been a seven and six, nine and six, or something of the kind. But that inflation has gone on and that money doesn't buy what it used to is certainly obvious to all of us.

Assessing the Oxford System of Study

Ariff: I was wondering if there was anything else you wanted to say about your time at Oxford. One question I have is what do you think of the system of an individual studying by himself the greater part of the time, in vacations and so on, and then relying very heavily on examinations at the end of the whole thing, this system as opposed to our system of continuous lectures and little examinations along the way?

Dennes: Oh, I think it has very great virtues, but for an undergraduate, a real undergraduate--you see, I came already with a year of graduate study here under my belt--for a young fellow who comes at sixteen or seventeen to the University, one runs a terrible risk in having one tutor in charge of one's work for a year or two and then another for another year or so, in the sense that if one gets a first-rate tutor, it's fine: no method of teaching could be better than the individual guidance and constant discussion, writing essays and getting criticism from the tutor who also advises you what lectures to listen to and what to work at. But two things: one, of course, it is

Dennes: terribly expensive--to have individual tutors for 27,000 students would require a faculty ten times the size of ours, I guess, or five times the size of ours; and the other thing, if you are at an American university and attend classes taught by a variety of people, there is a good chance that on the average you'll have some darn good teachers.

If you get a poor tutor--and there are poor tutors at Cambridge and Oxford, some who simply go to sleep as the student reads his paper and then assign him a topic for the next week--if you get a poor or a misleading or a crotchety tutor--and you see, those fellowships are for life at Oxford, so they can't be removed, short of insanity or gross criminality--you are out of luck. A fellow of an Oxford college has tenure of a kind that can hardly be imagined. And, of course, there's almost no promotion. There are a few professorships, but in philosophy there must be, or were in my time, about eighty fellows, eighty dons, teaching philosophy, eighty fellows of colleges, and only four professors of philosophy, so that most of the dons would never have any idea or any hope of being made professor. Most wouldn't want to, if they liked teaching, because the professor simply lectures occasionally, and the tutor has this highly individual relation with his individual pupils. But appointed for life as they are, it is terribly hard ever to get rid of one of them, and if you're assigned a tutor, it's terribly hard to change.

Ariff: In other words, a tutor is rather like an advisor here, in that he advises you about all of your courses, not just one.

Dennes: About everything, and not only advises you, but teaches you in the sense that he assigns an essay for you to write every week. And the major part of your work--you gather something from the lectures and so forth--is the study that goes into these essays. If the man is less than first-rate, you are saddled with working for the most part with a less than first-rate tutor for a couple of years. At its best, it is the best there is; but there are considerable risks.

My intellectual and moral tutor, Mr. Schiller, spent his time largely complaining to me about what scoundrels the Oxford philosophers were and

Dennes: predicting that the next world war would be between China and Japan and we would side with the Japanese and the English with the Chinese, or was it vice versa? Well, these were the kinds of things he liked to talk about, and although he was a bright man, to have had my education entirely in his hands for more than the six weeks before I changed over to doing doctoral studies under the guidance of the men I named would have been not a catastrophe, but just a sheer waste of time. So that was one example of a man who certainly was bright but who would have been a very poor tutor for me. I don't know what I would have done. If my intellectual life was largely discussion with him, it would have been, I think, a complete waste of my time.

When I came here, instead of being a tutor of one pupil at a time, I began teaching four courses right off the bat: a course in Plato, a course in mathematical logic, a course in social philosophy, and--what in the deuce was the other? Was it Immanuel Kant? I used up what I knew terribly fast. I mean, I would plan lectures that I thought would last two or three weeks, and I'd use up the material in one lecture. [Laughter] We now have much more reasonable teaching schedules in Berkeley than then, but the Oxford system is certainly a lot better than the California 12 hours a week of lecturing which I was expected to take on when I shifted from being a Rhodes scholar to being an instructor at Berkeley.

Ariff: Putting things on a very simple level, I guess that essentially this is why they're able to maintain a system like that in England, where education is for the few.

Dennes: Yes. Of course, they're trying not only to open up Oxford, Cambridge, Edinburgh, the ancient universities, to more people and make national grants of money to support them in that, but are developing a lot of new universities in England. But Oxford and Cambridge in my time were able to do what they did because, as you say, higher education beyond school was something that only a very small minority had a chance at.

Of course, English schools are excellent, certainly in classics, so that boys who had been

Dennes: at good schools, so-called public schools, not public really, would come with a very fine knowledge of Greek and Latin, much better than most any of our graduates of American universities had. The man who had only had school in England often had an education in many areas even more thorough than he'd get in an American university. Consequently, the fact that few got to the universities wasn't as serious as it would be here.

Ariff: That's a good point. Perhaps when we get to later days here, we might mention the tutorials that have been introduced here on campus in recent years.

Dennes: I wish I knew more about them. You see, I retired about the time they were introduced. [Laughter] Maybe you can tell me about them.

Travel in Germany, Summer of 1921

Ariff: Is there anything else you'd want to mention about your Oxford days?

Dennes: Oh, I think I ought to say that besides getting to know Italy, being a student in England gave me the possibility of vacations in Germany and vacations in France. And this was a very great thing for a California rustic, not merely to pass through, but to live and work and study awhile in Germany. France, I came to know less, partly because I was so fond of Italy, and I hurried down there whenever I could on vacations.

That first summer after work in the British Museum, three of us went to Germany. First I went up to the north, Schleswig-Holstein, to visit the brother of an elderly friend of mine who migrated in 1948 to Sonoma County, a person who wanted to keep out of the German wars; his elderly brother had a farm at Husum bei Garding up in Schleswig-Holstein: country very like Holland, low, flat, lots of great windmills to pump for irrigation and other purposes. A couple of days in a farmer's house in Schleswig-Holstein were very entertaining.

Dennes: We men sat of an evening with our long-stemmed pipes with their bowls on the floor, talking men's talk while the women would bring us sausages and beer, and not take any part in the conversation. Very fine appreciation of the dignity and importance of the masculine!

They told me that they could dress the vanes of the windmills that were dotted over the valleys in such a way as to indicate that there had been a marriage or a birth or a death. Then farmer to farmer would have to fill in details, so that if in the Schmidt family it was a birth, his windmill would be dressed in the way that mills were dressed so that people would ask who was born. He would tell his neighbor, who would tell his neighbor, who would tell his neighbor, and by this method of over-the-hedge gossip most of the local news was distributed among these farmers. It was Theodor Storm's country, and I had always very much liked the stories and the poems of Theodor Storm, and I loved seeing their setting.

Then I came back to Frankfurt to join my friends, an Englishman and an American, a gallant young scholar from our Southern States, with whom I was going to Heidelberg and Freiburg and to walk in the Black Forest. They had gone on to Heidelberg and left me a note saying that they were sorry, but my gallant and romantic friend simply couldn't stay in Frankfurt. He had been there in the Army of Occupation and he thought nearly all of the two and three year old boys and girls he saw about were probably his [laughter], so he got to feeling an unbearable sense of responsibility and thought he'd better go on to Heidelberg.

We were in Heidelberg a while, and then we walked in the Black Forest from Freiburg--beautiful country--and my Southern friend was able to make everybody do wonderful things for us. The inn on the Feldberg was closed. He explained in his grandest manner that we had come from America to see the dawn over the Alps, and he was sure that they would open up a room for us. And they did.

As we returned to England, we had to change trains at Mannheim, and there were three or four hours to wait. "Lohengrin" was being sung, and we thought we'd go to the Staats Oper to hear it.

Dennes: We went, but got into the building in the middle of an act. As is the rule in Germany--and now more and more the rule here--you weren't allowed into your seats in the middle of an act. It was an old opera house with boxes along the walls with a doorkeeper with a key and a woman cloakroom attendent who told us we'd have to wait for the interact to get in. My grand Southern friend, who thought no woman could deny him anything, rose to his full magnificence and said in German, "Ah, but we have come from America to hear this 'Lohengrin,' and I'm sure you will let us in."

She responded, "Gott in Himmel, Marrokaner!" She thought he had said, "Moroccan!" The Moroccans had lately been used as occupation troops by the French in the Rhineland and were not popular among the Germans. He was very flattered, for he thought when she said with astonishment, "What, Moroccans?" she was saying "What, Americans?" because she couldn't conceive of Americans being such cultivated and distinguished gentlemen as my friend. So he insisted that we were, and she said, "Well, maybe you are, but not these two." (My English friend and I were not brunet--he was a redhead, I was quite blond, and my gallant Southern friend was very brunet.)

I realized that she was understanding him to say not "Amerikaner" but "Marrokaner" and thought we were Moroccans. When I told him this, he asked me to please hold onto his arm because, although as a Southern gentleman gallantry to women was deeply ingrained in him, also the tiger impulse comes out with any suggestion of the tar brush. I mean that, to take him for a Moroccan, with a bit of dark blood, would be the kind of insult that made him dangerous. So he asked me to hold him until the seizure passed. I held on to his arm and carried his walking stick. The seizure passed, the interact turned up, and we got into the opera all right.

[Interview # 4]

BERKELEY, 1923-1930

Dennes: We came to Berkeley in 1923, and I began teaching four courses, 12 hours a week. (Schedules are so much more reasonable now that I can't help wondering that we could have done justice to twelve lectures a week.)

Neopositivist Movement

That period, from 1923 until the war, was very lively philosophically in Berkeley. The visiting Mills professors included such men as John Dewey and Fredrick (F.J.E.) Woodbridge, Perry, Hocking, Mary Calkins of Wellesley College. Moritz Schlick was here from Vienna in 1931-1932, if my memory is right.

There was a great deal of excitement in philosophy produced by the positivist stir, the neopositivist movement. Indeed the conflicts between those who supported positivist views and those who rejected them were often quite violent, although I think all of us personally were good friends. It was perhaps possible for me to avoid a good deal of conflict because it seemed to me that the positivists were only rediscovering insights which Hume and Leibnitz and Santayana had developed, to mention a few of those who thought that necessary truths were all analytic, that there were no truths of matter of fact that were necessary truths, and that beliefs about matter of fact were at the most probable if they had any generality at all and referred to anything beyond

Dennes: evidence immediately possessed. And indeed, even in that case, if they classified--as they would, by describing immediately present materials--if they classified them, named them, they would be dealing with similarities that went beyond immediate experience.

I had appreciated the teaching of Platonists, like Professor George Adams, and also of naturalists like my great friend, David Prall. The effect of such opposite admirations as mine for these men had at an early stage led me to appreciate enormously the moral insights of men like Plato and Aristotle and a great deal of their theoretical work at the same time that from Democritus down I felt the naturalists were right in holding that there was no way by which one intelligible form from among the myriad of possibilities could claim to be intrinsically pre-eminent in excellence and pre-eminent in reality, that any such claim would be an expression of affection or approval by the man who selected from the infinite possibilities the particular structure to describe as the really real and the ultimately valuable. Owing as I did a great deal to Plato and Aristotle and to Immanuel Kant--and Immanuel Kant also had a big positivist streak in him, thinking that beliefs about phenomena could not go beyond the experienceable--I did not find the positivist revolution anything like as novel and original as the enthusiasts did.

But I thought the positivists were right in taking, as Leibnitz had taken, synthetic judgments to be contingent and incapable of demonstration as necessary truths, and necessary truths as being reflections of definitions and essentially analytic or tautological. However, this very exciting period, in which there was so much conflict, made work in philosophy very lively, and the companionship of men like Edward Tolman in psychology was certainly very, very stimulating, instructive, and valuable to me.

Edward Tolman

Dennes: I've already mentioned how much we owed to the physicists and chemists and biologists at Berkeley for making us see the content and point of many fundamental philosophical problems. Edward Tolman was engaged in a very heroic attempt to deal empirically, and indeed behavioristically, with purpose, with values, with cognitive activity, in a way that was scientifically objective but also would do justice to these. I shall never forget Tolman's struggling with the notion of intervening determinants. You see, given the same stimulus sometimes an animal will behave one way, sometimes another. Well, is there a mental process that makes this difference, an intervening determinant? Tolman would admit that there is no reason to think that the stimulus-response relation would have to be absolutely uniform, that variation was unreasonable or not actual.

But just as many of our critics in physics couldn't see how quantum theory could be correct, couldn't see how a physical particle could change its orbit or its energy level unless there were an impressed force, so Tolman had difficulty in giving up the intervening determinants, distinct from observable stimulus, observable conditioning, and observable response, which could be appealed to to explain why people handle similar situations so differently. But he was very honest about this. He admitted that you would give an equally adequate account of the variations of human behavior without any reference to these intervening determinants. He thought that speaking of them tended to be stimulating to men like himself to look further, but what--when we criticized him--he admitted finding when he looked further would simply be more physiological factors, more conditioning, more stimulus, more evidence of basic needs.

This kind of thing was very fascinating: a very able psychologist, one of the leaders in the field in the world, falling just short of being an empiricist or positivist because he felt that speaking of intervening determinants between observed stimulus, observed conditioning, and observed response

Dennes: was stimulating him to look further into the differentiating factors, which if they were observed, or if they were inferred from evidence observed, would still, he thought, have to be regarded positivistically.

Tolman was a most lively, friendly, and a very stimulating person. I shall never forget the time when he came to tell me the Platonists were right and the Hedonists mistaken. The rats that he had run through the maze, and who improved their performance, made fewer and fewer mistakes, exhibiting the regular improvement in the plateau of achievement that is the usual learning curve. These rats were all rewarded with porridge or cheese or whatever at the end of their journey through the maze; and another hundred rats were run everyday for a month without any reward, and these did worse and worse. They would go to sleep on the way through the maze. They did a very poor job of learning the pattern of the labyrinth. Then on the 31st day he rewarded the hitherto unrewarded rats, and within the next day or two they turned in a performance as good as the rats that had been gradually learning and had been fed every day.

Tolman insisted that these unrewarded rats were Platonists who had contemplated the structure and geometry of the maze and who, when there was reason to use their knowledge, used it. Hence that though man may be Hedonists, rats at least are Platonists. This was typical of Tolman's play of imagination. Of course, this discovery, which supported his whole theory of latent learning, was quite important; but his lively way of reporting it to his friends was typical of Mr. Tolman.

Reminds me of a time at Harvard a few years after this. Two physiologist friends came, out of breath, to my rooms at Leverett House, when I was teaching at Harvard, to tell me that they had discovered what thinking is. These physiologists had inserted needles, not just under the scalp, but into the cortex, of one of their friends. The needles were attached to an electrocouple, and as the man solved more and more difficult problems in geometry, the electric differential rose. So these friends of mine came to tell me that problem solving, thinking, is a change of electric potential

Dennes: in the brain. Well, this is the kind of thing that always interests philosophers and makes them feel they are some use even to very able scientists, because one had to point out that what the physiologists had discovered was another factor that correlated with problem solving, but that to identify one with another was like identifying crossing the Atlantic with coal, or the blossom of a rose with the fertilizer that you had spread on the rosebed.

The psychologists, biologists, physicists, mathematicians, have always been, as they ought to be, a source of very important materials to teach philosophers, and to set philosophers to work solving problems in the theory of knowledge. This exciting period at Berkeley, when there was all this conflict that I spoke of, was a period in which we trained some of the very best students that I have known in philosophy anywhere.

Who the Students Were

Ralph Church, one of my first pupils, later taught at Oxford, was a professor at Cornell and is now retired. I'm sorry to say he retired very early. Of course, he has the misfortune to be very rich, lives in a beautiful house and garden in Santa Barbara. Some months ago to his surprise the customs office in Los Angeles told him to come down and clear a cargo. Before the last war began he had bought twenty-three or four of Gertrude Stein's pictures. The war came, and we all knew that the Germans were very fond of French Impressionist pictures, and he thought that they would either have simply taken these or purchased them and that he'd never see them. But here years afterwards they arrived, and he now has these Tchelichevs and Cezannes and Picassos and Miros and Utrillos on his walls to enjoy--not pictures, I'm sure, of the very first water, but very, very interesting pictures indeed.

Church was one of our pupils in that period. Another was Albert Ramsperger, who is now a professor

Dennes: at Wisconsin. David Rynin, who is professor at the University at Berkeley. Isabel Creed, one of the ablest logicians and philosophers I have known, now Mrs. Hungerland, and until last spring a professor of philosophy at the University. She, of course, retired long before the ordinary retirement age, but with a little boy to bring up and an estate in Ireland to enjoy and look after, there just didn't seem time for teaching. We shall all miss her a great deal.

Bill Craig, William Craig, was a student in this period, and Karl Aschenbrenner, both professors at Berkeley; Bob Yost, now a professor at U.C.L.A.; Lewis Hahn and Willis Moore, professors at Southern Illinois; Kingsley Price, now professor at Johns Hopkins; Wallace Matson, professor at Berkeley; John Reid, later head of philosophy at Stanford, and now professor of psychiatry and the philosophy of medicine at the University of Maryland. These are some of the names that occur to me of the very able people that were graduate students in the period between 1923 and the Second World War. I ought also to mention Paul Marhenke, only a year younger than myself but a graduate student for a year or two in this period. He then took his doctorate and became a member of our staff and was certainly a very effective and influential teacher and a fine logician. Paul Marhenke died in 1950 at the age of fifty-one, a very great loss to all of us.

I should also mention two more able men, who are no longer living, in this list. Arthur Murphy, who taught here, became a professor at Chicago, at Cornell, and finally at Texas; and Celestine Sullivan, who was certainly a good deal of a saint, who had grown up in the Roman Church, moved with Santayana into a pretty high degree of skepticism but returned to the fold of the Church by the time he reached middle age, and very unfortunately died two years ago.

Well, they were a wonderful crop of graduate students who have done themselves credit and have done the University of California credit and who developed in those years when the conflict between traditionalism and positivism was so very intense at the University.

Dennes: Then in 1935 when I was visiting professor at Harvard, I came to know Van Quine who was then candidate for the doctorate in philosophy. Van Quine certainly ranks with the ablest people I've known in philosophy: I mean the whole group of students that I have known and taught in this country and that I've known in Europe. Some would say Van Quine somewhat outshone our Berkeley logicians. He has contributed certainly more than any other man of his age to logic in this country.

The Philosophy Department

When I first came here to teach, Mr. Adams was chairman, and after some years, Mr. Loewenberg, and then in 1941, to my great surprise, while I was engaged in celebrating Stanford University's fiftieth anniversary, Mr. Sproul phoned me to ask me if I wouldn't be chairman. But that was the series of chairmen from 1923 until I became chairman in 1941.

Ariff: When you came in 1923 after leaving Oxford, was this something that was arranged beforehand, before you went to Oxford; or while you were there, were you called here?

Dennes: Before I went to England to study, some of my teachers here were kind enough to say that they hoped very much things could be worked out so that I could teach in California. And I was delighted with that prospect; I hoped it would turn out. But it was a year and a half before I took my doctorate that the President of the University, Mr. Barrows, wrote me to say that they wanted to offer me an appointment to teach at the University. I was offered some other appointments in other universities, but I was delighted to come back to my own university.

This depended a great deal on the good will of my teachers here. Professor Adams was on sabbatical leave in England during my second year in England as a Rhodes scholar. We saw a good deal of him, and he saw something of my teachers at Oxford. I imagine they said something more than the best that could be said about me. Anyway, I was by this time

Dennes: engaged, and my wife met the Adams family to whom we remained devoted. They were over in England living in Hampstead Heath, seeing a great deal of people like the Tawneys. Their three children were, I suppose, aged from about fifteen down to seven or eight.

It was at that period that their eldest son, George, Jr., had rheumatic fever, which concerned them a great deal. But he made a thorough recovery and is now a professor of economics at Cornell. The younger son is an eminent neurosurgeon in San Francisco, professor at our medical school. The daughter is married to a Swedish sea captain, which has given her an interesting life, but her husband has had to be away a great deal as captain of a merchant ship. Of course, with young children to bring up she couldn't make voyages with him very often.

Ariff: I see that you were instructor for a year, and then in 1924 you became an assistant professor. What were you teaching in the early days?

Dennes: My first year I taught in the autumn a course in Plato, a course in mathematical logic, a course in social philosophy, and a course in "Present Tendencies." When my books all burned up in the Berkeley fire, my master's thesis in symbolic logic, which I was counting on very much to use in that course, the one copy in existence, burned. I had borrowed it from the library, probably against the rules, but they let me have it.

The next term was pretty much the same except it was Aristotle instead of Plato. Mr. Loewenberg was going to be in Europe, and I taught Plato, Kant, symbolic logic, and social philosophy. And, as I said, any one of these courses could have absorbed my full time in preparation, so I can't think that I did these great men,and great subjects, justice, but I did the best I could in the time I had.

The burning of my books was due to my slightly naughty behavior. My wife and I had insured our books and belongings, which we shipped by freight through the Panama Canal from England to San Francisco. In August they were on the docks in San Francisco and were at the bottom of a great mountain of freight. I gave some of the handlers a gratuity of

Dennes: ten dollars to dig down to my stuff, to get it out so I'd be able to unpack it before the term began in Berkeley. Well, if I hadn't done that, the books would have been safely on the foggy wharf in San Francisco instead of in our house in Berkeley. [Laughter] And we hadn't yet taken insurance on things in Berkeley. The fire occurred on the 17th of September, 1923, took our books, the pictures, including some etchings my wife had got in Europe, her trousseau, and so on.

But we experienced the relief that people always remark, that with all your goods and chattels--and unanswered letters--taken off your hands you do feel a certain sense of freedom; though as I say, I had counted on some of the notes and on my master's thesis in symbolic logic to use in teaching that autumn. But possibly, making a fresh start was healthier. I don't know.

Ariff: Where did you live at the time?

Dennes: We lived on Buena Vista close to the corner of La Loma. We had rented for the year the house of Professor Pepper, who was away on leave, and it burned down after we had been there about a month. My wife's brother, who had been in the Forest Service, managed to get a lot of the furniture, the Peppers' furniture, out and put under a willow tree. And that escaped the fire. But the stuff that my wife took out of the house apparently burned up on the street. The heat was very great in those streets. It was a remarkable thing that nobody was injured, at least nobody was fatally injured, in that fire which burned several hundred houses in a few hours in Berkeley.

It came diagonally across the streets, the block pattern, so that most people would have had the choice between two streets on which to run away from the fire. A little island right next to us was saved, where the Pralls lived and the Wells's house, which was later Alexander Meiklejohn's, and the Lawson house.

President Campbell

Ariff: When you came, David Barrows was President?

Dennes: Yes, until July 1 or June 30, 1923, when Mr. Campbell took over. So that it was Barrows who invited me, but by the time I got here he was replaced by President Campbell.

Ariff: I see. And then Campbell was President of the University until 1930.

Dennes: Seven years, yes. Oh, I should have mentioned as one of the extremely able students we had at that time, Donald Williams, who later became professor at Harvard and is now retiring to live in southern California. And I wanted to mention the story of Donald Williams and the 1923 Christmas number of the Occident, our college literary magazine, because it involved us all in quite a controversy with President Campbell. Donald Williams had contributed a story to the Occident, a story which included the statement that God had set a star in the East as a lamp of assignation for the Virgin Mary. Donald Williams was a very innocent, poetic youth with a fresh mind and imagination, and I'm sure that he meant nothing horrendous by having God place the lamp of assignation in the sky.

But this horrified President Campbell. I never knew whether it was as an affront to the Deity, as an affront to the Virgin Mary, or whether it was as an affront to his stars (since he was an astronomer) that he was so angry that one of the stars, the star in the East, should have been described as a "lamp of assignation." His immense eyebrows beetled, rose and fell, and he was almost speechless with distress at this terrible violation of good breeding, good manners, and fundamental decency. So he took away Donald Williams' fellowship. He didn't dismiss him from the University, and the philosophers were lucky enough to find friends who would help them out in assembling enough money to replace the income from the fellowship so Mr. Williams could carry on his studies undeterred by the President's furious disapproval.

Ariff: Do you have any other memories about President Campbell?

Dennes: Well, he was a most conscientious man. Indeed, the Williams episode, while it would raise questions about his esthetic taste and judgment, would indicate how terribly anxious he was to see people working effectively and happily and conscientiously. He had a lot of the best of the Puritan in him, as well as, I'm sure, some of the difficult traits that go with the Puritan temperament.

My wife and I always enjoyed what we saw of him and Mrs. Campbell. And it seemed a great shame that his last years should have been marred by senility, as President Wheeler's were. When I came back here to teach, President Wheeler had, I guess, been burned out of the house that he and Mrs. Wheeler were living in. Friends on Ridge Road had a very pleasant cottage in their garden beside their big house, and the Wheelers moved in there. But I would see him sometimes on the campus and talk with him. He was sometimes under the impression that this was the Massachusetts Institute of Technology in Boston. And it is always sad when nature kills the mind before it kills the body, and the body and the voice of a person goes on, but the characteristic temper and personality are no longer there.

Mr. Campbell was a very thrifty person himself by temper, and all of us on the faculty quite naturally thought that, in a period when salaries were increasing substantially at the best universities in the country with which we would like to compare ourselves, he was very backward in feeling that the state should not be asked to support the University as generously as we thought would be in the real interest of the state. But it would be very hard to know whether we were partial or impartial [laughter] when it comes to judgment of that factor.

Salaries During the Depression

Ariff: It was in the 1930's, wasn't it, that the University had quite a financial crisis? That was after the Depression.

Dennes: Well, during the Depression, yes.

Ariff: Did the crisis begin before the Depression?

Dennes: Well, we had a pretty low salary scale, certainly, so that when it became necessary to make Depression cuts, the salary scale at the University was very much lower than that of the competing universities. But I was associate professor at Yale, 1932 to 1933, during the period of the Presidential election in which Roosevelt was elected the first time, and that was pretty much the depths of the Depression. The banks closed early in 1933, and our Senate Budget Committee, as I may have told you, seemed to me to have worked magnificently at that time. Other universities were dropping non-tenure staff; their income was so heavily cut. At Yale, where I was teaching, I was assured that as an associate professor, if I would stay on, my salary wouldn't be cut a penny until all the instructors and assistant professors had been dropped.

At Berkeley President Sproul very unwillingly had thought he would have to drop non-tenure appointees, but the Budget Committee worked out a plan by which the instructors' salaries would not be docked at all and everybody else's salary would be cut in whatever they got above $2400, which was the basic instructor's pay, and cut more sharply the higher the salary. And all of our professors except two accepted this; two full professors of great eminence thought that they had a contract with the state, and they would not submit to such a cut. Although the University faced a financial crisis, precisely this handling of it was a big factor in my coming back from Yale and not staying there. I greatly admired the faculty and the President, who took the faculty's advice, the Budget Committee's advice, for adopting the policy that they did.

Dennes: I must say in behalf of Yale that they didn't like dropping the younger men. They had worked hard to get the salary scale as high as it was. They thought they ought to maintain it, and the only way to do that was to drop non-tenure members of the faculty. But many of the people who stayed on and weren't dropped proceeded to employ the dismissed younger men as research assistants and so on, so that Yale was by no means insensitive to the predicament of the younger people who lost their appointments.

But I did think the California way, the Berkeley way, of handling that problem was magnificent.

Guggenheim Travel, Germany, 1929-1930

Ariff: I noticed that in 1929 you were given a Guggenheim. Could you tell me a little bit about that?

Dennes: Well, I wanted to reconcile some basic philosophical conflicts. In fact, the reconciliation of conflicts is probably the dominant motive of my life and work in philosophy, and I daresay a psychologist would find this very suspicious. He would think that I must as a child have suffered greatly if the adults around me ever quarreled, and hence [laughter] my impulse to resolve conflicts.

The work of Whitehead and others and the interpretation of Einstein's theory were commonly regarded as completely wiping away the Aristotelian conception of substance and replacing it by process or event. I had learned, I thought, a great deal from men like Whitehead; and indeed, I think the factor of process is fundamental to existence. But I also thought that our great contemporaries were misunderstanding Aristotle. Whitehead was always treating Aristotle as if he were the great enemy of process philosophy; whereas, I thought that Aristotle regarded the material cause of substances as the factor that made change possible and showed itself as change, and that there was this factor in all existence except God. Consequently, I was very eager to look into contemporary philosophical work

Dennes: in Europe on the conception of substance and talk to the Aristotelians in England and Germany and try to make out that Aristotle's conception of substance, far from being polished off, rendered nugatory, rendered worthless, by recent process philosophy (though there are ways in which we'd want to improve on it), provided very adequately for process.

It was this program of work that I mentioned to the Guggenheim Foundation, and they gave me a fellowship when I had a year's sabbatical leave from the University. My wife and I went with our little boy over to Munich, where we settled down. Some of the teachers that I most wanted to see there had migrated to other universities the summer before I arrived, and one of them died; but it was a very active place philosophically.

However, one of the things that impressed one most in Germany in 1929 and 1930 was the extent to which even very learned, wise, and judicious intellectuals were laughing at Hitler, at the same time tolerating him. Although they thought him a clown, they thought that the Versailles Treaty, which fixed on Germany the guilt for the recent war, simply had to be reversed, had to be annulled, challenged, and cancelled, and that it perhaps would take this extravagant man to do it. This, of course, was two and a half to three years before Hitler actually came to power.

But no one who had read with any care or attention the history of the beginning of the First World War could fail to see that ambitions, confusions, mistakes, and jealousies on all sides had a great deal to do with producing it, so that fixing the sole guilt on Germany was no doubt making the matter more black and white than one could justify. The German scholars, as well as lots of statesman, resented violently the peace treaty that Germany had had to sign, in which she acknowledged responsibility for bringing the war about.

Well, I heard Hitler one night in the Löwenbräukeller in Munich, where the Nazis went regularly to drink beer and talk. I had read a good deal of the party's pronouncements. I had not

Dennes: read Mein Kampf. As I say, I was most impressed by the way in which wise and learned men were inclined to tolerate this clown, as they often called him, because they thought he would successfully lead a movement to reverse the German guilt admission forced on them in the Treaty of Versailles. But the night that I went to the Löwenbräukeller to hear him talk to his party members, I was not impressed. The Germans sitting over their beer seemed to me not to be paying close attention to him and were talking together.

But, as a matter of fact, it was not at all a typical evening, because that day Hitler had lost in court a lawsuit to the Wittelsbacher princes of Bavaria. His newspaper in Munich, the Voelkischerbeobachter, had accused the Wittelsbacher princes of Bavaria of trying to sell out the country to the Russians, to turn it over to the Communists. And the Wittelsbacher princes, who had been the rulers of Bavaria--the King of Bavaria had been the Wittelsbacher Ludwig--sued the newspaper and won their suit for libel against it. The paper was suppressed for three days and some token damages assessed, perhaps ten marks.

In any case Hitler had lost the lawsuit. He didn't talk effectively. He didn't seem to be carrying his audience with him, and after a time his voice broke and he shouted, "Deutschland!" a few times and disappeared. I went home to our quarters on the Schellingstrasse and told my wife that we could write him off, that he was not a significant figure. And this may show that I am not qualified to teach political and social philosophy, because I certainly made a poor prediction in that case. [Laughter]

Stock Market Crash

Dennes: The stock market break occurred in the autumn of 1929, the beginning of our Guggenheim year. In Germany, and in England, the people were very, very concerned about the economic breakdown that had occurred in the world, most conspicuously in the United States, where our unemployment was worse, and the lack of provision to look after such a situation was much more extreme, than in England or even in Germany.

Ariff: How did this affect you personally?

Dennes: Oh, it taught me a good deal about the uncertainties of finance and income and the nature of the economic structure. I was hopeful that we would learn by this, that we would see that financial control of the economy of a country for profit, regardless of social inequality, would have to be balanced out by some kind of wise and equitable planning. None of this, though, really was put into effect until Roosevelt took over in 1933. Up to that time there was some relief (no programs of national enterprises to restore employment), and the confidence that prosperity was just around the corner, that if we would sit tight and do nothing, prices would drop to the point where, and wages would drop to the point where, men would be employed, and business would prosper.

But the laissez-faire economy and politics of Adam Smith and Thomas Jefferson seemed to be breaking down, and it seemed pretty clear that some degree of management of a country's economy in the interests of the whole people as against industry privately organized for private profit was essential. Movements in this direction had already developed in England, even in Germany, and of course, when I came back to this country, we found a great deal of suffering, a great deal of unemployment.

Teachers--so long as they didn't lose their jobs--their money went farther. In 1932 when I went to Yale as an associate professor, I think the pay was $6,000 a year against the $3,600 I'd been getting at California. And I think $6,000

Dennes: went as far as $20,000 would now or maybe farther, I don't know. Anybody on a salary that didn't--well, if the job didn't collapse--and anybody whose salary continued, found that his dollars went much farther, but this was very poor consolation when one saw all around one unemployed people, who were suffering very badly, so badly that a great many of the working population were demoralized. I mean, rather than campaigning strongly for national programs that would restore employment, they seemed to have lost their nerve, to have had their spirit broken. Some people were always smelling communism in any planned national control of the economy and worried about the risk of violent revolution; but I had the impression that the proletariat, if we had a proletariat, far from showing signs of fighting, was broken in spirit and morale and demoralized.

[Interview # 5]

Kurt Von Fritz and the German Intellecturals, 1929-1930

Dennes: I think I ought, apropos of the attitude of German scholars towards Hitler, to say a word or two about a very eminent scholar I met in Germany, Kurt Von Fritz, who took the very opposite of the position I have described. I mention him partly because what I learned from him and what I saw of him and other German intellectuals in 1929 and 1930 and what I learned of their attitudes in the following years was so instructive with respect to attitudes which developed here at my own University when the loyalty oath was required of all teachers by the Regents.

I had mentioned that in Germany there were a great many intellectuals who thought Hitler was a kind of clown or even a melodramatic moving picture actor, and had very little intellectual respect for him but who felt that he would be able to stir

Dennes: ordinary people to demand and frighten neighboring countries into granting a retraction of the clause of German war guilt which was included in the Treaty of Versailles. Oh, there were a great many people, as I say, who thought that they couldn't really respect Hitler and his crew but that he might pull the chestnuts out of the fire, where moderate men wouldn't be able to.

There were certainly among them a good many intellectuals, and only psychological studies of individuals could explain their stand. It's very tempting to say that intellectuals have enough repressed aggressions, living, as they do, a sedentary and non-active life [laughter] that they are tempted to break out and express some of their feelings violently. Well, there were a great many who really liked Hitler and his violent demands, I have no doubt of that.

Von Fritz was the greatest example I knew of a man who would not make any compromise, nor retreat, and when in 1933 Hitler came to power and shortly afterward required from all teachers an oath of obedience to the National Socialist government, Von Fritz at once demanded of the Reichstatthalter of Mecklenburg that he assure Von Fritz that taking this oath would not in any way diminish his obligation to investigate, research, find the truth, and when found, expound it.

Von Fritz was by this time a professor at Rostock. (He had been Privatdozent in Munich when I had known him in 1929 and 1930.) He got an answer from the Reichstatthalter saying that even a professor of classical philology might be expected to have brains enough to know that after taking an oath one hadn't the same freedom as before, and dismissing Von Fritz on account of his inquiry.

In a couple of weeks apparently the Reichstatthalter and the Council of Mecklenberg thought this was a little raw on the face of it: a man's inquiry about freedom to carry out his duties leading to his dismissal. So they put him into retirement without pension on the neutral ground of economy, which is the kind of thing that administrators like to do. I mean, if they can take a step on some general, neutral ground, like "we need to economize," it's much better than pointing

Dennes: the finger at an individual and saying he isn't trustworthy. And, of course, one always needs to economize, and one can always argue that there isn't really quite enough money to carry on the program at the full level.

Well, Von Fritz and his wife had a cottage near Starnberger See, perhaps thirty miles from Munich, and they retired there. Von Fritz spent a good deal of time at work in the Munich University Library, and one day he was sitting in the newspaper room, the Zeitungsaal, of the university library, and a clerk in the library--in those days, and perhaps still, German libraries are largely staffed, under the main librarians, by clerks with relatively little education or library training and who do just the routine jobs of shelving and cataloging and so forth--well, a clerk noticed Von Fritz sitting down beside a Jewish colleague who opened a newspaper, Le Temps of Paris, and he laughed with this colleague of his over something in the newspaper that the Jewish colleague showed him, and the clerk reported this.

Of course, Von Fritz was already in effect dismissed from his professorship in Rostock. The senate of the University of Munich then acted or started to act to deny him the use of the university library. His teacher, Geheimrat Schwartz, the great classicist whose chair Von Fritz now holds in Munich, intervened, but the best he could do was to get the faculty of the University of Munich to vote that if Mr. Von Fritz would say that it was only out of unwilling politeness that he had responded when his Jewish neighbor had called his attention to something in the paper, then he would be allowed again to use the library.

Well, Von Fritz could never in the world make such a statement. This was really shocking from a great faculty. Of course, with two years or a year and a half of Nazi control some of the ablest men were gone, but by and large that faculty at Munich was still a magnificent faculty. Now it may be that the meeting was attended by a small minority. I wasn't there, heaven knows. But few things were more shocking to me than that a university faculty would degrade itself to the point of telling one of its former colleagues, "Here, we'll let you read here if you will say you didn't willingly talk to

Dennes: that Jew but just out of unwilling politeness responded to his greeting showing you something."

This seemed to me in some ways as dreadful a degradation on the part of the faculty at Munich as the actions of the insane Nazis. But again I don't know how large an attendance there was at the meeting. Some of our Senate meetings at Berkeley have been very small in attendance, and it wouldn't do to claim that a fair cross section of faculty opinion was represented.

Ariff: If they objected to Von Fritz's laughing at something the Jewish professor said, why did they permit the Jewish professor to be in the library in the first place?

Dennes: Well, he had been denied his job, the Jewish professor had, and I would guess that--I don't know what happened to him, I didn't know him--I would guess that before long he probably either escaped Germany or was in a concentration camp or God knows what.

It took a little time for the displacement of Jewish scholars. And, of course, it's conceivable that that Jewish scholar was of an age to have fought in the First World War. Military veterans, Jewish and other, were only gradually classified as untrustworthy persons. If you had fought for Germany in the war, even as a Jew, you were given some special consideration for a time.

Ariff: But he wasn't permitted to talk to anyone? That's shocking!

Dennes: Well, all of this developed gradually, and people, many of them, tolerated a slight concession, thinking it was nonsense but you had to put up with these fools. But if you acquiesce in a slight concession, and then another, such things tend to snowball. They did in Germany. Well, Von Fritz would not acquiesce in any unreasonable demand, Nazi or other, and he was denied the use of the library.

My college at Oxford, Corpus, needed a man in classics, and were very happy to have him. They had provision only for a year or two. Then I wrote friends here in this country. He was given a post

Dennes: at Reed College, where he enjoyed his work, his teaching, very, very much. However, he really belonged in a great university with a lot of advanced study and graduate seminars, and I with others described to Mr. Westerman at Columbia Von Fritz's work and capacities, and he was made professor and later head of Department of Classics at Columbia University.

His stepson, their only child, who was Mrs. Von Fritz's child by a previous marriage, was in the American Army during the war, and his mother's psychological health was heavily damaged by the boy's suicide. He was in the Army of Occupation in south Germany after the war and met some of his German cousins. I do not know what led to his suicide. I can well imagine that his German relatives might have been pretty hard on him as a young German whom they'd known as a child and liked, and who had fought against them and was now presuming to occupy their country.

Von Fritz would still be in this country, I'm sure--he loved life and work here and was much appreciated at Columbia and at the Princeton Institute of Advanced Study and everywhere else where classicists and classical philosophers were at work--but his wife developed a pretty severe depression and melancholy and thought that if she could be with her relatives in Germany, she would be cheered up. When she got there, she found she was very, very homesick for America. She was and is a pathetic instance of what very often happens where people have their feet in two civilizations. They can be split to the point where when they're in one country, they hanker for the other, and vice versa.

Von Fritz also wanted to do what he could to contribute to the development of sound work in the universities of West Germany. He taught in the Free University of Berlin for a while, then went to Munich to take the professorship of classical philology and head the seminar, as his teacher Geheimrat Schwartz had done.

If I may drop into the ridiculous--I now recollect a walk with him in 1930, a long, tiring walk through the Bavarian forest around Munich. We were hungry and thirsty, and I saw a sign,

Dennes: Ziegelei, which I thought must designate a goat farm, a "goatery." I suggested we stop in and get some goat milk. Actually it was a tile kiln, a tuilerie, and if you're thirsty, I don't know of any worse place to go to. [Laughter] Von Fritz thought I still had some German to learn. [Laughter] But I equally helped him with his English, and he certainly developed a very good command of our language.

So, here I was observing these various attitudes of German intellectuals towards policies that a majority of them, I think, thought extravagant and foolish, some not; but many thought they'd better acquiesce in them. It is, of course, a very difficult thing to pull up stakes and leave the country you've grown up in. You may not find a way to make a living elsewhere and care for family and children. I don't blame the Germans who tried to stick it out and compromise enough to keep their heads on their shoulders. Of course, many of them hoped that if they remained, as against totally leaving the country to the idiots, that they would at some time be able to help balance up towards better sense the political management of the country.

THE LOYALTY OATH, 1949-1950*

Guilt by Association; and "Why Not Sign?"

Dennes: In any case, the last thing that I expected was to see similar attitudes developing, similar traits expressed by my colleagues whom I admired and loved in my own University. When Senator Joseph McCarthy's activity of looking for Communist traitors everywhere, in the State Department, the civil service, and universities, was reaching its most frenzied level, there were a good many people who thought, "Well, this is all ridiculous, but the way to duck trouble is to acquiesce in the oath swearing that we are not Communists." This was very like the people in Germany who thought that it was best to duck opposition to Hitler even if you didn't approve of what he was doing.

Then there were those who did approve the requirement of an oath, many of them eminent men, particularly eminent scientists who were completely sure, knew for certain, that all members of the Communist Party were participating in a criminal conspiracy to destroy the Constitution and government of the United States; and why shouldn't those of us who weren't Communists swear to an oath abjuring any kind of membership in this criminal conspiracy?

I wondered and wondered how these men knew that all members of the Communist Party were engaged in a criminal conspiracy. It was a little like the looking for a sign, a cloven hoof, or a mark, by

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*Though out of chronology, this section seems appropriately left here for the same reasons of association that brought it to mind.

Dennes: which you could tell the devils, a little like the demonology of looking for witches to burn in Salem, Massachusetts, or looking for Jews as scapegoats to blame everything on in Germany or being sure of the racial superiority of people of one complexion or another. Well, any wholesale classification of a lot of people as devils suggests that those who make the classification are looking for scapegoats, would like to have somebody to blame for their disappointments, personal and national, and would like to feel superior in probity and intelligence and character by having some people to roundly condemn.

I, in particular, wondered how they could know this for sure, because a member of the Communist Party that I knew was a man, a colleague, who, far from being dogmatic, far from having lost his intellectual independence and objectivity, far from relying on Marxist dogmas or party decrees to determine his attitudes, was as conscientious as anybody I knew in trying to find the evidence for the ways and extent to which economic factors influenced or determined social change. Of course, the Marxists thought that the controlling factor in political life and social processes is economic, but he didn't accept this as a Marxist revelation. We all know that economic factors are influential, probably more influential than we like. And he proceeded, as any level-headed man would, to make his judgment on the basis of historical evidence, not on the basis of party rules or Marxist dialectic.

Ariff: Who was that man?

Dennes: Who was he? Well, since he left the party, and left it partly he always said because of my arguments with him [laughter], I don't think I'll identify him.

But I do remember that he in those days, in the Thirties, kept telling me that the morally unjustifiable, unfair and inferior educational and economic opportunities open to millions of American Negroes would certainly, sooner or later, produce violent explosions somewhat of the kind that we are facing now. Of course, Marx thought that race could not be taken into account in any fair society at all.

Dennes: It looked to me as if the American Communist Party, rather than working to correct the condition of the Negroes, hoped that their resentments would develop to the point of producing a violent and destructive upset in the country. Well, if my friend had lived and remained a member of the Communist Party, I'm sure he would be horrified now by the spectacle of what seems like very good evidence that the Soviet Union is discriminating very heavily against Jewish nationals in Russia. This is a violation of Marxist principles, and another evidence I suppose that one has to be cautious in claiming to know with certainty just what dogmas control a Communist--or anybody else.

In fact, to be dead sure that all Communists in this country were engaged in criminal conspiracy--if you knew the constitution, as I don't, of the Communist Party, what rules it lays down and what secret rules it may administer but not admit--if one knew all that, to argue that it followed that all members had lost their independence, integrity, and were shackled by party leaders would really be about like arguing that since I grew up in the Episcopal Church, accepted the Thirty-nine Articles of Religion and was confirmed, that it therefore follows that I no longer have freedom of judgment on the Trinity, on the dogma of transubstantiation and so on and so on. It would be very unsafe to argue that I believe these things because I belonged to the church and had never formally broken my connection with the church, some of whose Thirty-nine Articles of Religion, which were supposed to be fundamental to it, seem to many of us, indeed to many of the leaders of the church itself, rather ridiculous.

I felt that my colleagues, my scientific colleagues who were so dead sure that every member of the Communist Party is thus a criminal and unfit to teach, I felt that they were exhibiting a kind of dogmatism, that they had forgotten Aristotle's insight that one negative instance rules out the possibility of an unqualified universalization, that they were themselves exhibiting a dogmatic neglect of scientific method to look into individual cases.

Ariff: What time are you speaking of?

Dennes: The time the oath was required and the period before it. And those who took this view when the oath was required tended to say, "Those of us who aren't Communists, we ought to be proud to swear." Well, I thought these men were forgetting some of the most fundamental principles of Anglo-Saxon and American law, principles that had been fought for and won by lots of effort and a good deal of bloodshed.

I did not like what I knew of the Communist Party. There were many things I didn't like, but for me to pretend to know for certain that all members of it were engaged in a criminal conspiracy would be for me not to be intellectually a man of any integrity, because I just couldn't know that without knowing more about thousands of individuals than I did. The fact that I didn't like what I knew about communism made these friends who were enthusiastic about the oath--and many of them were eminent and gifted men in the administration and faculty of the University--made them feel that, good lord, I ought, since I don't like communism, I ought to be glad to swear that I'm not a Communist. As, if I don't like murder, I ought to be glad to swear I'm not a murderer--or blackmail or bigamy, or polygamy, or adultery, or promiscuity--that I ought to be glad to take oaths [laughter] that I am not engaged in any of these; or as my friend, dean of the law school, said, that if I'm not running a house of prostitution, I should be glad to swear that I wasn't! [Laughter]

These attitudes of my colleagues in the University, particularly some of my scientific colleagues, who were gifted and admirable men for whom I had a good deal of affection in many cases: it was very uncomfortable the extent to which they paralleled in what was fortunately a less crucial matter the attitudes of the German intellectuals as I had observed them as the Hitler regime gradually developed. And I must say that this frightened me a good deal.

Advisory Committee Pleads for Rescinding the Oath

Dennes: I thought it was, of course, a dreadful shame that President Sproul's crowded schedule, or his inadvertence, or as a great many thought and insisted, his political strategy, led him to announce the action of the Regents to require an oath of abjurgation, which had been taken in March, to the faculty only in June at the last meeting of the Senate before the vacation. This seemed to present the faculty with a kind of ultimatum: Their year's appointments would be up June 30, sign the oath or get out! It gave them no chance to deliberate properly.

I do not pretend to know whether this was intentional, this postponement to the last minute. Heaven knows the President was a very, very busy man with a crowded schedule, and was devoted to the University. I don't pretend to know what went into the delay until June.

And, as I said the other day, on most of the details of that prolonged unhappy controversy which led to dismissal of some of our ablest colleagues, then the state Supreme Court ruling that the oath was unconstitutional, and their reinstatement (those who would come back), I find that I have suppressed my unhappy memories of the details day-by-day and week-by-week of the committee discussions that I took part in, debates, and attempts to straighten the thing out.

Actually, the third of it that I've read of Mr. Gardner's* book on the oath controversy seems to me accurate, so that anyone wanting details I think has a good source there. I haven't read the whole thing, but as I say, I find I have suppressed memory of a lot of that dreadful time.

What I do remember is that as a member of the Advisory Committee I urged the Regents to take very

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*Gardner, David P., The California Oath Controversy, U.C. Press, Berkeley and Los Angeles, 1967.

Dennes: seriously the wisdom of Aristotle that justice cannot be achieved wholesale or by dogmatic universalizations or by trying to put individuals in straight jackets. It can only be achieved by intelligent and reasonable and equitable handling of individual situations. And I urged that requiring an oath of abjurgation runs against, as I said a minute ago, some of the most fundamental principles of Anglo-Saxon and American law, according to which guilt is always individual, not a matter to be determined by association. And it was a plain logical blunder to presume that a man must really be supporting some specific party or position unless he specifically denies that presumption.

The great English and Scottish universities had fought this out. All the members of Magdalen College had resigned in the 17th century when they were required to take an oath of loyalty to the government. Now they have a great dinner every year to celebrate their return when the requirement of an oath was judged to be in violation of the laws of England. And not only did our colleagues in English and Scottish universities, but in the strongest American universities, regard this requirement as a violation of sound American constitutional principles and sound academic principles and policy.

I urged the Regents to rescind the requirement of the oath, but they didn't, and as you of course know, they went on to fire those who didn't take it. Then when it was brought--as I wish it had been immediately at the very beginning--to the courts, the courts ruled that the Regents were off base for acting in violation of the Constitution in requiring the oath. This was the stand that I had taken, but they had not found me convincing; but they found they had to respect the Supreme Court.

Ariff: I believe you mentioned before the feeling that perhaps it might not have gone as far as it had, had President Sproul had an academic background?

Dennes: Well, many thought that. Many thought that if he had been a professor, and had a feeling for academic independence and for the fact that what a university needs is not men who are forced to believe something because they have taken an oath to believe it, but

Dennes: rather people with inquiring minds who believe what is right and true because the evidence of reason and moral judgment require it, he might have acted more wisely. In other words, many felt that had he had fairly substantial experience of actual scholarship and teaching, he might have seen that what we want in universities are men whose judgment of the ways of life and the ways of work is controlled not by an oath that restricts them, but by their intelligence, their knowledge, and by their moral judgment, in other words, by reason.

But I don't pretend to judge President Sproul. Plenty of my colleagues felt that the imposition of the oath was nothing short of political chicanery, and some thought that Mr. Corley had advised the President to wait until the last possible minute at the end of the semester to call this new requirement to the attention of the faculty. Of course, Mr. Gardner's book offers rather strong evidence, including Mr. Corley's own statement, that it was Mr. Corley who felt that the only way he could protect the University and the faculty from legislative blackmail in Sacramento would be to have us all sworn by oath to be lily-white and pure and free of communism.

But I don't find trying to look into the motives and tactics of these men a profitable inquiry. However they came to do it I think was a mistake, and a terribly regrettable mistake, and heartbreaking, coming close to the end of his distinguished career as President, or more than halfway through that career. I'm much less interested in trying to make out what mistakes he may have made or what his motivation may have been than I am interested in the question of the rightness or wrongness in principle of the step.

The Decision to Sign and Fight

Dennes: When the Regents would not budge, I began to feel that the University was as much my university as it was theirs. In fact, since I felt they were confused about American constitutional principles and about principles of academic freedom and independence, that in some ways it was more my university than it was theirs. [Laughter] I felt that if all of us of my frame of mind, who were critical of their position, just refused to take the oath and were fired, we would leave to "yes men" the university that we loved, so I decided to take the oath and then fight.

Also, we thought, my friends and I, many of us, that if we continued in our jobs and didn't get fired, we could contribute money to support such of our colleagues as were fired, which we did, as you may know, and also that we could scrape up some money to employ legal counsel to carry these questions into the court.

Well, to this day I have had mixed feelings about my decision to stay with the University and fight the oath, as against refuse to take it and get fired. My great friend and colleague, Edward Tolman, whom I have mentioned as having been such a stimulating and enlightening colleague, such a fine friend, he of course refused to take the oath and was fired. In many conversations with me he said that since he had a good, private income, and his wife had a good, private income, people like him ought to refuse to sign, but that I ought not to and that I ought to take the course I did. But I really feel the more admirable course was the one that Tolman and Jack Loewenberg took in refusing to have anything to do with the oath and getting fired.

But I also think the faculty--of course this is with hindsight--the faculty are not in the habit of thinking that they must go into the courts to get University questions cleared up. They depend upon rational analysis and discussion and argument to try to clear them up. Well, with hindsight, one wishes that those members of the faculty who thought the oath an unreasonable and unconstitutional

Dennes: requirement, one wishes that they had at the very start challenged it in the courts, as against going through those two or three years of controversy and only finally getting a decision from the California Supreme Court.

Ariff: Do you feel that part of the reason that it went as far as it did was that the Academic Senate was rather weak at the time? At least Gardner pointed out that at that time, around 1949, the Academic Senate was composed of part of the old guard plus a lot of younger men who weren't experienced in working with the President and not very well acquainted with the Regents and so on. So perhaps if they had taken a firmer stand in representing the attitude of the faculty that...

Dennes: Well, of course, the Senate <u>is</u> the faculty, I mean, all teachers from instructors to emeritus professors are members of the Senate. Instructors, until they have had two years standing, don't have a vote. But the faculty opinion, I think, was divided all right. Some of the very ablest scientists in our faculty took the position that I have mentioned, that the Communist Party is a criminal conspiracy, no member of it has the objectivity and freedom of intellect required of a teacher and shouldn't be in a university, and the rest of us had better swear that we're not, so that if any refused to do this, it's right that they be fired.

Well, I thought this was really precisely a failure of the kind of intellectual integrity that some of my most admired scientific friends were talking about. In fact, I thought it a violation of scientific method. I still think so. In other words, in the debates between Jack Loewenberg and Joel Hildebrand, I think Jack Loewenberg was taking a stand and supporting it by a much greater respect for scientific method than Mr. Hildebrand was. Mr. Hildebrand was one of those who thought, if you're not a Communist, why not take an oath and say so. As Dean Prosser said, if you're not running a brothel, why not take an oath and say you're not. I think Mr. Hildebrand was deviating from the very scientific method that he purported to be devoted to.

Dennes: I don't know how much is gained by mentioning particular people, Loewenberg and Joel Hildebrand. They were all doing their best. Joel took the position that I described.

And, of course, Joel and Ben Lehman and I were for a year or so the Advisory Committee to the President, and were invited to meet with the Regents to discuss this whole difficult matter with them.

Ariff: Why were you chosen?

Dennes: I don't know. The Committee on Committees of the Senate suggests such confidential committees as that, and the President approves the membership. I don't know why I was chosen.

Of the three of us, I was most unalterably opposed to the oath as unconstitutional and in violation of good academic principles, but I think my arguments, especially those relying on the political and legal philosophy of Aristotle, sounded a little bit unrealistic. Perhaps it could be said that I wasn't enough a man of the world to realize the really tough factors that operated there.

Of course, I can't help but deem I was right and they were wrong, especially since the Supreme Court ruled the thing out as unconstitutional, but I take no pride in it. In fact, if I wanted to be proud, I would have to have succeeded in persuading them, and I didn't succeed in persuading them. So I can't give myself any particular credit for the position that I took.

The Vigilance of the Academic Senate

Ariff: Some people are of the opinion that the loyalty oath controversy changed the tenor of the Academic Senate. Do you think that it did?

Dennes: Well, in the forty-three--or did I say forty-four--years that I have been a member of the Senate, with some absences, I haven't been able to detect any

Dennes: constant and unchanging tenor.

Two or three years before I came to teach here, around 1920 or so, the Senate carried out the famous revolution in which the faculty demanded more chance to advise on policies, on promotions, on appointments. And the Regents did give the faculty that right, and required the President to seek advice from the faculty through its Senate committees, and those committees, like the Budget Committee, have been very powerful over the years.

I think probably the Senate committees particularly those on education, since the oath controversy, have worked harder, been more conscious of the importance of their work. Mr. Sproul always, so far as my experience went, paid very careful attention to the advice of his committees. Mr. Kerr, it seems to me, went even further in submitting to the Senate committees, for their advice, all questions of importance that arose in the planning of the University's program.

Ariff: Then it really has changed in tenor to a certain degree.

Dennes: Yes, but whether due to the oath controversy, I don't know. Whenever any difficult question arises, when the students' sit-in was debated, suddenly meetings instead of being attended by a hundred became meetings attended by a thousand, with a great deal of intense interest. And I guess the interest continues for a while. I guess one would say that the oath troubles led to the Senate and its committees, its Committee on Committees, its Committee of Educational Policy, and its Budget Committee taking even more seriously the work that they had to do.

Of course, we are criticized throughout the country as a university that kills off its scholars by assigning them so much committee work. And my colleague Benson Mates, who has now finished two or three years on the Budget Committee, I think, feels that the gap in his own scholarship made by days and nights of work on this committee has been a pretty serious injury to his work. But there is the ancient maxim that the price of liberty is eternal vigilance, and unless faculty men want their universities to be totally managed by professional

Dennes: administrators, there is no way that they can make sure that their judgment and opinions are taken seriously than by the kind of hard work that our Senate and its committees do.

Ariff: You feel this way?

Dennes: Yes, I do. Although I think some men get sucked into a shade too much committee work for their own good. I think I was talked into putting a little more time on these matters than might have been best for my work in philosophy, though it's very hard to say. Plato thought that philosophers had to have their experience with administration if they were going to be able to guide the state wisely. [Laughter]

When President Sproul was urging me to take the appointment as Graduate Dean, he said that he was doing it partly because he thought that I would learn something about the University's total research program, and that all the areas of graduate study would yield some grist for my mill, would be useful to me as a philosopher, a person interested in the theory of knowledge. And the President was right. But there was a great deal of work as Graduate Dean which wasn't very instructive. I thought five years was long enough to continue it and said so, but they talked me into two more years. It was seven years before I returned to my professorship full time.

Ariff: As Graduate Dean you carried some teaching?

Dennes: Some, but not much.

Well, the Graduate Dean--we'll talk about him perhaps next time--with his service on research committees and statewide planning organizations and so forth has in many ways an interesting but certainly a very time-consuming assignment.

[Interview # 6, September 11, 1967]

THE THIRTIES

Visiting Professor, Harvard and Yale

Airff: You spent nine months in Germany and four in England the year of your Guggenheim?

Dennes: Yes, then I came back here, and that period from 1930 until my retirement, and indeed my teaching since at Southern Illinois and at Virginia, that period was certainly the period of most philosophical activity for me. I think that exciting problems about values precipitated by my observations in Germany, by the rise and fall of hysteria in this country culminating in the work of Senator Joe McCarthy, I think things of this concrete and pressing kind and what one learned of what was going on in Russia and England and in the United States, especially during the depth of the Depression, in the early Thirties--I think these gave great concrete urgency and relevancy to work in philosophy, if getting as straight as you can about the nature of explanation and evaluation is the job of philosophy. And it was by no means an academic pursuit in those years; the most crucial possible problems faced every thoughtful person.

As I said last time, I think there were noble examples of the ways in which some intellectuals faced the confusion and the conflicts of the time. I gave one notable example in the case of Kurt Von Fritz, who grappled with the political and social issues of the time nobly, as did Niels Bohr and Albert Einstein and John Dewey.

Dennes: There were also many examples of helpless confusion and collapse among intellectuals confronted by the dreadful, irrational menaces from such men as Hitler and his crew to our Senator Joe McCarthy, whom I mentioned a moment ago.

It was during this period that I had the stimulating experience of a visiting professorship at Harvard, where I renewed acquaintance with my great teacher Clarence Lewis and where I came to know and admire Alfred Whitehead, Van Quine, and such graduate students as Charles Stevenson and Mason Gross and Chadbourne Gilpatric. These men and Lewis Feuer were graduate students, some of them in my classes. I gave some tutorial instruction to them.

Also, Mr. and Mrs. Teeter, whom I had known in Berkeley, were now in Cambridge, and she was doing graduate study in philosophy. They took me out in May to Bailey's Island in Maine, where I had a chance to get acquainted with the delicious lobster and to swim, early as it was in the summer.

Ariff: That was brave.

Dennes: It was lots of fun. It was a warm spring, and that was the last of Maine I saw until I was there with my wife and daughter in 1952 at Camden.

Well, the graduate students I named--Van Quine, who has certainly become one of the most distinguished philosophical logicians of our time; Charles Stevenson, who seems to me one of the best men on theory of value and ethics in the country; Mason Gross, who taught philosophy at Rutgers and is now president of Rutgers University; Chadbourne Gilpatric, who is head of the humanities section of the Rockefeller Foundation--these were extremely interesting men to know, stimulating men for discussion. I'm sure there are a good many more names I don't remember, but these remained friends through all the years that have passed since.

I also greatly enjoyed my colleagues at Yale, where I was offered an associate professorship. But I stayed only one year, and California was willing to take me back. I enjoyed again being in New England, seeing the beautiful autumn, getting up to towns like Litchfield. Do you know Litchfield?

Ariff: No, I don't.

Dennes: One of the loveliest towns, with its wide streets lined with rows of maples and beautiful colonial houses with some of the handsomest doorways, finest ironwork, I've seen. We greatly enjoyed being there.

And again, graduate students like Frederick Fitch and Robert Stephens, who have had distinguished careers since as professors of philosophy; Charles A. Moore, who established the program of East-West Philosophical Studies at the University of Hawaii; and Hubert Alexander, who has since been professor of philosophy at the University of New Mexico, were among the students that I remember with particular pleasure and interest.

I'm tempted to tell a story. One day I was sitting in my office in Lampson Hall at Yale when a very excited professor, not of philosophy, knocked at my door and almost out of breath told me Mr. Garvan wanted to come and see me. Could he come at one o'clock? Well, the name Garvan meant something to me; I knew he had made handsome presents of early American silver and painting to the Yale Museum. I had also heard that he had heavily endowed St. John's College, Annapolis. I shouldn't say endowed; he loaned it money at five per cent interest to buy up many of the beautiful colonial buildings that became available at Annapolis because he thought that St. John's might be as good a liberal arts college as any, as Amherst and Dartmouth and the rest, and that it wasn't cramped by the Puritan tradition, which he felt marred the New England colleges. He was himself a Roman Catholic and hadn't much use for the dissenting sects.

He had loaned a lot of money to St. John's, but then when the Depression came along, his kindness almost bankrupted St. John's, because to pay the interest was beyond their capacity. In the end, I guess, he forgave them a good deal of the interest, I don't know.

Well, I told the excited professor who told me Mr. Garvan wanted to see me at one o'clock, that at that time I drove home, picked up my little son at the country day school, and took him home for

Dennes: lunch, and I could see Mr. Garvan at two-thirty or later, but not at one o'clock. The excited visitor said, "Well, I'm not sure you know who Mr. Garvan is."

I said, "Well, I don't altogether, but I also have a student named Patrick Garvan," whom I thought might be related to the great man. The great man had managed to secure for Allied Chemical Industries many of the most valuable German patents after the First World War, patents that had been taken over by our government, and he had prospered greatly.

Well, he said that Mr. Garvan was now at the office of the treasurer of Yale College, Mr. Parmalee Day, and that he would go over to the library and phone and see if the plans could be changed to two-thirty. He came back in a few minutes saying, "Oh, it was dreadful." There was a kind of wheel that he had to work on the telephone in the library and he couldn't work it. He'd go to his own office and get his secretary to phone. [Laughter] This was in the early days of dial phoning, and he couldn't manage!

Well, at two-thirty Mr. Garvan came thumping with his shillelagh, his blackthorn stick, up the staircase to my floor in Lampson Hall. And I think because my name is Dennes, he thought I must have been of the old sod. Anyway, he greeted me with great enthusiasm, told me that his son was getting only eighty-five in my course in logic, and Garvan said that in anything else it was all right to do "fairly well," but in logic, either you were perfectly logical, or it was no good. So his son must do better work in logic. And would I take him on as a tutorial pupil for the summer?

I said, "Well, I have a family, a wife and son, and we may go back to California, or we may stay here."

He said, "We'll give you a house at our place on the lake, whatever salary you think appropriate, and you can tutor the boy through the summer and protect him from the things that have happened to my nephew here. He fell under the influence of the Y.M.C.A. and went to China to teach birth control to the Chinese. And I want my son taught that logically contraception is equivalent to mutual

Dennes: masturbation. "But sometimes," he said, "I think we ought to let these damn Protestants simply commit race suicide, and we wild Irish would take over the earth." [Laughter]

I told him I wouldn't be able to spend the summer at his place--it was some pleasant part of the Catskills--and tutor his son. And I'm afraid I disappointed the great man very much, but so far as I know, he didn't cut Yale off his list of benefactions.

He was in a wonderful green, homespun suit, had sea-blue Irish eyes. He was quite an impressive old fellow, and emphasized what he had to say from time to time by thumping his blackthorn stick on the floor.

Formulating Budget Committee Policy

I have already expressed my admiration for the work of some of the Senate committees, particularly the Budget Committee, at the University of California, and the hard work of that Budget Committee and of President Sproul in developing some alternatives and finally settling on the very good alternative to face greatly reduced state appropriations and reduced University income not by firing the non-tenure men, but by reducing everybody's salary, and the non-tenure, the instructors' salaries not at all, and dismissing none of them.

I was by this time an associate professor with tenure rank and stood to take a pretty big cut in pay if I returned to California from Yale. Yet I so much admired this policy as compared with what Yale and many other universities felt they had to do, namely, keep the salaries of the tenure men untouched but drop as many non-tenure people as necessary. It was a very big factor in my decision to return to California.

I later served for two periods, several years each, on the Budget Committee at Berkeley. And nothing has impressed me more than the way in which

Dennes: members of the faculty, some of them not initially very well acquainted with the kind of problems that faced University finance, how they rose to a degree of impartiality and careful judgment in carrying out the work of the committee, qualities of which I was very proud.

During both of my services on the Budget Committee we supported the principle that if you had a reasonable salary scale for the various ranks of University teachers, it was best to stick to the scale rather than to deviate to meet outside offers.

Our argument was of this sort: Suppose you had three professors of history, of ancient history, of medieval history, of American history, and suppose they were roughly all equally distinguished. And suppose the professor of medieval history at Harvard or at Columbia died, or retired, and our man was offered an extra three or four thousand a year to go there. Well now, did that justify us, we asked ourselves, in upping his salary to meet the Columbia or Harvard offer if his colleagues who were teaching ancient history or teaching American history or whatever were comparable in distinction, but it just hadn't happened that a death had carried off a professor in their field at another university?

So that although we regarded any such invitation as a very weighty confirmation of our own judgment of the excellence of our colleagues, we thought that our own University ought to know their value better than other universities, and by and large, we resisted the principle of the marketplace, according to which salary increases would be offered mainly to meet outside offers. As I say, the outside offer was regarded as an outside and independent judgment favorable to our people. But it seemed to us a very bad principle to link level of salary and rank to any great extent to outside competition.

This principle has gradually been eroded after the Second World War. When I served again on the Budget Committee, I was terribly impressed by many of our professors of science, particularly nuclear physicists and chemists, some of whom were offered prodigious salaries for those times in industry or other universities or research institutes. And many of them took the view that until the salary scale could be raised generally, they would not be

Dennes: willing to be paid salaries out of scale as compared with equally excellent men in biology, in history, in classics.

Around that time, a very great friend of the University, Farnham Griffiths, an alumnus, I should say, of about 1904, an eminent lawyer in San Francisco, was invited to come to the University as professor of law, perhaps as Dean of the Law School--I can't remember. When he was considering this, and he had always been greatly attracted to teaching, he found that he would be paid a good deal more than his own teachers, like Professor Linforth of Greek, and Morse Stephens of history.

He just didn't feel it was right that external competition, in his case competition with the professional practice of the law, should determine the salary level of teachers, and he declined to leave his practice to come to the University to teach. He also advised us that if a man really wants to give up a successful law practice to devote his life to study and teaching, a law practice that might yield him a hundred thousand a year, let us say, it isn't likely that one or two extra thousand will make the difference. I mean, an increased salary at the University of a thousand or two, which were the terms in which we then thought, would not make the difference between his leaving a practice to return to the University. He would leave it, if he left it, and return to the University mainly because that was the life he wanted.

Over the years it hasn't been possible to stick to this principle. The competition with research institutes and the build-up of contract research as an accompaniment to University programs has made the influence of the marketplace very much more powerful. I'm not sure though that our present situation is as sound academically and as reasonable as were the principles that the University followed in the Thirties and most of the Forties.

Philosophy in a Troubled World

Dennes: If the political and social problems of the world, of economic depression, of the gathering clouds that threatened war, in the Thirties, if these made problems of moral and political values very, very concrete and urgent for anyone engaged in philosophical study, they also made problems about the explanation of social and political processes very central in our attention, so that the theory of knowledge, which, of course, is one of the basic philosophical disciplines, was greatly enlivened by our having problems about knowledge that were not just academic or abstract, but were actual, instant, and urgent.

The point that I believe I mentioned a day or two ago about the advances in physical science particularly made the theory of knowledge an exciting field. As the work of men like Einstein and Planck and Bohr and Rutherford was developing and being published, there was a steady obbligato of criticism at our University and elsewhere, criticism from some very able scientists and others who thought that nature would be lacking in order, in rationality, in intelligibility, if the laws of nature were only statistical and not invariable.

There were, of course, many others, like Gilbert Lewis and Richard Tolman and Bill Williams and Bob Brode, and many others besides, who were early convinced of Einstein's and Plank's original and, really, spectacular new insights. But there were also, as I say, many able people who thought that order and intelligibility would be sacrificed if we abandoned classical mechanics.

Nothing could make the genius of Spinoza, and the brilliant insight of his analysis of the notion of order in the appendix to Part I of the Ethics, nothing could make these seem more enlightening and important than this very controversy about the role of order in existence and in explanation. In fact, it was a period in which much of the work of Plato and Aristotle, of Spinoza, of Leibnitz, and of David Hume, spoke to all of us quite as vividly as did the voices of our contemporaries.

Dennes: And as I mentioned this was a very lively period for graduate study at Berkeley in the Department of Philosophy. Some very able men took their doctorates in this time and have since gone on to distinguished careers in universities.

Certainly it was to the great philosophers I have just named and to John Dewey and Whitehead and Russell and Santayana and to my teachers and colleagues at Berkeley that I, myself, owe any success I may have had in reaching a clear understanding of moral and theoretical issues which are timeless and yet have been, as I have said, of an instant actuality and of a special urgency in our times.

I shall not do anything towards sketching my philosophical opinions, because they are set forth in the many volumes of the University of California Publications in Philosophy, in my contribution to the book of Dewey and Krikorian, Naturalism and the Human Spirit, in my presidential address to the American Philosophical Association, on conflict, and in my Woodbridge Lectures, published at the Columbia University Press under the title, Some Dilemmas of Naturalism. But this I will say, that I would certainly send anyone concerned with the fundamental problems of explanation and evaluation, upon which I have worked--I would send anyone concerned with these things directly to the great philosophers that I have mentioned rather than to the study of my own publications.

A Meeting with William Randolph Hearst

Well, as I said, the shadow of the war was on us in the Thirties, and I was on a train going back to Cambridge, Massachusetts, to read a paper at a philosophy congress, when war broke out in Europe. To my great surprise I noticed Mr. W. R. Hearst travelling in some rooms in my car of the train. (In his palmy days he certainly would have had a private train or at least a private car.)

Ariff: And you knew William Randolph Hearst by sight?

Dennes: Oh yes.

My colleague here at the University of California, Roy Smith, a great expert on Greek terra cotta vases, I knew was very anxious to study some of the vases that Mr. Hearst had in his collection at San Simeon. But he was an Englishman who was far too timid to ask Mr. Hearst if he could do this. So the first day out in the clubcar I sat myself down by Mr. Hearst; I thought I'd see what I could do about persuading him to invite Mr. Smith to study his vases. And Mr. Hearst was really just delighted to know that there was an interest in his vases on the part of a very, very eminent archaeologist and art historian and insisted that I tell Mr. Smith to come down, be his guest, stay as long as he wanted at San Simeon, and that he'd supply him with photographic help, and any kind of help that he needed.

Except for this, Mr. Hearst limited himself in the conversation to one sentence, and this was a great economy of thought and breath. The one sentence was, "Well, Mr. Denny,"--he somehow got my name as Denny, not Dennes--"Well, Mr. Denny, I don't think there's going to be a war." And he'd reflect awhile and say, "I <u>don't</u> think there's going to be a war." or "<u>I</u> don't think there's going to be a war." He varied the stress, but apparently this sentence struck him as being as good a sentence as any, and he might as well just use it. [Laughter]

When we--as one did in those days--got off the train when it stopped for half an hour at Reno to take on water or oil as trains did at that time, we walked up and down the platform. He introduced me to some of his friends travelling with him, one of them Marion Davies. She too apparently had found one sentence that satisfied her, and this sentence, as she looked at the flashing neon lights of the main street of Reno was, "Well, Mr. Denny, anyway it puts money in circulation, doesn't it?" This was referring to the gambling palaces of Reno, and this was the only sentence she uttered to me; from time to time she repeated it. So both Mr. Hearst and his friend Miss Davies seemed to have economized on breath and thought and energy by finding a good sentence and sticking to it.

Dennes: At that meeting at Harvard, I met Alfred Tarski, a man whose name will live in the history of science as a very great mathematical logician. Tarski had come over from Poland to read a paper. The war began, as I say, at that time. He never got back. And for a long time he had no idea whether his wife and children had survived. He was Jewish. His wife was not of a Jewish family, and although his children, of course, were partly Jewish, his one hope was that she and the children would not be put in extermination camps because of her Gentile family. And it turned out so, but he didn't know it for a couple of years or three.

It had been a dreadful time for them. They had nearly starved. A blow to the girl's eye had produced a cataract which needed rich, protein food to help her recover, and there just wasn't such food available to her. So I think the girl lost the sight of one eye. But finally, before the war was ended, he got word of them, and was able after the war to bring them to Berkeley.

When I returned from the meeting at Harvard and told my colleague, Professor Roy Smith, about Mr. Hearst's eagerness to have him visit San Simeon and study the vases, Mr. Smith was rather frightened at the prospect. He asked me whether it wouldn't be licentious there? I said, "Well, Mr. Hearst, after all, is in his eighties. I don't think it would be very licentious."

He went down, spent two weeks, told me when he came back that it wasn't licentious, just "settled concubinage." [Laughter] He had enjoyed greatly studying the Hearst vases. Some of the black and white terra cottas supplied links in the history of Greek vases that Mr. Smith was anxious to fill in, or gaps that the links filled.

Also, greatly to my surprise, Mr. Smith told me that he had the impression that when everybody was collecting the red terra cottas, it was not Mr. Hearst's dealers, who I had supposed had been the ones who had advised him to collect black and white, but he himself who had felt them more interesting. And by this time, Mr. Smith said that most historians and experts in this field thought that the black and white were historically and aesthetically more interesting and valuable things.

Dennes: It was quite interesting to me that Mr. Hearst's taste for these things had, if Mr. Smith was right, been the deciding factor in making the great collection which is now scattered through the Metropolitan Museum in New York and other galleries. A good deal of it I think was sold privately.

The great Hearst fortunes I gather were never fully recovered after the Depression crash, though heaven knows neither he nor any of his family were ever hungry. Indeed on the train journey that I speak of--I was riding in a lower berth--they had a whole string of drawing rooms and compartments and so forth.

Should the United States Enter the War?

The debate in this country that certainly penetrated to the University was over the issue, with chaos in Europe--and I remember similar debates in the First World War--with chaos in Europe, should the United States follow George Washington's advice in his Farewell Address to keep clear of entangling foreign alliances and remain independent and strong in a position to try to rescue what was left in Europe after the holocaust of the war, or could we stand aside and see Hitler and Mussolini force England and France to their knees and Russia too and take over with the help of Turkey a great deal of the eastern Mediterranean.

I knew in the faculty and I knew in the Board of Regents very eminent "America Firsters," who thought that our duty was to remain detached and strong and not get entangled and destroy our substance in an essentially European war, and when the attack on Pearl Harbor precipitated us into the war, some of these even thought Mr. Roosevelt had connived to produce the attack in order to have conclusive grounds for carrying out what by this time everyone felt was Roosevelt's conviction that we must join up on the side of England and France.

I have no doubt that there was at least one Regent, who had been an America Firster and who had

Dennes: in this respect differed from our President, Mr. Sproul, who had I think more or less followed the William Allen White line of giving all aid possible to the Allies short of war.

Once war had been forced on us, of course, the issue was no longer debatable; the America Firster, the one in particular I think of on the Board of Regents, could no longer defend his position, and the President, of course, was thought now clearly to be in the right. This is the way when wars occur. Until they happen, issues are debatable. Once there is commitment to war, it becomes close to treason to resist it. Risks of this kind face anybody who has independent jugment with respect to our present entanglement in Southeast Asia.

I haven't much doubt that this sharp difference between Mr. Sproul and the Regent who was an America Firster may have had a good deal to do with the strains between the Regents and Mr. Sproul during the oath controversy. When Mr. Sproul finally became convinced that it would be better to retract the requirement of the oath, the very powerful Regent did all that he could still to force the oath on the faculty and see that those who refused to subscribe to it were dismissed.

Ariff: Is this man still a Regent?

Dennes: He's dead. These are inferences of mine...I mean, he never told me, nor did the President, that their difference on this matter tended to spill over into their difference on everything else. You see, they had been the greatest of friends, and this happens with great friends; when you differ sharply on a terribly important issue, sometimes you're more impatient and irritated with your friend than you are with a stranger, because you think the friend ought to know better, he ought to understand.

Ariff: That's a good point.

Dennes: Well, so good a point that Freud has a name for it, the narcissism of minor differences--the difference between the Scots and the English, between the Portuguese and the Spanish. Freud thought that an Englishman expects mere Frenchmen and Germans and so forth not to understand him very

Dennes: well, but when a Scot differs from him, a neighbor, why he's terribly irritated and angry, resents it, because if a difference is minor, if two people agree on nearly everything, sometimes the slightest difference is almost intolerable.

I'm sure the narcissism of minor differences, as Freud calls it, is, if it's at all extreme, a neurotic symptom. If you're at all healthy, as in a happy marriage, the fact that you may not agree on everything doesn't really loom so large. (Although on important things I suppose it's harder to have one's wife or husband differ from one than it is to have a mere stranger differ with one.)

LOS ALAMOS, 1943

Early News of Atomic Fission

Dennes: In the years before the war eminent colleagues of mine in physics and mathematics were telling me at lunch at the Faculty Club that the fission of the atom, the splitting of the atom, had been by the work of Meitner and Hahn proved theoretically quite possible,and that the fission of the atom would yield explosive energy 1,750,000 times as great, ounce for ounce, as TNT, the most powerful conventional explosive, yielded. It simply needed an immense scientific and engineering push to develop usable atomic explosives.

I didn't believe them, mainly because I had been taught by Lindemann that although the atom could be split, it would take exactly as much work to produce the split as would be yielded by the release of the energy of cohesion, so there was no possibility of getting usable energy out of the atom. You'd have to put as much work on it to split it as you'd get out of it. He supported this by the ancient principle of the conservation of energy and the conservation of matter, that nothing can come from nothing, a view which of course was developed by Parmenides and the other early Greek philosophers and scientists, and which has a powerful, even a strangling, hold on Western thought ever since.

And you know, it was in the early Twenties that Mr. Lindemann (as he then was, later Lord Cherwell), was lecturing at Oxford and that I was in his classes and became convinced of the point that I mentioned, that the conservation principle guaranteed that you wouldn't get out of the splitting of the atom any more energy than you brought to bear on the atom to split it. He should have known, in view of papers published by scientists

Dennes: around 1919 to 1920--he should have known better, I think. It makes me wonder if Winston Churchill, when he was Prime Minister, had as good a scientific adviser in Lord Cherwell as he should have had. Of course, the great Rutherford, who was obviously the greatest of the atomic scientists in England, was by this time unfortunately dead.

Ariff: We're leading up now to the Los Alamos period. When did that...

Dennes: Well, in 1941, around the time the Russians were attacked by Germany, but before we were in the war, some very eminent scientists who were refugees in this country, Leo Szilard and Enrico Fermi and Ed Teller, whom I came to know at Los Alamos, composed a letter to President Roosevelt explaining to him that the theoretical work necessary as a base for releasing atomic energy had been done. It was clear that atomic energy could be released. It was clear that the Germans were working on it, were producing heavy water in the Scandinavian laboratories. These men warned President Roosevelt that if the Germans succeeded in producing atomic bombs, the world might be at their mercy and that we ought to develop a very powerful and urgent program of scientific and engineering development to try to get the atomic bomb, whether we ever used it or not, before the Germans did.

These men, I understand, felt that they had no access to President Roosevelt. They felt that Einstein did, or Einstein through an economist friend of his, would have every opportunity to see to it that the letter got into Roosevelt's hands. So, on July 2, in the country on Long Island, Einstein signed the letter, and his friend, the economist Sachs, was to get it to the President.

Einstein, in his usually terribly modest way, has said that he just served as a pillar box, that is a post box ("pillar box" of course is the English name for mail box), that he simply served to transmit it.

It actually reached President Roosevelt only on October 11th, such is the immense press of business, and such is the more or less unavoidable protection of the President by an immense staff of executive assistants, secretaries, and so on.

Dennes: Of course with hindsight we would say that this letter should have reached him right away, and that any letter signed by Einstein should have reached him right away.

Ariff: When was it written?

Dennes: It was signed by Einstein on July 2, 1941. It was composed by these other gentlemen, but Einstein was perfectly able to understand the whole point about the urgency of the matter, though he himself had not given a great deal of attention to this dimension of, or this possibility of, atomic and nuclear physics. I mean he was not greatly interested in the engineering and military applications that might be made. But he understood what his friends had to say, and he understood the terrible seriousness of it and the terrible risk that would face the world if Hitler should get atomic bombs before anybody else had them.

Long before anything was done at President Roosevelt's instigation, I gather, though on this I have only impressions, men like Robert Oppenheimer and Ernest Lawrence were meeting with leaders in their field, and many of the meetings were here in Berkeley, and perhaps many of them were supported by federal funds, when Roosevelt came to recognize the urgency of the matter. They were meeting and discussing the several ways by which atomic energy might be released: through using purified, unstable uranium, through various other methods in which the Vandegraff machine at Wisconsin, the Radiation Laboratory at Berkeley, and various laboratory techniques by this time developed at M.I.T., and at Columbia, would be relevant.

Well, Pearl Harbor came in December, 1941. Although I was ignorant of what was going on, and it was all, of course, very confidential, one couldn't help being aware of a great stir of interest among the ablest of the theoretical and experimental physicists, and with hindsight one knows that they were working very hard on the development of the best plans for producing atomic weapons if they should be needed. I suppose it was during the autumn of 1942 that Oppenheimer totally disappeared from my sight in Berkeley--not that I ever knew him very well. And early the next year I was asked through a great friend, Donald Shane, if I would be

Dennes: willing to go to Los Alamos and help out with work that Oppenheimer was doing there, work that I must keep absolutely under my hat, I mean the very idea that there was such work. In fact, the address of the whole enterprise was a room in LeConte Hall--I've forgotten the number, but 322 LeConte or something was the address of Robert Oppenheimer, the address of the project, the address of me for quite a while.

Dennes Asked to be Assistant Director

Ariff: Do you know why you were chosen? Do you have any idea?

Dennes: Yes, I have some idea. Among the great friends who became intimate friends of mine in my days of work on the Budget Committee was Donald Shane, who was later Associate Director at the Radiation Laboratory at Berkeley and then Los Alamos. And I should mention also friends like Griffith Evans, the mathematician; Roy Clausen, the geneticist or plant physiologist; Robert Lowie, the anthropologist. Clausen and Lowie are no longer with us. But many long evenings a week and Saturdays and Sundays of service on the Budget Committee would either have made us get on each other's nerves and become sworn enemies or, if we were sympathetic, congenial figures, very good friends. I'm glad to say that I became very good friends with the men with whom I worked on the Budget Committee over the years.

I was teaching some mathematics after the war began, to help out in Berkeley, and Shane knew that I wanted to do more. Of course, I was rather too old to be of any military use. I had applied to the Navy. Although I had had training in the Navy in the First World War, I never had any combat experience, and by the time the war began in 1941, I was forty-three years old. I still remember the answer of some admiral in the Navy who appreciated very much my willingness to be of help and to come back to the service, but "In view of my great distinction," he wrote, they would have to find a commission for me far beyond what they felt my naval

Dennes: experience would justify!" [Laughter] So they greatly regretted that they couldn't find work for me in the Navy. I suppose they thought that a full professor as such would require a very lofty naval rank.

But Donald Shane knew that I would like to be of somewhat greater use in the war effort than I was. And I think not only that he recommended me to Oppenheimer, but probably urged that Oppenheimer get me to help. And you may well ask in what way could a philosopher help. Well, although Oppenheimer thought my work in mathematical logic might be some help in setting up the computer program (actually, geniuses at this field were very quickly brought to Los Alamos, men like Richard Feyneman, still a professor, I think, at Cal Tech), roughly, it was thought that to give me problems that could be handled by a man of common sense and intelligence would release the time of the great leaders in mathematics, physics, chemistry, and engineering to work on the main problem.

One of my first jobs was to try to figure out a way by which we could write to hundreds and, in the end, thousands of draft boards over the country, a sufficiently impressive letter to make them think that they ought to defer the young men we were using as technicians or scientists and yet not tell enough to give away what was going on. Mr. Oppenheimer had thought that a blanket deferment could be granted to all the Los Alamos staff, in fact, to all the staff of the Manhattan District, which included the work going on in Berkeley, in Boston, and in Chicago at the "Metallurgical Laboratory"--as Mr. Fermi's program called itself to conceal its real nature--at Columbia, and later at Oak Ridge, Tennessee, and in the State of Washington. Oppenheimer thought that the President, or the Secretary of War, or Mr. Hershey, who was head of Selective Service, could give a blanket deferment to all these thousands of people.

But actually it was clear that the draft law said that all deferments had to be individual; there could be no blanket deferments. So in every case one had to begin with the local draft board and if necessary appeal to state boards--I don't know of any case where we had to appeal higher than that--and had to handle all the cases individually. Well, this was one chore.

Ariff: Yes, I can imagine.

Dennes: I participated, though I certainly can't say that I contributed much, in debates on all sorts of general policies, questions like, Should we allow the Army to put us all in the Army, where they thought they would be able to control our comings and goings?

In the beginning we were behind the barbed wire at Los Alamos on the mesa in that beautiful stretch of the mountains above the Rio Grande River, 1500 feet or so higher than Santa Fe and thirty-five miles from Santa Fe--perfectly beautiful country. At first we were discouraged from leaving the enclosure. Then we were allowed to move around in our free time Sunday afternoons or whatnot, walk in the mountains around there. We were still discouraged from going to Santa Fe because spies might ferret us out, might talk with us, or get some hints. This was pretty hard on the women, not to be able to go to Santa Fe to shop. There were no shops at Los Alamos; now it is a considerable town, of course.

As I think I may have said, Mr. Oppenheimer thought that he wouldn't need a crew of more than about 120 people up on the mesa. The mesa was the site of the Los Alamos Boys' School, a private school, which had perhaps forty boys, teachers and their families. There were perhaps sixty people living up there, and there was water enough for about sixty, and there would have been for 120. But there were soon more than 1000 of us there, and presently more than 2000, and not water enough. What water there was was so heavily chlorinated that you could hardly drink it. If drops spilled on the girls' stockings, immediately they were bleached white. The spots were white.

Ariff: Oh, my!

Dennes: The engineers, in spite of the scarcity of steel and of steel pipes or iron pipes, were bringing in little trickles of water to Los Alamos from rivulets they heard of thirty miles away. Pretty soon they were also trucking it up from the Rio Grande River. They were considering using hydroscopic salts to try to pull some water out of the air, but I can assure you that the New Mexico air

Dennes: at an elevation of 8500 feet is so dry that I think you'd have got very little water by this method. [Laughter]

The San Ildefonso Indians and the Project

Well, it was at about this time that the San Ildefonso Indians, whose pueblo was at the foot of the mesa on the Rio Grande River--there they grew their corn and peaches and had really a lovely pueblo--about this time they put on no ordinary rain dance, but a special two day rain dance in our behalf. I attended part of this dance, found it a little monotonous but quite impressive.

There had been a time when these Indians brought the rain dance into the church for Saint Joseph to enjoy. The Catholic missionaries had built a church there, and I don't suppose the church was dedicated to Saint Joseph, since the pueblo was called San Ildefonso, but Saint Joseph was a favorite of theirs.

But a new priest that had come had objected to mixing pagan with Christian ceremonies and wouldn't allow them to bring the dance into the church. So the ingenious citizens of the pueblo solved the problem by building a little shrine of boughs in the courtyard of the pueblo outside the church and bringing Saint Joseph out to sit in the shrine where he could watch and enjoy the dance without the dance being brought in to desecrate the church.

Ariff: I understand there is quite a bit of this inter-relationship there in New Mexico.

Dennes: Oh, yes. Oh, the Roman Catholics have been--I don't know how they are now--but they were in the past very ingenious at adopting a good deal of local Indian ceremony and custom and combining it with Catholic ritual. But some purists didn't want to combine them.

Dennes: Well, at the culmination of this dance the two oldest women in the tribe walked about and from their huge shawls threw, for the children and others to catch, loaves of the delicious, fragrant bread that they baked in their Dutch ovens from meal ground fresh from their own cornfields, wonderful bread. And as that was used up, they began to throw out for the children to catch our American factory-baked bread in paraffin wrappers, and Cracker Jacks. [Laughter] It really seemed a dreadful commentary on American civilization, the descent from the wonderful bread they had baked to this sawdust-like stuff that we had in the waxed paper wrappers. Well, after the dance, the rain came.

A great many of the men of San Ildefonso, and some of the women, worked as janitors, as baby-sitters, and so forth up at the mesa. One, Po Powi Da, was sort of janitor in the area of my office. He later became governor of the pueblo. His mother was Maria Martinez, the great potter who made the beautiful black pottery, which you may have seen and admired. (We have a few pieces of it.) Po Powi Da was far too fine a gentleman to rub it in over us non-Indians, but it was perfectly clear that he thought that in spite of all our elaborate machinery, that when it came to important things like making it rain, they understood it better than we did.

Of course, they did the rain dance in June, shortly before the thunderstorms come, if they come at all. They don't always come. But if there is to be summer rain, it's a pretty good time to do a rain dance, because the thunderstorms do come in July and August. But water remained short to the end and had to be trucked up from the river.

Problems of Organization and Secrecy

Dennes: Problems arose about keeping us civilians, or giving us commissions in the Army, and giving our eminent leaders like Oppenheimer, and for awhile Condon, Bethe, and Teller, very high commissions in the Army. But no matter how high the commissions, they would have had, as Army officers, to go through channels if they wanted to deal with a full general or the Secretary of War or the President. As civilians, they could talk to a sergeant or a general or, if he would see them, the Secretary of War, or the President, without the elaborate routine of going through channels that would be required if they had been in the Army. So we agreed to resist this, and we resisted it successfully.

There were questions about the highly confidential nature of the work. The Army engineers had originally taken the view that only the heads of the various laboratories in the Manhattan District, men like Lawrence at Berkeley, Oppenheimer at Los Alamos, and Fermi at Chicago, and so on, would know the purpose of these investigations, and that specific limited research would be assigned to chemists in chemical problems, to metallurgists in metallurgy, to mathematicians in mathematics, to physicists in physics. By splitting up and compartmentalizing the work, the secrecy of the whole enterprize would be maintained.

Well, before the laboratory was set up there had had to be consultations with a lot of eminent nuclear physicists, and I'm sure bright ones continued to infer a good deal of what was going on. But also we felt that for the hundreds of very, very high level scientists accustomed to the amenities of university and city life, pulled out of great centers like New York and Boston and Berkeley and put behind barbed wire on a New Mexico mesa, that if they could talk fairly freely about the main problems that faced the laboratory, they would be a good deal happier than if you imposed this artificial division on them. No doubt you could have partly succeeded in keeping chemists from knowing what mathematicians were doing and so on, but we also felt that not only would they be

Dennes: happier and more productive together, but we felt that brains didn't come labeled chemistry or labeled metallurgy or labeled mathematics, and you could never tell when a mathematician might think up a solution that would considerably help a chemist on a problem he was working on, and so on.

I participated in discussions of policy questions like this, and, of course, any help I could give and any cases where I could carry the ball, I did. But things that I couldn't do, the top level scientists would obviously handle with the Secretary of War or whoever they had to reach.

There was even the question of building a good road up to our laboratory. The road was narrow, crooked, tended to wash out in thunderstorms, and we were carrying terribly delicate, valuable machinery, and delicate scientists, very precious ones like Niels Bohr, up to this mountain top, and we thought it very important that a good road be built up from the river.

There was a good road from Santa Fe to the river. There was nothing at the crossing but Miss Walker's pueblo and her delicious meals. Miss Walker was a New England woman who came out and fell in love with New Mexico, I guess taught in the schools and built herself this house and courtyard by the river. She became a kind of patron saint of the Ildefonso Indians, was their teacher, wrote letters for them, tried to help them to understand the laws that protected them and to take whatever steps were needed to safeguard their property. A very fine Indian, an old man by this time, lived in her pueblo and presided over the gardening. Most people thought there was a common law marriage between them. I have no idea whether there was or not. I hope they had a happy life together; I know nothing about it. He presided over irrigating the garden from which fresh lettuce, fresh green peas, fresh roasting ears, could be got to bring up to Los Alamos.

From time to time one of the greatest treats was to go down to dinner at Miss Walker's pueblo. Her omelets au fromage were just wonderful. Indian girls helped her with the cooking and housework, but when it came to this cheese omelet, they turned

Dennes: over the operation to Miss Walker and said prayers while she cooked it. [Laughter]

Ariff: Was this sort of a little inn?

Dennes: No rooms. But visitors, originally I think Eastern friends of hers, would come out and want to explore the Rio Grande country. Her place was right at one of the flag stops of what is now a discontinued branch of the Denver Rio Grande and Western Railroad. In fact, I think she was stationmaster when she originally set up her place there. She flagged the trains down, put the semaphore signals up and gave the trains the right of way and so on. There were apparently only a few trains a day.

Friends from the East and friends from Santa Fe learned about the delicious meals that they could get there. You had to phone in in advance and tell her that you were coming. And I have no doubt that she put up some of her Eastern friends at her house, but I don't think that there was any regular hotel or inn provision. Mainly what she did was supply dinners to people who wanted to come out and sit in her courtyard and watch the sun set and moon rise over the Rio Grande and over the beautiful Sangre de Christo Mountains. It was really very beautiful country.

Well, we thought we needed a better road. You would hardly believe it, but the generals took the position that it would be a bad thing to put in a better road because a poor road would be a valuable protection against spies. We took the view that a spy who would be discouraged by a bad road you wouldn't need to worry about. [Laughter] Things like this quite set up us long hairs, us professors. When the generals and captains of industry offered such opinions as this, that a poor road was a valuable protection against spies, we felt that our wits even in practical matters were every bit as good or a little better than theirs. [Laughter] And we persuaded the engineer corps to authorize the building of a good road up the mountain.

When it was ruled that senior people could all know the story of what was going on and what the objectives were, a seminar met once a week and

Dennes: discussed the work and the principal problems that were developing, though I'm sure some of the best technical discussion was just day by day in the laboratory between fellow workers. This, I think, added a good deal to the interest of life on the mesa. But, of course, it did make things easier for a spy. When Klaus Fuchs came, I was no longer there, but when he came, he came with top clearance from England, so I don't think our security agents really felt they needed to look into the matter. I mean, here was a man cleared for top secret work in England--and the English were collaborating with us in giving us all the help they knew how to from Canada and England in this program.

And no doubt Fuchs was able to learn more quickly what was going on by virtue of the fact that the various researches were not sharply divided and split up. Though I would be surprised if anything he learned and later passed on to the Russians was much of a help to them on atomic fission and atomic bombs; what I don't know is how much he learned, if anything, about the fusion, the thermonuclear reactions that produce the hydrogen bomb--work in which Ed Teller was terribly interested theoretically.

How much, if any, Teller did of that at Los Alamos I don't know, because, of course, the main problem there was to get the atom bomb built. Teller was completely convinced that it was possible--many thought it wasn't--to go on to the thermonuclear hydrogen bomb, which would be an enormously more powerful bomb and also, if you could trigger it without using an atom bomb, much cleaner. (Speaking of clean bombs, in view of the devastation they produce, seems almost insane, of course.)

Well, whether Fuchs was able to learn about the theoretical speculations going on about thermonuclear reactions I, of course, don't know. It was a calculated risk, the risk that if more people knew the program, there might be a greater chance of a leak. But if more people knew it, there was also a greater chance of accomplishing the work rapidly, because the more brains that were concentrated and knew the full story, the better chance that anybody who had a useful idea would be able to bring it to bear.

The Theoretical Physicist's Visit to the High School

Dennes: Things like the above, and being chairman of the local school board, because we had to set up schools for our children at Los Alamos, and a member of the city council, because we had a town growing up--things like this occupied me. In all the important matters of policy, while I offered such judgment as I had, obviously the scientific geniuses were the ones to make the decisions.

I shall never forget the criticism of our high school by one of our scientific staff, who complained that the boys and girls in the high school were being taught physics entirely experimentally and empirically instead of theoretically, and that the time had passed when that was the best approach, that they ought to be introduced at least as much by way of theoretic work as by experimental work.

I invited this man to come to the physics class and teach it for a day. He was a very eminent physicist. Do you know what he did? He devoted the hour to demonstrating the Euclidean theorems about the relations between the sides of a parallelogram and the diagonal. As you may know, the resultant of two forces pulling on a point at angles to it--the resultant force is a force whose direction is as the diagonal of the parallelogram of which these forces are two sides, and whose magnitude is the magnitude which is something less than the sum of the two pulls, the two forces. The magnitude corresponds to the length of the diagonal.

This is a very interesting thing; I mean, that this Euclidean theorem is a means of stating the vector relations between the vector pulls on a point and the resultant. And this theoretical physicist spoke as if by proving the theorem of Euclid, you could demonstrate that two forces when they pull on a point will produce the net effect which is as the diagonal of a parallelogram is to its sides. However, this could only be determined by actual experimental measurement.

Dennes: Of course, it is one of the delightful and astonishing things that so much of pure mathematics turns out conveniently to fit the world. But where it doesn't fit the world, we have to alter our mathematics, as we have done to fit Einsteinian physics. We haven't, because Euclid's and Newton's were simpler physics, we haven't said, "Ah, we rule Einstein out." Although some people did think that if Planck and Einstein were right, this greater complexity of pattern really was intolerable, that nature didn't make jumps, natura non facit saltum. So there couldn't be, many thought, quantum shifts unless an impressed force produced them.

I was very amused at this eminent physicist who tried to teach a class of boys and girls that by proving geometrically the relation of the diagonal to the sides of a parallelogram, you could somehow prove that two forces pulling on a point would produce a net result, a resultant of the two vectors which was to the vectors as the diagonal was to the sides of the parallelogram. I'm sure that he actually needed to learn that you can't demonstrate facts about nature out of pure reason. You can't out of mathematics prove the way things will go in the world. Even the simplest arithmetic, unless its reference is limited to defined symbols, doesn't even establish that two plus two equals four in nature, if you mean that two quarts of water and two quarts of alcohol will add up to four quarts. They add up to a good deal less. Or that two rabbits and two rabbits will add up to four. They may add up to a big crew of rabbits. [Laughter]

It is wonderful how well mathematics fits nature, but mathematics does not control nature. You cannot out of proofs in geometry determine facts about vector forces and their resultants.

These were some more of the kinds of activities that I participated in at Los Alamos. And it was a great joy and stimulus to me to meet and talk with the scientific geniuses who assembled there. Niels Bohr (who came to us under the pseudonym of "Mr. Baker") was more interested in talking theory of knowledge and philosophy of an evening than he was interested in talking physics. No doubt he worked so hard at physics he found some relief in a more relaxed kind of discussion.

Dennes: I learned from him that he very clearly meant, when he talked about the interaction of observer and observed, of subject and object, not that thinking about things changes them, but that the observer's technique of handling the object to observe it, the focusing of other beams on electrons to find their position and so forth, this was the way in which the operations of observation altered the data that were observed.

I was so ignorant of the work of some of the physicists, like Hans Bethe, that when I heard he was coming, I thought this must be a super-secret man who went by a Greek letter as a pseudonym, but it was Professor Bethe of Cornell and formerly of Munich, the pupil of Sommerfeld. It was very great to see these men at work and as a philosopher to get fresh ideas on how explanation developed, how new ideas are hatched, and how high level scientists work together.

Ariff: I think it showed great foresight on the part of those setting up the program to choose a philosopher.

Dennes: One of the things that occupied me very much, when I knew what was underway, was the moral problem of whether we ought, if we succeeded, just demonstrate this weapon to neutrals who would then advise our enemies to lay off because we had a means of wiping them out, or whether we should use the weapon on our enemies. Because there was no possibility of dropping atomic bombs on a military target and not wiping out thousands--wherever there was a military target there would be civilians around.

But I don't think my friends and I were ever consulted. Some scientists like Szilard did try to persuade the President to demonstrate the weapon, and not use it in Japan. I think commissions asked Lawrence and Oppenheimer their advice, and I think they probably advised that this was a matter for political, not scientific decision. We thought an awful lot about that, but as far as I know we really exerted no influence on how the thing would be used. On that a philosopher might have been of more use than on other matters. But I don't think philosophers were ever consulted as to whether the bomb should be dropped on Hiroshima and having been dropped there, dropped again on Nagasaki.

[Interview # 7, November 15, 1967]

Robert Oppenheimer

Ariff: You're familiar with the regrettable circumstances that occurred later as far as Robert Oppenheimer was concerned?

Dennes: Yes. I was in England in 1954 during that long hearing, but I read the full text of it. And I think it really very shocking. I mean to say, if there had ever been the slightest intentional or unintentional indiscretion on Oppenheimer's part, the fine-tooth combing that went on for twenty years would have caught it, so that although he was a man of somewhat extravagant imagination, and he tended to overdramatize all sorts of situations, and he had many friends, who varied from extreme conservatives to leftists, Marxists, and so forth, the idea that he was in any sense disloyal to the country is, I think, completely unfounded. In fact, this was the conclusion of the board of inquiry, that there was no evidence of disloyalty, but that he had enough friends of doubtful stability that it would not be appropriate to continue his clearance for secret materials.

At about the same time I was again cleared, with Q clearance, for receiving secret materials, because work in the Graduate Division involved dealing with research programs, some of which were in those days highly classified. Of course, the government was very safe with me, because a great part of the technical subtleties of these things I just didn't understand. [Laughter] The chance--even if I had wanted to--of my being able to tell anybody anything instructive about most of them, was practically zero.

That Oppenheimer overdramatized many of the situations through which he lived is, I think, certainly true. You probably know, if you read those hearings, that in the course of them he said that what he had told the Army G 2 in 1942, was

Dennes: "just a cock-and-bull story." The Army G 2 looked after security for the Army before the F.B.I. was set up to look after such matters as A.E.C. security; and some majors in Army G 2 called on Oppenheimer when he was planning the Los Alamos laboratory. He was still living in Berkeley, and they called on him to discuss problems of security with him. He told them that he was perfectly aware that some Russian agents were trying to reach some of his scientists to find out what was going on. The Army G 2 men said, "Well, you tell us who these scientific colleagues are that the Russians are trying to reach." Oppenheimer said, "No, I won't tell you, because they're completely reliable men." The Army G 2 men replied, "We believe they're reliable, but if we knew who the targets are that the Russian agents are trying to reach, who the men are that they are trying to reach, we could more easily check up on Russian espionage."

Oppenheimer wouldn't tell them, and the Army sent dozens, maybe scores, or hundreds of men to work, trying to ferret out who the Russian agents were and who they were trying to approach. Oppenheimer, twelve years later when the board of inquiry looked into these things, told the board that had all been just a cock-and-bull story. How to explain this? I believe him when he said it was just a fantasy.

Ariff: That he had just pretended in 1942 that he was aware of Russian attempts to make out what was being planned at Los Alamos?

Dennes: Yes, but how to explain that? I had the feeling, strange as it may seem, that there were some psychological insecurities. Possibly as a brilliant little Jewish boy he may now and then have encountered meanness and discrimination and over-reacted to them. He seems to have needed to prove to these Army majors that his eyes were open, that he knew the score, that he was looking out for Russian agents, and in doing so he fell into the fantasy that he later described as a "cock-and-bull story."

It reminds me of an incident when I was a boy of six or seven and some big boys put me in jail for life. There was an old loading platform next to a warehouse, and the top of the platform was off. They put me down into the walled area and told me they were going to keep me there forever. Well,

Dennes: after an hour or two they lost interest, and I went home. I told my father and mother that Mr. Allen Galloway--certainly much the most impressive man in our neighborhood, a big handsome man, a director of the bank, a pillar of the church, with a magnificent ranch--I told my parents that Mr. Galloway had come along and told those scoundrels to clear out and let me out of jail.

I wasn't equal to fighting these big boys: I wasn't much of a fighter anyway--and I suppose I wanted God or my father or some powerful figure to come and just put them in their place. Well, this was a sheer fantasy. At six or seven many children imagine very fully. But a week or two later my father saw Mr. Galloway, and thanked him for rescuing me. Mr. Galloway, of course, knew nothing about the matter. I got spanked.

I was overdramatizing this situation, you see, and I rather think Mr. Oppenheimer, for all his brilliance, for all the admiration and appreciation he received, still had some need for more approval and admiration, even from the Army G 2 men who were in no sense his intellectual equals. So he had put on a little show of explaining that he knew about Russian agents that were trying to approach some of his scientific colleagues--a show that he later called a "cock-and-bull story." All of this is just my speculative explanation of why he said in 1942 or so, what in 1954 he described as just sheer fantasy.

Poor Mr. McCloy, a member of the board of inquiry and a great admirer of Oppenheimer's (and by this time Mr. McCloy was the president of Chase Manhattan Bank), was asked by Mr. Robb, the attorney for the board of inquiry, "Now,Mr. McCloy, suppose the manager of one of your branch banks told you that some men were trying to approach his tellers and get them to open the vaults at night and take out the money. And you asked the manager of the bank, 'Well, now, who are these tellers of yours who have such friends?' And he said, 'Oh, I won't tell you because they're perfectly reliable men.' And he kept this myth going for ten or twelve years, and then one day he said, 'Well, you know, Mr. McCloy this was all just a cock-and-bull story. There were no people trying to approach my tellers in my branch of the bank.' Well," Robb

Dennes: asked McCloy, "What would you do if you had a manager of a branch bank who worried you for twelve years and then told you it was just a cock-and-bull story?"

McCloy was pretty embarrassed, but he said he would at least try to judge the usefulness of the manager, before he would drop him on account of this fantasy. And I'm sure that many people regretted that Oppenheimer had ever told this story which mushroomed into something very large. Of course, there were very many other sources of gossip about him, and I don't pretend to know the whole story at all; but it was terribly regrettable that he should have let his imagination get the better of him. Although maybe the very fact that he was an imaginative and original scientist went with his tending to dramatize even such ordinary transactions.

Ariff: I've noticed that oftentimes creative people will talk about something just to hear how it sounds, or for some intellectual exercise. They might even say that such and such they really believe to be true, and that it is their whole approach to things, but when you look at their work, it doesn't follow.

Dennes: The very great English political scientist, sociologist, and social philosopher, Harold Laski, had a powerful imagination. God knows he'd read a lot, and knew nearly everybody, but he imagined that he had read even more than he had and knew more people than he did. When he was visiting in this country at one time, at a dinner the people decided they'd lay a trap for him.

They asked him what the Domesday Book--the famous English medieval account of the counties, the shires, the divisions of authority--what the Domesday Book said about some part of an English shire, I've forgotten which one. With properly scholarly caution he said that it seemed to have held this or that about that part of England; but everybody knew that this was an area that was totally blank in the Domesday Book.

This was a kind of cruel trick to play on Laski, to ask him what the Domesday Book said about something they all knew it didn't say anything about at all. But he invented an account and ascribed it to the Domesday Book. In fact, if he'd been looking

Dennes: into this part of England, he might have used that as a hypothesis, he might have said, "Now, wouldn't the Domesday Book say this?" and then looked into it, and found in this case that it didn't.

I saw Oppenheimer when he was out here giving the Hitchcock Lectures and talked with him at various times, but the last leisurely conversation I had with him was really back in 1948. I had work to do in Washington. This was in my period of service as Graduate Dean at Berkeley, and he invited me to come and spend a day or two with him at Princeton. He was by this time Director of the Institute for Advanced Study at Princeton. I did come by and stayed the night, the night of election day it turned out, in 1948, when Truman and Dewey were the candidates.

Oppenheimer had been in Europe and he and his wife had got back to Princeton too late to register in time to vote, so they hadn't been able to vote. I think if he could have voted, he would have voted for Truman. At the same time he was saying that night that really the country needed a change, that the people inherited from the Roosevelt Administration were really all tired out, that Stimson and Forrestal and the rest, extremely fine men, were nevertheless exhausted. The voters would be wise if they put in Dewey, who he thought was probably a good administrator, and would appoint a fresh set of people to work in Washington.

The next morning at breakfast Oppenheimer turned on the radio and it announced that Dewey was getting the electoral vote by a small margin, but that the popular vote was going to Truman. He slapped his knee and said, "These wonderful, wonderful American people, Will; they know that they need a change of personnel, but they don't want to give Dewey any overwhelming mandate. They're putting him in, but are giving Truman the popular majority, so this will teach him to be careful."

Well, the American people would indeed be very wonderful if they did this deliberately. They have in fact, but unintentionally, done this once or twice in the history of Presidential elections where the popular vote has gone one way, and the electoral vote another. But if you're going to design to do that, which means that you have to let one candidate

Dennes: win electoral votes by majority of a few votes and then lose electoral votes in other states by large majorities, well, the American people would have to be awfully clever and subtle to do it. So I was very amused at Oppenheimer's exclamations about these wonderful American people who had given Dewey the Presidency but not a popular mandate.

I got in the train to go up to New York, and by the time I got to my hotel, Dewey was conceding the election to Truman over the radio. I went on to lunch where I had to meet some people at the Century Club, and a good many of them, having a drink at the bar before lunch, were looking very seedy--I think they had been up listening all night to election returns, probably plying themselves with coffee and highballs. And you know what they were asking? "Couldn't an appeal be made to the higher nature of some of the electors?" As you know, strictly speaking, electors technically, although elected to vote for Truman, could use their judgment and vote for Dewey. These men were wondering if you couldn't appeal to the higher nature of some electors and get their man Dewey in after all.

That conversation with Robert Oppenheimer was typical of the wit and gaiety and alert attention to everything that was going on that was characteristic of him. He loved the Southwest; he loved New Mexico. Of the paintings he had collected in Europe, a couple of Dürers he got because the colors of the landscape reminded him of the hills of Berkeley, and others of mesas of New Mexico. It was a great shame that his last year was tortured by the discomfort--well, it was more than a year--of cancer of the throat and esophagus. Of course, the poor man was more or less starved; he'd always been very thin, but he couln't swallow easily and I'm told finally had to be fed intravenously.

It was in my opinion a dreadful miscarriage of justice for the board of inquiry and the Atomic Energy Commission, headed by Lewis Strauss, to lift Robert Oppenheimer's clearance. Oppenheimer was one of the first persons to whom President Kennedy determined the medal of honor for distinction in the science, arts, and humanities should be awarded. I can't remember whether it was actually given him by Kennedy or Johnson, whether or not the

Dennes: assassination occurred before Oppenheimer received the award. But this recognition I'm sure did a good deal to raise Oppenheimer's spirits. He was retiring at Princeton as of the end of June last, but as you know in April or March he died, before he had actually retired.

Ariff: How long did you spend in Los Alamos altogether?

Dennes: Oh, not very long, about nine months. I dealt with problems of the kind I mentioned last time. I set up a more or less standard set of a dozen or so types of letters that could be sent to draft boards. I had got to the point where what I was doing was mainly listening to the girls' electric typewriters going through these things, and there was very little new for me to do. If I had felt I could render important service, I would certainly have continued.

Also, I didn't want to bring my family down there, because our son was very, very happy at his school down in the mountains east of Santa Barbara--at Thacher School in the Ojai Valley. He was so happy and doing so well that we wanted him to continue, and by the regulations nobody over twelve could come and go at Los Alamos. If we brought him onto the mesa, he'd have to stay there until the war was over. Oppenheimer told me that he would make an exception in my son's case. But I had the feeling that if you make exceptions, you can't make them for the assistant director of a project. I mean that it would be very bad policy for the administration to make exceptions for one of its own members.

Ariff: You were the assistant director?

Dennes: I was Assistant Director of Los Alamos Laboratory.

I had the feeling that I had accomplished about all I could by being down there from Berkeley; I went down occasionally from Berkeley afterward. In some respects there were things that I could do in the way of liaison between the Los Alamos and the Berkeley programs, so rather than have an exception made in my case with respect to our son, I came back to Berkeley and went on with some mathematics teaching to help out in the war program at the University. I came back to be professor of philosophy in the fall of 1943, and do mathematics teaching and to help out in any ways I could with the Manhattan District effort.

ADMINISTRATION AND RETIREMENT YEARS

Graduate Dean

Dennes: We were going to discuss work that began in 1947 as Graduate Dean today, were we?

I think I mentioned that Mr. Sproul, in urging me to accept that post, argued that I would learn how universities were administered, I would learn about the research going on in all sorts of fields of endeavor, and that all this, far from being a distraction from my work as student and teacher of philosophy, would be valuable grist for my mill. It was on the whole quite interesting work.

The greater part of my time, of course, went into the standard diaconal jobs. (Do you know the word diaconal for deanish? It sounds nicer than deanish.) [Laughter] Most of my time went into the standard diaconal jobs: looking after admissions candidates for the graduate division from our own colleges within the University of California, from other American institutions, and from foreign universities; presiding over the scholarship and fellowship program, our own here at Berkeley--and the graduate division in those days covered not only Berkeley but the graduate program in Davis, in San Francisco, in the schools of medicine, pharmacy, and nursing, and at Lick Observatory, our astronomical department on Mount Hamilton.

It was very pleasant indeed to have occasion from time to time, in fact a need, to spend a day or two at the Lick Observatory or at Davis with, in many cases, new friends that I made there. One of them, Fred Briggs, was later persuaded to be associate graduate dean and look after the Davis work. Later he became dean of the graduate division at Davis, and still later Dean of the College of Agriculture there. He was shortly after his

Dennes: retirement killed in an automobile accident as he drove home from scientific meetings in the south.

I also served on the Advisory Council to the Medical School in San Francisco. All these chores were interesting. A good deal of time went into study and action or recommendation of action to the Graduate Council and to the Academic Senate on new fields for degrees. There were always areas of study, librarianship, journalism, and the like, and cross-cultural fields like biological medicine, as against mere biochemistry, that wanted to develop doctoral programs. Well, the study of proposals for new fields and for changes in requirements for advanced degrees, changes in the language requirements, these problems occupied a good deal of time. I was chairman of the Graduate Council and brought proposals to them. If they approved, they went on to the Academic Senate for action.

And I spent a good deal of time not only on our own scholarship and fellowship program but as an advisor to the Woodrow Wilson scholarships and fellowships and the National Research Council's program of scholarships and fellowships and later the National Science Foundation's program.

Other standard jobs were cooperation with and selection of the graduate advisors in all the various departments that offered graduate work in the Northern Section of the University, which as I say included four campuses. There was also the job of appointing committees to guide candidates and examine candidates for higher degrees. The President asked me to take off his shoulders the work of presiding over the committees that recommended appointment to the endowed lectureships like the Hitchcock and the Howison and the Jake Gimbel and so on, and also when my committees had made recommendations to do the work of inviting the men who were to give the endowed lectureships and more or less serve as their host here, seeing to it that they met the people they wanted to.

Much of this was quite interesting. I got to know pretty well men like Tiselius, the biochemist and biophysicist, David Katz, the psychologist, and Sir Geoffrey Taylor, the famous British applied mathematician at Cambridge.

Sir Geoffrey Taylor's Marksmanship

Dennes: Taylor, when he came to us, very much wanted to use part of the money he would be paid as Hitchcock Professor to rent a sloop and sail in the Aegean. He was a great sailor--had made some meteorological discoveries as a young man and had invented an anchor which the British navy and merchant marine used in their middle-sized ships. (You know, the anchor is such an ancient implement of navigation that in the twentieth century to be good enough to devise a new anchor was quite something.) Well, by the strict interpretation of the English laws, anybody earning money abroad had to bring it all back to England to be taxed, and so although he was going to a meeting in Constantinople of applied mathematicians, he couldn't take any money there to have his sailing excursion on the Aegean. I rather urged him to put a couple of hundred dollars in his pocket or send it to a friend in Turkey. I said he deserved it, and it should be regarded as possibly contributing to his research. But he was too faithful to the laws of England to do this.

Luckily, an American colleague, Davison, who was going to the meeting also, wanted to sail the Aegean, rented a yacht, and the two men had a couple of weeks of sailing among the Greek islands. I have moved among the Greek islands only on small steamers, and they are fascinating, certainly. A port like Lindos on the island of Rhodes is surely as beautiful as any spot in the world, its lovely harbor and acropolis. I was very proud, when I was last in Greece, of the citizens of Lindos, because Madame Onassis, the sister of the great shipping magnate Onassis--she was a married woman, but perhaps because of the eminence of the Onassis family name she went by the name of Madame Onassis--she wanted to buy the whole little cove at Lindos and some of the land around it and put up one of her motels which would be much the Florida-Southern California type of motel, very handsome and comfortable in its way, with swimming pools and terraces and so forth, but it would have been dreadful to take over that lovely little harbor. I'm very proud of the citizens of Lindos, because although

Dennes: they looked as if they could use the money, encouraged by a few English and American visitors who had winter homes there, they refused Madame Onassis's millions, or hundreds of thousands, whatever they were, and wouldn't sell her their land. So she had to build her motel a mile or two further along the coast, where I'm sure the water was just as good, and her structure wouldn't violate Lindos.

Well, I can't resist telling you that in 1914 Taylor, when he was just a young graduate of Cambridge in applied mathematics, and the First World War began, wanted to enlist. But his friends said, after all, with his scientific training he ought to put that to some use rather than being an infantry private. As I say, he had already made some contributions to the understanding of three-dimensional meteorology, meteorology which takes into account the depth of cloud and other formations as well as their visible character, depth as determined by balloons. And he went down to the War Office in London to tell them that he thought if they would give him a small staff and telegraphic equipment, he could develop a useful meteorological unit to send with the British Expeditionary Forces when they went to France.

The generals who talked to him patted him on the shoulder and said it was awfully thoughtful of him to come down and offer his help, but "you know, we don't plan to carry umbrellas into combat." In other words, they thought that weather predictions were only useful in civilian life where you might want to know in the morning whether to carry an umbrella or not. [Laughter]

Within a few months they were very interested indeed to have the very best meteorological advice they could get. Meanwhile members of the infant Royal Air Force heard of Taylor's availability, and got him and a few others to help them out with problems that faced the air force.

One of the first things they asked him to do was to devise some darts--the French had apparently dropped darts and rather demoralized the Germans in the trenches. Of course, darts is almost a national game in England, so the English thought

Dennes: they should have the best darts there were. [Laughter] Taylor told them that it was a waste of steel to put it into darts, better to use it for projectiles. But they wanted them, so he and his colleagues designed them using a shot tower to test the spin of the darts.

Do you know what a shot tower is? Down it drops of lead are dropped, and they become perfectly round and cold by the time they reach bottom. The way of making shot is to put molten lead through a sieve high up in a tower, and as these drops come down they become beautifully spherical, and they are cool enough to be solid, or reasonably solid, by the time they reach the bottom.

Well, they were given a shot tower to test the spin of the darts. Taylor had also learned to fly a biplane by being instructed on the ground by a sergeant who then sat under a tree and watched Taylor go up. So when he completed the darts, he took a set of them up and dropped them over a meadow from the plane, and in order to get a photograph of the distribution of the darts, he then took squares of white paper and walked over the meadow and shoved one down over each dart that was sticking up in the meadow. He went up again and took a photograph of the distribution of the darts. This photograph he sent along with his report to the War Office and got ecstatic telegrams of congratulation on his incredibly perfect marksmanship! They thought that these white sheets were the targets that he had thrown the darts at! [Laughter]

You see, the life of a graduate dean has its amusing moments, if not self-generated, then generated by some of his friends and visitors.

Ariff: It sounds as though you were really very much occupied when you were a graduate dean. I'm surprised that you had any time at all to teach.

Dennes: Well, I taught one seminar and brought to bear on the seminar some of the light I got from what men in various fields of social science and natural science were working at.

Among the other more or less standard jobs or routine jobs was doing what I could to develop satisfactory relations with other graduate

Dennes: schools in this country and abroad. In connection with that work I was elected president of the Association of Graduate Schools in the Association of American Universities. Those were the thirty-two or -three universities that regarded themselves as the cream of American universities. The number has since then been increased a good deal. A year or two later I was elected president of the Graduate Council of the Association of Land Grant Colleges and Universities. I gave presidential addresses at meetings of both of these organizations: the Association of Graduate Schools at their fiftieth anniversary meeting in Chicago, and the Graduate Council of the Association of Land Grant Colleges and Universities at their meeting two years later in Washington. The University of California enjoys an honored position in the Association of Graduate Schools, since our first Graduate Dean, Armin O. Leuschner, was one of its principal founders.

Since I allow myself an anecdote now and then, let me mention that the president of the University of Chicago at our meeting brought to us a note from the records kept by the original president of Chicago, President Harper, more than fifty years before, when John D. Rockefeller had endowed and set up the university. After the university had been going for five or six years, Rockefeller told Harper--this was John D., Sr.--that he'd now made all the gifts to the endowment of the university that he could make: from now on the university would have to live on its income from endowment and on tuition. So the president was not to ask Rockefeller for any more money.

Every year President Harper went to see Mr. Rockefeller in New York to report the progress of the university. The next time he went to report, he discussed the progress of the University of Chicago, then as usual Mr. Rockefeller asked him to pray with him. They were both Baptists, and Mr. Rockefeller liked the president's prayers, so they knelt and the president prayed and in the course of his prayer explained to God some of the new needs of the university, and the developments that could change the institution from a strong one to one absolutely tops in the country. So although he never asked Mr. Rockefeller for a penny, he explained his needs to God, and it turned out Mr. Rockefeller

Dennes: provided for the needs. [Laughter] According to his report, thus he circumvented Mr. Rockefeller's prohibition of any further requests for monetary aid.

Extramural Contracts and Research Grants

I enjoyed doing what I could to develop cooperation on policies and on requirements for higher degrees through my work in these two national associations. But I think I should mention what were perhaps the two most fundamental jobs upon which I worked with my colleagues throughout the faculty and with Dean Vern O. Knudsen, who was my opposite number at UCLA. His responsibilities covered the graduate work on all the southern campuses, as mine did on all the northern campuses. (There are now separate Graduate Deans and Graduate Divisions on all the campuses.)

One of the fundamental jobs that we worked at, which is still unfinished and will never be finished, was to try in every way we could to deal with the pressures which were growing very heavy, the pressures of extramural contracts and research grants. The Academic Senate's objectives were extremely reasonable: that members of the faculty should accept such grants and use them in their work only where they facilitated investigations which they were well qualified to do and which were of first-rate fundamental importance, and that we shouldn't allow our faculty to be distracted merely to turn to such work as could bring in large grants of money from the outside.

In particular the problem was secret research, classified research. There were questions as to how far the University should make itself a servant of the Army and Navy, and particularly how far the research of graduate students could be accepted for higher degrees if it was classified (in other words, if committees and the Graduate Council could not read the theses that they produced). It was our advice that the University should move away from all "classified" research as rapidly as possible,

Dennes: leaving this to separate laboratories of the A.E.C. and other agencies.

I should mention one striking example of our work in relation to research contracts. A great meat packing corporation, interested in developing a pharmaceutical department, or controlling a possible fundamental chemical breakthrough, approached the University. The vice-president of the company had lunch with a dozen of us at Berkeley, expressed in the noblest terms his corporation's interest in supporting research, and offered us some hundreds of thousands of dollars worth of animal pituitaries to enable our organic chemists and biochemists to investigate methods of synthesizing ACTH (adreno-cortico-tropic hormone) and cortisone. All representatives of the University's scientists and administration were, of course, delighted. But some weeks later the attorney for the company reached Berkeley with a lengthy legal contract. We found it provided that the company would have sole ownership of the patents covering methods of synthesizing ACTH if our scientists should be successful in discovering them. They were offering a similar contract to Cambridge University, England. I got in touch with Sir Bernard Darwin at Cambridge, and we agreed that this would be a totally inappropriate restriction of the uses that might result from the researches of our laboratories. We recommended to the President of the University, and Sir Bernard to the appropriate Board of the Faculties at Cambridge, against the proposed contract. Meanwhile, the research staff of one of the country's leading pharmaceutical firms solved the problem of synthesizing ACTH. The importance of such patent matters has since been recognized by the appointment of an official, with staff, in the President's office to review and advise them.

Well, we tried our best to work out procedures that would assure that funds facilitated and helped and didn't divert or distract our colleagues from the work that was basic, and was best worth doing. I was very fortunate in my associate deans: F.A. Jenkins, "Pan Jenkins," an extremely able physicist with good judgment on engineering applications too; M.A. Stewart, a parasitologist, well acquainted with the fields of biology; Jim Cline, professor of English.

Dennes: Not that the four of us could claim omniscience in all the fields of study when it came to judging proposals to ask for research grants or to accept contracts, but we got the best advice that we could from our colleagues. The President had given me the responsibility of studying and recommending with respect to all research grants since research had important bearings on the Graduate Division's work. We did our best to see to it that the grants that were approved, or the requests for grants that were approved, were requests for grants that would, as the Senate wished, forward and not deflect the fundamental work that our very talented faculty was competent to do.

Another fundamental job that occupied Mr. Knudsen and me and our colleagues throughout the University was the job of trying to make out a way in which the University could employ on research contracts professional research personnel of the highest calibre and yet not give them academic tenure as professors. You see, these research programs like the atomic energy program at Berkeley, at Livermore, at Los Alamos, all conducted by the University of California, besides employing many of our staff as consultants, had to employ hundreds, even thousands of research people full time: mathematicians, physicists, chemists, metallurgists, engineers. These men, of course, were men of a level of talent and distinction the equivalent of people who held professorships in the University.

Yet we could not give them tenure, because to give them tenure would be to guarantee that the University would pay their salaries whether the research contract petered out or not. Research contracts were always for a limited number of years, and many of them, most of them, were renewed, but there was no guarantee they'd be renewed. And for the University to take tenure obligations for all these thousands of men would really put the University in a terrible predicament if the contracts terminated and if we ran into another depression--if there were hard times and government and industry drew in their horns. It would be hard enough for the state to pay the salaries of its professors without having the obligation to look after all these hundreds, and indeed thousands of research people.

Dennes: President Sproul gave Mr. Knudsen and me the assignment of developing a policy with respect to non-academic professional research personnel. We did develop a policy according to which these men would be appointed, for example, assistant research physicists, associate research physicists, research physicists. By the judgment of their colleagues, the distinction of their work was approximately at the level of that of people who would be given corresponding grades of professor, but there would be no academic tenure for these people. So far as possible, if the research contracts diminished, the people of greatest seniority would be the last to be dropped.

I believe this policy which Mr. Knudsen and I developed, and which the President established as the policy to guide in these areas, still is the policy that is followed by the University. With respect to it and with respect to the handling of extramurally supported research, everything depends on the good judgment of the people involved. As Aristotle saw, you can't make laws that will assure good conduct. You have to have people, intelligent, cooperative, fond of each other, working well together, to have a healthy society; and certainly they have to have good judgment.

As for the problem: what kinds of professional jobs outside the University will really strengthen the competence of members of the faculty, and what kinds will distract them from their university responsibilities--no regulations will resolve this eternal problem. But we did try to make the regulations as wise as we could, though the application of them is always the crucial thing.

Well, I think that is enough, and perhaps more than enough to say about my work as Graduate Dean which I left in 1955. I returned to philosophy, was appointed Mills Professor of Intellectual and Moral Philosophy and Civil Polity, a grand Victorian title that reflects the days when people thought the philosopher could handle almost anything. I went ahead with my teaching. I had a delightful sabbatical in Europe, one half in 1954, another in 1962. In 1962 my wife and I met my great friend from my student days, Frank Wilcox, and his sister in Naples, and we went together through Sicily and then on to Greece. After two delightful months in

Dennes: the Mediterranean, the Wilcoxs continued in the south, and I went to England and Scotland to look into the development of the new universities to report on to President Kerr.

The Miller Institute for Basic Research in Science

Also during these years I served as Chairman of the Executive Committee that set up and administered the Miller Institute for Basic Research in Science. Adolph Caspar Miller and after his death his widow, gave the University a munificent endowment to support "basic research in science."

I believe the President chose to persuade me to head the committee because I was neither a physical scientist nor a biologist, and he had some fears that "basic science" might be interpreted to mean just nuclear or sub-atomic particle studies--for what could be more basic? With the able services of Curt Stern, Glenn Seaborg, and I.I. Rabi, and others on the committee, we developed a program that has over the years given a fair number of established scientists periods of freedom from teaching to forward, or even complete, important research; and Miller Fellowships for a number of promising "post-doctoral" scientists.

I think it was the hope of Mr. and Mrs. Miller that their endowment might make a major breakthrough possible--something comparable to the release of atomic energy. Mr. Miller once spoke of "the solution of the problem of cancer" as an appropriate objective. Of course, that is not one problem, but many, many diverse problems. However, if a promising concerted attack on this or any other important area of science should seem feasible, the program of the Miller Institute is entirely flexible enough to lend its help to the enterprise.

On Gardens, "Stories," Vietnam, and Oral History

Dennes: You said the other day that you'd be interested to know what I do now that I'm retired. Well, I've been retired two years. I have taken two visiting professorships for a half year each, one at Southern Illinois and one at Virginia. Enjoyed them both very much, but as I think I told you, I think I will now, for a while anyway, act like a retired professor.

I greatly like gardening, I greatly like walks in the mountains and on the seashore. This year I planted, when I got back from Virginia, a garden on the little place that our daughter and her family rent near the village of Bodega, which has supplied the most overwhelming abundance of crisp, fresh lettuces, beets, string beans, squash, chard, and spinach. And there is no doubt that all of these things eaten or cooked a few minutes after they're gathered have a flavor and texture--or maybe it's just because one planted them and cultivated them one imagines they have a flavor and texture--that vegetables from the market don't have. We have, when we visited or stayed a while at our son's house in Alpine Meadows near Lake Tahoe, greatly enjoyed the walks in the mountains. We used to spend summers at the south end of Lake Tahoe at Tahoe Meadows, but the south end has now become too crowded for us.

I have liked to saw and split wood up at Lake Tahoe and also at Bodega; in other words, I do a good deal of reverting to my rural childhood. I have confirmed the Norwegian proverb that he who cuts his own wood is twice warmed. In some ways, or at least in one way, I have disgraced myself. At Bodega in June I cut willow poles for the pole beans. Any good farm boy cuts the willow poles a year in advance and puts them to dry in the shed. But I put mine in fresh cut and they have blossomed out in willow leaves. [Laughter] To be sure, the beans are accepting this, and the beans are growing vigorously up the poles, but I wouldn't be surprised if I'd be driven out of Sonoma County for this violation of one of the first principles of good

Dennes: gardening, that you don't put fresh cut-willow poles in the ground for your beans, because you will start growing willows instead of beans.

I am putting some time into a work on ethics which aims to make out what is defensible in the four or five principal conflicting positions in ethics today and aims to show their compatibility, but whether this will ever get completed and whether if it does it will simply be one more conflicting position remains to be seen.

At the moment I am a good deal occupied with reading of history, memoirs, diaries, and letters. I shan't read the forty-five volumes of Horace Walpole's letters, but I may read most of Lady Wortley Montague's letters. Both give insight into the eighteenth century and the eighteenth century is a favorite century of mine, particularly because of David Hume's work in it. Both these writers have many comments on Hume, not really of the first philosophical interest, but they give a conception of the character of the age and the kind of intellectual milieu which was the environment of people like Hume.

I'm afraid I enjoy such reading more than I enjoy technical philosophy. I take some comfort by remembering that G. E. Moore, the very great Cambridge philosopher, admitted in old age that what he really liked to read was storybooks! He covered under storybooks histories and novels. And I think that in many respects in my retirement so far--it's only two years long--I have perhaps had more interest in reading some of the great memoirs and diaries and collections of letters than I have in reading technical philosophy.

I spend more time in reading analyses of the propriety, the legality, the morality of our Vietnam involvement than is useful, because there is very little I am able to do about it. I must say that one of the most rewarding things at Virginia was seeing a good deal of Quincy Wright, who is certainly one of the two or three greatest scholars in international law in the United States, and whose analysis, shared by many of the professors of international law at Princeton and Harvard and Yale, purports to show that our policies in Southeast Asia violate our agreements in the United Nations

Dennes: and the Constitution of the United States, which limits the declaration of war, or the making of war, to acts of Congress.

Quincy Wright is no starry-eyed idealist. He's one of the most down-to-earth scholars we have, and it is a great frustration to my wife and me that we can do so little to persuade Mr. Rusk and Mr. Johnson to consider much more seriously the factors that men like Quincy Wright emphasize.

A few days ago I read in the Center Diary, which is published by the Center for the Study of Democratic Institutions in Santa Barbara, of which Robert Hutchins is president or director, I read, besides the perfectly delightful satire by Mr. Hutchins on the passion for communication--I hadn't known he had the capacity for such witty satire--also a long letter by Professor Lyford, who is a member of the Center and is also at present a visiting professor of journalism at Berkeley. He wrote a letter to President Johnson urging that the fullest possible study be made of the numerous accidental bombings by our airmen of friendly Vietnamese villages in the south, and of our own soldiers. Mr. Lyford was an officer in the Navy in the last war. He is perfectly aware that mistakes are made and that there is a great temptation, when a plane is going back to its carrier without having found its target, a great temptation to find something that looks enough like the target to loose its bombs and come back without having to report no activity.

Lyford is perfectly aware of this. He pointed out that there were a number of occasions in which the air was clear enough for our men on the ground to identify the planes as American planes, but the fliers didn't see the flags and other signs to show that it was our own people that they were dropping the bombs on. He wrote urging very thorough investigation.

He got as a reply a telephone call from an aide to the White House, a call which said that the aide had before him a report which was confidential so he couldn't read it or send it to Mr. Lyford, but he felt that if Mr. Lyford saw it, he would be satisfied. And this, of course, is very frustrating to have somebody tell you, "I have a secret report which would clear up things, but I can't tell you what's in it."

Dennes: The aide went on to beg Mr. Lyford not to insist that the letter be shown to President Johnson, because the President was very sensitive about these matters. This is very shocking to me. It has the tone of emperor worship in Japan or emperor worship in Rome, when bad news, or criticism, can't be brought to the emperor, because it would upset his delicate sensibilities.

Then this was followed by a letter from an admiral in Washington trying to reassure Mr. Lyford. But the argument of the admiral was principally that the Viet Cong have committed many, many atrocities against innocent civilians in South Vietnam, and I haven't any doubt that they have. But the notion that this is in some sense a justification of our men dropping bombs on friendly targets and on our own soldiers seems just infantile. And also, we have no control over the Viet Cong. Presumably, our top officials should have some control over what our fliers are doing.

Well, I don't pretend to any complete understanding of the situation or any perfect insight into it, but I'm afraid it is probably the worst thing, or one of the worst things, that the United States government has ever done, and I don't see any prospect of our getting out of it soon or honorably.

I think that brings me down to 1967 in my talk, Mrs. Ariff, so you can now safely go to India and know that you have sewed up one more aging member of the faculty. [Laughter]

Ariff: I certainly want to thank you for all your help and cooperation.

Dennes: I'm afraid I've dropped into anecdote more than is desirable, but this can be cleared up when we look over the typescript. I mean, I've told you stories more than I have discussed profound issues of University policy. [Laughter]

Ariff: Well, I think sometimes the stories are quite revealing and they are things which usually are not caught by historians who write books. And often they reflect the temper of the times.

Dennes: Of course, there's always the risk that if the people they're about could see them, they would object that

Dennes: they don't reflect a balanced sample of their taste and character. For example, if Mr. Oppenheimer were alive, I think I'd send him a Thermofax or something or other of the few pages or paragraphs in which I discussed him. I greatly admired the man. I felt terribly sorry that he should have done, and had to admit that he'd done, things like what he called "the cock and bull story" which had kept the Army security officers hopping for years, when he later insisted that it was just a fiction of his. But it's very possible that if he saw this, he would say, "Good Lord this gives a most unbalanced, untypical picture of me, Robert Oppenheimer." And, of course, Robert Oppenheimer's whole career as a physicist can only be judged by competent physicists. It is recorded in his published articles and so on.

There's always this risk, just as in the case of G. I. Taylor. G. I. Taylor, of course, told me with great gusto his story about the War Office thinking the sheets of white paper in the field were the targets, whereas he pushed them down over the darts; but he might easily say that this after all is a rather trivial thing to remember a great applied mathematician by. But he was a man of great wit and I don't think he would object to it.

But one runs the risk that the anecdotes will seem to the people they're about--and the people they're about are sometimes no longer living--that they would seem a little bit trivializing, a little bit like making merry over a great man.

Ariff: Well, perhaps they're balanced by other written things; and in the case of people who are living, many times we do get around to interviewing them also and they have their chance to give their version of the story.

Dennes: I don't think any of my anecdotes were offered with animus or destructive feelings towards the individuals.

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* This list is incomplete and therefore not included are analyses and reports written as Chairman of the State-wide Budget Committee, Educational Policy Committee, and Academic Council.

APPENDIX

Letter from William R. Dennes to Stephen C. Pepper, September 18, 1923

The Faculty Club
University of California
Berkeley, California 94720

December 29, 1969

Dear Mrs. Riess:

Enclosed is the xerox copy of my letter of September 18, 1923 to Professor Pepper. I have not been able to find the original which he sent me a year or two ago. Perhaps I had it xeroxed and then sent it back to him.

When I began teaching here after my degree at Oxford, we rented the Peppers' house on Buena Vista Way. They were in Europe for the year. We had sent our books, clothes, pictures, etc. by freight ship from London, fully insured. They were on the dock in San Francisco, and would have remained there safe enough at the bottom of a mountain of freight. But since I wanted my books for my classes I paid some workmen to dig down to our stuff, and I brought it over to Berkeley in time to burn up; and I hadn't got around to insuring it in Berkeley!

Whether the letter should be included I leave up to you. The David referred to was David Prall, then professor at Berkeley and later to be Professor and Chairman of the Department of Philosophy at Harvard. The Max referred to is Max Radin, Professor of Law, whose wife was David Prall's sister. The Maybeck referred to was the great architect; and Harold Bruce was Professor of English at Berkeley.

You may have trouble in deciphering my writing - hardly made any clearer by xeroxing. If so, do not hesitate to call on me for help.

Sincerely yours,

Will Dennes.

William R. Dennes.

[Following the copy of the original letter is a transcription.]

Argyle Court, Berkeley.
September 18, 1923.

Dear Stephen,

Mr. Wright sent you a cable this morning to say that your house was the third of some four hundred to burn yesterday afternoon. I am so confused and dazed that I shall not write very connectedly I'm afraid; but I want to send you word at once.

Sunday evening the 16th we had a fire. A hot northwind that carried heavy smoke from Martinez and Pittsburgh. All night we woke to smell smoke, and there was a good deal yesterday morning. I spent the morning in the study on Aristotle. At 1:00 Margaret and I had lunch in the living-room because it was cooler. David came in at 1:45 and we went to

the campus together. I went down to Telegraph, after reading my mail in 452 Wheeler, and had my hair cut. When I left the barber shop at 2:40 there was dense smoke over the campus. People said it came from ten miles away, but I was frightened; tried to 'phone Margaret but was told the 'phone was out of order; ran to the campus; found David absorbed in preparing a lecture; persuaded him to leave and drive home. It was about three when we reached La Loma and Buena Vista. The smoke was so dense that we could see no flames until we were by the Wells's house, when we saw what looked like your house one burst of flames. But it was the Maybecks' — all aflame at once. I ran to the house; found all the doors and windows shut and no Margaret. I went over

(3)

Dorothea had been sleeping after a day of nights at the hospital

(3) to the Radins and found that Dorothea didn't know what was happening and hadn't seen Margaret. Twenty or thirty college men were helping move the furniture out of the Mathewsons, and the Lawson concrete house. I asked two to come up to our house. They couldn't stand the heat of the Maybeck fire in front; there was absolutely no water; and no sign of a fireman. The two boys said that the place was doomed and that to carry out furniture would be to burn it in the street, and it was more worth while to move things from houses farther away. The "pink" Lawson house and your garage were afire when I arrived; and they with the Hollis and Maybeck fires were raining burning shingles. The fire-extinguisher gave only a single gasp which quenched a spot on the roof. I gave up outside and went in, when my brother-in-law arrived with some fraternity brothers. They pushed

(4) down the fences and chopped down — or started to chop down the burning eucalyptuses on the west side, while Merriam and I got out all the living-room furniture except the piano. Merriam, my brother-in-law was singed and every one had his clothes burned by falling embers. Then we tried going up-stairs, but the smoke in the study was too much for me. I threw a few books out — they burned out-doors — and Merriam crawled in to Margaret's bed-room, the west one, and tried to get some of the clothes we had expected to last ten years! I went down, and the last thing we got out was the side-board which contained most of our silver. Thank God yours and your prints and your china are safely locked up somewhere! The roof was falling in at 3:30 — was Radin say, at least. It was that time

MERRIAM

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(5)

when he arrived. The furniture Merriam moved up and down the hill four times, and it is now safely stored! It seems a paltry thing to say so much about when your whole house is burned; but people like the Hugheses (Lawson's tenants) and Bishops got their furniture out and then lost it all. they might as well have saved nothing. Father down the hill — the Tolman's,* for example — there was an extra half hour and cars to move things away in; but many persons lost everything. Harold Bruce, for example, lost the new house he was ready to move into; the house he was living in; and tho' he got his furniture into the middle of a burned lot and covered with wet rugs, all of it burned, and his books in the house.

The Prall's* and Radin's* abandoned

(6)

their houses at 3:45 without attempting to carry anything away — they thought a few pictures or books or pieces of furniture would only sharpen the sting of losing everything else. But do you know, the arrival of a fire hose for the corner hydrant and a change in the wind saved both their homes tho' the Maybecks,* Etcheverries* and the several Thomas houses burned around them!! It is a miracle; and nobody needed it more than Mrs. Prall and Dorothea. None of the Pralls knew their house were safe until midnight. The Lawson cement house was emptied and all the windows closed; but it got so hot that curtains burned inside the house. The house did not burn, but most of their furniture was burned, interior, the rest broken more or less, and all their

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(7)

clothes gone. Lawson's books, thrown into a kind of depression with concrete walls on three sides, were for the most part saved. The Lawson house saved the Welles' house; tho' Mrs. Wells had physically to resist expulsion from her house by the dynamiters. There is not a house in the square bounded by Buena Vista [illegible] on the north, Oxford Street on the West, Virginia and Hilgard and the campus (an irregular line) on the south; and La Loma on the East. The Boyntons', Andersons'*, and all other houses on the hill, save the new one below the Andersons'*, burned. The new little Lawson house burned — as soon as yours. It was a terrific experience, and just missed

(8)

burning many people. When Max started up from Boalt Hall, about 12 minutes after David and I started, he tried getting up Euclid to Buena Vista and was stopped by burning houses on both sides of Euclid; he tried getting up Cedar and couldn't get through either; and finally went up Virginia to La Loma. If La Loma had been cut off, there would have been very little chance for any but the most energetic to get out. It (the fire) came out of the hills by Euclid as well as over our hill, so it burned under us as well as down the hill. The wind dropped completely at five; otherwise I see no limit to what the fire might have done.

Margaret's experience was this: she did

(9)

the luncheon dishes and went down-stairs to help Ha-Tu, the Japanese woman, who comes to wash on Monday afternoons. At 2:35 or so the smoky air became suddenly thick, and the light changed to a red glow. Margaret looked up, saw the Hollises' house burst into flame, and fire on the ground by the Maybecks'. Luckily, as we thought, the vacant lots on either side of us had been thoroughly burned. Margaret tried to put the hose on the roof — no water came. Ha-Tu became more or less frantic. Margaret had been unable to get the University, the Fire Department, or the Pralls by phone. She closed all the windows, took two pieces of jewelry, a little of her silver, and started away. She knocked at the Radins', but got no answer and hurried away.

Both of us have been wanting these

(10)

very busy, very happy weeks to write you all about your house, and how we were enjoying it, and how useful the stores we found in it when we came. But I don't expect we shall, at any rate for a long time, be in a mood which will make that possible. We've no idea what you lost stored in the closet upstairs. It's terrible to think of your books. We had about the same number — we pushed yours to the back, and filled the front part of the shelves with ours. Margaret had a store of linen and lingerie and dresses such as we'd never dreamed of having — thanks mostly to the state of Italian and French exchange. We lost our etchings too, including a Zorn. But our loss was nothing to yours. Last night I didn't sleep at all

(11)

reliving again and again the 25 minutes, or so I had in the house, and saving better things. I was half crazy at the time, of course, partly on account of not knowing where Margaret was. But to-day, in a calmer state, it seems to me that, thanks almost entirely to Merriam Stevenson, about what is humanly possible was done. If I had been home earlier or all afternoon we should have taken out more things, and chosen them more wisely, - and perhaps carried them somewhere to burn in the street. If we had had a car, or one at our disposal, we might have done better; etc., etc., etc. Chiefly, I might have made a selection from your books and mine & my lecture notes - this I remember often. But one can't go on so. The things of yours we salvaged

...

(12)

None of these are touched by fire. One of the hinges is off; there are some scratches.

The Davenport.
The large living-room rug.
" small hall " .
The Windsor chair.
" " rocker.
" desk.
" side-board.
" rush rocker.
" rush arm chair (Chippendale).
" green upholstered mahogany rocker.
" oval pedestal-table.
" oval gate-leg table
" oblong table with leaves (under the lamp).
" piano stool.
" small square twisted legged table with leaves and ~~writing~~ stationery drawer.
" picture of a young man. (Wrong choice of picture, of course.)

These are all I remember. Wright has a list and will send it. He says he's taking all proper steps - insurance, etc.

Well, I must try to get some sleep to-night. We enjoyed the news you sent David. It's too bad to have to make such a return. Any regards to Mrs. Pepper.

Yours ever
Will Dennes.

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Cloyne Court, Berkeley.
September 18, 1923

Dear Stephen,

Mr. Wright sent you a cable this morning to say that your house was the third of some four hundred to burn yesterday afternoon. I am so confused and dazed that I shall not write very connectedly I'm afraid; but I want to send you word at once.

Sunday evening the 16th we had a fierce, hot, north wind that carried heavy smoke from Martinez and Pittsburgh. All night we woke to smell smoke, and there was a good deal yesterday morning. I spent the morning in the study on Aristotle. At 1:00 Margaret and I had lunch in the living-room because it was coolest. David came in at 1:45 and we went to the campus together. I went down to Telegraph, after reading my mail in 452 Wheeler, and had my hair cut. When I left the barber shop at 2:40 there was dense smoke across the campus. People said it came from ten miles away, but I was frightened; tried to 'phone Margaret but was told the 'phone was out of order; ran to the campus; found David absorbed in preparing a lecture; persuaded him to leave and drive home it is astonishing that he, that most of us, were so hard to persuade. It was about three when we reached LaLoma and Buena Vista. The smoke was so dense that we could see no flames until we were by the Wells's house, when we saw what looked like your house one burst of flames. But it was the Maybecks'--all aflame at once. I ran to the house; found all the doors and windows shut and no Margaret. I went over to the Radins' and found that Dorothea didn't know what was happening and hadn't seen Margaret. Twenty or thirty college men were helping move the furniture out of the Matthesons and the Lawson concrete house. I asked two to come up to our house. They couldn't stand the heat of the Maybeck fire in front; there was absolutely no water; and no sign of a fireman. [margin--Dorothea had been sleeping after a sleepless night due to wind] The two boys said that the place was doomed and that to carry out furniture would be to burn it in the street, and it was more worth while to move things from houses farther away. The "pink" Lawson house and your garage were afire when I arrived; and they with the Hollis and Maybeck fires were raining burning shingles. The fire-extinguisher gave only a single gasp which quenched a faggot on the roof. I gave up outside and went in, when my brother-in-law arrived with some fraternity brothers. They pushed down the fences and chopped down--or started to chop down the burning eucalyptuses on the west side, while Merriam and I got out all the living-room furniture except the piano. Merriam, my brother-in-law, was singed and everyone had his clothes burned by falling embers. Then we tried going up-stairs, but the smoke in the study was too much for

me. I threw a few books out--they burned out-doors--and Merriam crawled in to Margaret's bed-room, the west one, and tried to get some of the clothes we had expected to last ten years! I went down, and the last thing we got out was the side-board, which contained most of our silver. Thank God yours and your prints and your china are safely locked up somewhere! The roof was falling in at 3:30--Max Radin says, at least, it was that time when he arrived. The furniture Merriam moved up and down the hill four times, and it is now safely stored! It seems a paltry thing to say so much about when your whole house is burned; but people like the Hugheses (Lawson's tenants) and Bishops got their furniture out and then lost it all. The Maybecks saved nothing. Farther down the hill--the Tolmans, for example--there was an extra half hour and cars to move things away in; but many persons lost everything. Harold Bruce, for example, lost the new house he was ready to move into; the house he was living in; and tho' he got his furniture into the middle of a burned lot and covered with wet rugs, all of it burned, and his books in the house.

The Pralls and Radins abandoned their houses at 3:45 without attempting to carry anything away--they thought a few pictures or books or pieces of furniture would only sharpen the sting of losing everything else. But do you know, the arrival of a fire hose for the corner hydrant and a change in the wind saved both their houses tho' the Maybecks', Etcheverries' and the several Thomas houses burned around them!! It is a miracle; and nobody needed it more than Mrs. Prall and Dorothea. None of the Pralls knew their houses were safe until midnight. The Lawson cement house was emptied and all the windows closed; but it got so hot that curtains burned inside the house. The house did not burn; but most of their furniture was burned in the street, the rest broken more or less, and all their clothes gone. Lawson's books, thrown into a kind of depression with concrete walls on three sides, were for the most part saved. The Lawson house saved the Wellses' house; tho Mrs. Wells had physically to resist expulsion from her house by the dynamiters. There is not a house in the square bounded by Buena Vista on the North, Oxford Street (three or four blocks below Euclid) on the West, Virginia and Hilgard and the campus (an irregular line) on the South; and LaLoma on the East. The Boyntons', Andersons', and all other houses on the hill, save the new one below the Andersons', burned. The new little Lawson house burned--as soon as yours. It was a terrific experience, and just missed burning many people. When Max started up from Boalt Hall, about 12 minutes after David and I started, he tried getting up Euclid to Buena Vista and was stopped by burning houses on both sides of Euclid; he tried getting up Cedar and couldn't get through eigheter; and finally went up Virginia to LaLoma. If LaLoma had been cut off, there would have been very little chance for any but the most energetic to get out. It (the fire) came out of the hills by Euclid as well as over our hill, but it burned under us as well as down the hill. The wind dropped completely at five; otherwise I see no limit to what the fire might have done.

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Both of us have been wanting these very busy, very happy weeks to write you all about your house, and how we were enjoying it, and how useful the stores we found in it when we came. But I don't expect we shall, at any rate for a long time, be in a mood which will make that possible. We've no idea what you lost stored in the closet upstairs. It's terrible to think of your books. We had about the same number--we pushed yours to the back, and filled the front part of the shelves with ours. Margaret had a store of linen and lingerie and dresses such as we'd never dreamed of having--thanks mostly to the start of Italian and French exchange. We lost our etchings, too, including a Zorn. But our loss was nothing to yours. Last night I didn't sleep at all reliving again and again the 25 minutes or so I had in the house, and saving better things. I was half crzy at the time, of course, partly on account of not knowing where Margaret was. But today, in a calmer state, it seems to me that, thanks almost entirely to Merriam Stevenson, about what is humanly possible was done. If I had been home earlier or all afternoon we should have taken out more things, and chosen them more wisely--and perhaps carried them somewhere to burn in the streets. If we had had a car, or one at our disposal, we might have done better;etc.,etc.,etc.
Chiefly, I might have made a selection from your books and mine and my lecture notes--this I remember oftenest. But one can't go on so. The things of yours we salvaged are: The Davenport. The large living-room rug. The small hall rug. The Windsor chair. The Windsor rocker. The desk. The side-board. The rush rocker. The rush arm chair (Chippendale.). The green upholstered mahogany rocker. The oval pedestal-table. The oval gate-leg table. The oblong table with leaves (under the lamp). The piano stool. The small square twisted legged table with leaves and writing-stationery drawer. The picture of a young man. (Wrong choice of picture, of course.) [margin--None of these are touched by fire. One of the hinges is off; there are some scratches.]

These are all I remember. Wright has a list and will send it. He says he's taking all proper steps--insurance, etc.

Well, I must try to get some sleep to-night. We enjoyed the news you sent David. It's too bad to have to make such a return. My regards to Mrs. Pepper.

Yours ever, Will Dennes

PARTIAL INDEX

Joann Dietz Ariff

Born 1929 in Newark, New Jersey.
Attended New Jersey College for Women (Rutgers), Columbia University, and Seton Hall College.
Graduated in Latin American history from University of California at Berkeley 1949.
Did graduate work in economics at Berkeley; Lived in International House, Berkeley.
Studied painting and printmaking at the University of Mexico 1953; continued this study at schools in the United States for next five years.
Lived in Calcutta, India, for two years.
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Assistant to research director of National Foreign Trade Council; assistant to general manager of an import-export company in New York; assistant to the statistical director of the market research division at the American Weekly.