Phyllis was born in Berkeley, September 14, 1902. Her father, (U.C. '90) was a Hydraulic Engineer with the Reclamation Service. She was graduated from U.C. Berkeley and received her M.D. from UCSF with the class of 1929. She was inactive for six years because of a thyroid problem. In 1936 Dr. Harroun joined the Anesthesia Department at UCSF. For two years, immediately following W.W. II she almost single handedly maintained the Department. With one or two staff assistants helping supervise she provided anesthesia for the hospital with residents, clinical clerks, and medical students. Despite their relative inexperience she demanded high standards of performance and maintained a strong, caring discipline. At the same time she carried out an active research program and published some of the earliest reports on the safety of proper use of curare, particularly as related to thoracic surgery and obstetrics.

Her enthusiastic, clear teaching was the greatest single influence in at least 12 persons choosing the field of anesthesiology for a career. She formed a warm and abiding friendship with all around her and was a constant source of stimulation, encouragement and commendation. Yet she actively discouraged personal recognition and publicity for herself and her accomplishments. Those who were influenced by her have felt that she should be better known and recognized. This paper is in response to that concern.

In 1981 I spent an afternoon taping a conversation about her earlier days at UCSF and what anesthesia was like then. Wherever possible I have used her own words from that
When I got back to work there were very few fields I could go into without a lot of preliminary training. Anesthesia was the field in which there was very little in the way of preliminary training. I didn't have a residency. I simply went over to UC and talked to Dr. Dorothy Wood, the Chief of the Department there. She took me under her wing and that was it. With her were Mary Kavanaugh and Jean Wilson. Dottie Wood was a Stanford graduate, perhaps five years older than I--very short--not much taller than five feet and she weighed over three hundred pounds. She was a very jolly, pleasant person. Mary Kavanaugh was an older woman, in her forties, I think. She was a beautiful woman; a UC graduate. she had sparkling brown eyes and hair that was just barely streaked with gray. Otherwise it was brown. Jean Wilson was about my age. She was a tall, raw-boned Scots girl, with short hair and pretty clothes and talked with quite a Scottish accent. She was a UC graduate too. They were all M.D.s. That was the staff when I first went there.

I am not sure, [how Dottie Wood was trained] but her predecessor as Chief of the Department was Dr. Mary Botsford and I think that she took Dottie under her wing just as Dottie took me. I am certain Dottie never had a formal residency.

In those days the anesthesia equipment was very primitive. Except for one water meter Foregger--a great tall, tipsy thing--we had McKesson machines. You breathed in from a reservoir bag and breathed out through the top of the mask. The bag filled gradually. Then if there was more in the bag than the patient breathed, it simply escaped from the top of the mask. It was really a positive pressure affair. You could
really build up pressure in the thing if you wanted to. They were not demand flow. We just set proportions. Then you could also route the gas mixture through an ether chamber. Or if you had to you could put chloroform in the little ether bottle and use it that way. There was an arrangement on the Foregger machine whereby you could drop the ether from a little cup down into the mixing chamber and the gas would pick up the ether vapor. But there was no soda-lime--no rebreathing at all.

It was amazing what we could do with that equipment. We did every sort of surgery that is done these days, except for intrathoracic, with that simple set-up.

Oh, yes. We had a machine they called a Connell, which was an ether-air machine. It was driven by a motor and there was a little drop cup which dropped the ether down into the mixing chamber and the flow of air, driven by the motor, went through that. You could hook that up to a mask as Dottie Wood used to do with neurosurgical cases or you could hitch it up directly to an airway and blow it into the patient that way. Dottie would be on a posterior craniotomy sitting under the table on a little wooden stool about six inches high with the drapes clear over her as if she were in a tent. The patient was about a foot above her, blowing the ether-air mixture in her face. I don't see how she ever stayed awake. I'm not sure she did. At noon time one of us would go out and get a couple of big sandwiches and a glass of milk and shove them through to Dottie under the drapes.

About the only drugs we had were nitrous oxide and oxygen--those were the only gases. And we had chloroform and ether and avertin.

I remember the statement attributed to her that she could have any patient ready for
surgery within three minutes after she walked into the room--because there was no such thing as an intubation or an IV. All she had to do was clamp a mask on the patient's face and give straight nitrous oxide and she would have the patient asleep in three minutes. That is accurate, isn't it?

It certainly is. With ether she would do the same thing. She would clamp a mask on the patient's face, give him straight nitrous till he was hyperventilating furiously. Then she would take a soaked ether mask and substitute this for the nitrous oxide mask between breaths so that by the time the patient had come out of the nitrous oxide he was so far under with the ether. He had to breath. He couldn't resist the ether.

Mary Kavanaugh was quite a character. She was a genius with nitrous oxide. She could use it where I don't think anyone else could, but there was no way of learning from her. I think she did things by intuition. If you would go and watch her and try to learn from her. She would be giving a nitrous oxide anesthetic, say for a thyroidectomy. All of a sudden she would put her finger on the oxygen button and flush her bag with oxygen. You would say, "Why did you do that?" and she would say, "Well, I thought he needed more oxygen." You could see what she did. She needed more oxygen, but she couldn't tell why.

Talking about the rectal avertin, we used that to supplement the nitrous oxide so frequently because the cautery was used. We couldn't use explosive ether in most of the cases and most of us, even then, were shying away from chloroform. Jean Wilson did most of the GU surgery. Oh, that's another thing. we were divided up so that Dottie Wood did all the neuro and some of the general surgery, Kavanaugh did all of
Dr. Searles' anesthesia and a good deal of general surgery and gyn, and Jean Wilson's field was GU. She really had a terrible time with some of the come and go cystoscopies. The patients would be medicated and they would be full of breakfast. I remember one day she was sitting there at the head of the table putting this big husky guy to sleep. He was heaving and vomiting all over the place. Clark Johnson was the surgeon. He was sitting very patiently between the patient's legs waiting for the patient to go to sleep so he could start to work. He poked his head around one side and said, "Dr. Wilson, I think you should write an article on what the American public eats for breakfast." Between her clenched teeth she said, "Well, I will, Dr. Johnson, when you write one on how avertin tastes--second-hand." So it really was a hassle.

When I came along I was low man on the totem pole. (Nobody liked to do tonsils, so of course they fell to me). I had been there about a week, following Dottie around and watching what she did. The next day when I came in she handed me a can of ether and said, "Here--go do the tonsils." The tonsil machine consisted of an Erlenmeyer flask--it must have been a three liter flask--which had about a four inch layer of ether in the bottom of it. There was a foot pump connected to the flask with a tube that went down under the level of the ether. Another piece of tube came out through the stopper at the top and went to the patient. You pump air through the ether and the supernatent ether-air mixture went over through the tube into a hollow curved hook that extended from the corner of the patient's mouth. Of course, the surgeon got as much ether as the patient did. It was quite efficient, none the less. About the only serious risk was that if you connected the pump to the wrong tube you would blow liquid ether into the patient's
mouth. That was the reason I drummed into the students that they must always smell the mixture coming from the ether hook before putting the hook in the patient's mouth. (Tonsil position: Fairly steep trendelenberg with a pillow under the shoulders, so blood would pool in the nasopharynx instead of being aspirated.)

It was my understanding that Dr. Morrisson felt very strongly about this foot-pedal bit, which we always resented. The basic idea was that if the anesthetist would drop dead the ether would stop and the patient would wake up, rather than the anesthetist pressing on something that would give the patient a big jolt. In the same way he always demanded that his residents tie off everything as they came to it or before they cut it so that nobody would bleed to death if the surgeon dropped dead.

Yes, I think you are right. Anyway, I went on and did the tonsils. I didn't know what I was doing and it wasn't for years afterward that I did. It was quite a tough business. You just did it by feel. Another factor was, every time the surgeon put the suction in the mouth, the ether went down the suction instead of into the patient. So you had not a great deal of control over what you were giving the patient.

Dr. Morrisson used that when we had students or other new people giving anesthetics. He used that control very freely because he knew what was going on and sometimes the anesthetist didn't.

I think he knew as much about anesthesia as anybody in the anesthesia department. He was my only teacher until Dr. Hathaway came along. I was stuck with the ENT work and loved it. Of course, the trouble was--if you had to give anesthesia in some department that you weren't used to you hardly knew what you were doing either.
To me the effects of anesthesia seemed completely illogical, unreasonable and unpredictable. When I gave an anesthetic I felt as if I were practicing magic—black magic—something more akin to alchemy and voodoo than to science. Mary Kavanaugh maintained that anesthesia was an art. I agreed—a black art.

THEN CAME HATCH--A FLOOD OF LIGHT! He showed me that anesthesia did indeed have a scientific basis. He recommended subjects for study; pharmacology, physiology, the physical-chemical properties of gases and liquids. He lent me his books: Guedel, Haldane. He told me of the department at Madison and taught me the importance of records.

Before Hathaway the department had no library and subscribed to no journals. Mary Kavanaugh received "Anesthesia & Analgesia" (which I think was sent gratis to members of the Society). She displayed her journals prominently on her anesthesia stand and may have read them. Dottie probably received it too, but if she did I'm sure they were thrown away unopened. The main library on the 2nd floor of Cole Hall had, if I remember correctly, three books on anesthesia: One was Hewitt, one a slim volume by McKesson in which he described his technique of "secondary saturation", and the third I've forgotten. All three dated from before 1920. I believe Hewitt was published in the 1890's. Before Hatch came I had read those books from cover to cover, hoping for a clue that would lead me out of the trackless maze through which I was blindly groping. They gave me no help at all.

Hatch took over the department on July 1, 1940. Dottie learned that he was to supplant her—not from the office or from Naffziger but from Hatch himself. Assuming
naturally enough that she had been told, he wrote her a very nice letter saying that he hoped they would work smoothly together—that he expected to make no changes in the staff or in the department routine, at least for the time being.

Poor Dottie! What a shock that letter was! And of course everyone who was fond of Dottie was up in arms about it—the other three in the department. We were expecting all kinds of horrible things. I had applied for the post-graduate course which Bill Neff gave at Stanford that summer. Dottie had told me that I could get off for it. When Hatch was coming she said she didn't know whether he would let me off or not. Very likely I would have to give it up and stay and work. The first time I saw Dr. Hathaway, Dr. Naffziger walked him through the department. I saw his back and thought he was most unprepossessing. Although the other three resented him all the time he was there—two of them, Jean and Dottie got out as soon as they could—I soon discovered that he knew things that I wanted to know ever since I started to give anesthesia. I took to following him around.

Jean Wilson and I had become good friends. We had many tastes in common and enjoyed doing things together on free afternoons. We liked to drive into the country, down the peninsula or into Marin County, in Jean's car. Hatch's coming put an end to these outings. I infinitely preferred to spend my free time in the operating room watching Hatch work, trying to learn from him. She disliked Hatch and would have nothing to do with him. On one occasion she said to me,"I don't see how you can stand him. He's despicable, disgusting, and he has the manners of a gutter-snipe." I replied, "Jean, everything you say of him is true. But I'd go along with the Devil himself if he
would teach me."

He was planning a residency and then, of course, he no sooner landed in the department than WWII came around. That did away with the residency. He was crazy for somebody to teach and I was crazy to learn. So he took me in hand, just as though I had been a resident. He taught me and every free minute I had I would go and watch what he was doing. He let me use his equipment. He had a nice Foregger machine, tubes, and everything else. He lent me a copy of the Madison Department's yearly report. (Incidentally, it was that report which gave me the first inkling that, so far as anesthesia was concerned, Hatch might not be quite perfect. Of all the department members, including Dr. Waters, he was the only one who had rated more than 90% of his anesthetics satisfactory.

I'll never forget the first time I intubated anybody. They had in the department some long, stiff, straight tubes. I think they were woven silk, but they were varnished and stiff as wool. They had never been used. I came in '36 and it must have been at least '41 before I got up my courage to try to put a tube in anybody. One day I was doing a gynecological anesthetic; open drop ether behind a screen. The patient's legs were up and the surgeon couldn't see what I was doing. I put the patient so deep she was just barely turning over and then I laryngosced her with Hatch's lovely laryngoscope. After I did that three or four times I got up my courage and put a tube through those cords—a woven silk tube. I put my hand over the end of it and was so delighted when I could feel the patient breathing against my hand. I didn't dare give anesthesia through it and took it out and used the pharyngeal airway to give open drop
ether over the airway again.

Hatch, of course, did all of the thoracic work and the first time that he went on vacation after he had come I got stuck with a chest case. The time I really did intubate the patient. It was a cyclopropane anesthetic in a young chap. I've forgotten who the surgeon was, which is probably just as well. The first thing I knew there was a hole in the bronchus. When I had intubated the guy I had inadvertently stuck the tube down the right main bronchus, which I discovered and pulled it back. The surgery was on the left side, so when this hole came I thought, "you've already been down the bronchus once. Go ahead and try it again."

C.F.: That's pretty neat.

Well, as it turned out it wasn't. It was a terribly long case--eight or nine hours, and I wouldn't let anybody relieve me the whole time. When the drapes came off the patient he was in shock and everything else and practically dead. He did die very shortly. What I had done was block off his eparterial bronchus and didn't know it. Then about a week later we had another case in an old man. That time I went down the bronchus intentionally and stayed there. Luckily he didn't have an eparterial that I shut off, so he came through with flying colors. Unfortunately it was inoperable. Too bad it wasn't the other way around.

C.F.: Let's talk about the war years. What was it like then?

It was pretty rough all around---short handed--having to use medical students to supplement the regular anesthesiologists. That meant supervising them continuously. After a while we got Clinical Clerks for a rotation of three months, which made things
much easier. We depended on them, not only for anesthesia, but for the little research that we were trying to do at the same time. It was a matter of running from one room to another all day long, trying to keep them out of trouble and trying to figure out who would need help next. But we made it and I think we probably saved more [critical] patients than we lost, although we did lose some. At that time we still had Dr. Kavanaugh in the department and Dr. Maximova who came in occasionally to help out, but was no good for supervising--any more than Dr. Kavanaugh.

I gather that Dr. Hathaway started deteriorating during this period. Out of his tremendous frustration, and perhaps inherent psychiatric difficulties, with barbiturates and alcohol mixed up into it, he began undergoing the degenerative process that most people remember him for. Will you go into that a little more?

Although he was head of the department, he was hardly ever available--and when he was he seemed to have forgotten everything he learned at Madison. He broke every rule of anesthesia that he had ever taught me. He seemed to be giving anesthesia automatically. For instance on one occasion I was called into his room because he was giving an anesthetic for Dr. Naffziger who called me in--not Dr. Hathaway. What had happened was that the patient had been in difficulty breathing and Hathaway had put in an airway--but the patient was on his face so it was upside down. I turned the airway over and all was well. Hathaway vaguely patted me on the shoulder and that was it.

Another time I was called in from an ENT case and he was being held up against the wall, unconscious, by one of the nurses, during a chest case. It was cyclopropane, the bag was as big as a basketball, and the patient was apneic. So I had to straighten
that out.

About six months before the final end, I went to Dr. Naffziger. I had avoided saying anything to the surgeons about Dr. Hathaway's shortcomings. I was trying to protect him from what was going on--but I couldn't take it any longer. So I told Dr. Naffziger that if something wasn't done about it we would be in trouble. But of course, nothing was done. Six months later, Dr. Hathaway--it was while I was on my vacation--gave an anesthetic to the son of a department head--a 10 year old boy. He was using open drop ether. At the end of the case he stopped the ether. Just as the skin sutures were going in the child started to move a little. He did what anyone would do at that time. He disconnected the oxygen delivery tube from the mask and cupped the tube with his hands over the boy's face and ran straight cyclopropane in for just a little bit. But apparently Dr. Hathaway was asleep at that point and when he woke up the boy was dead. So then things started to happen. He was put on leave and about six months later his job was ended.

C.F.: It was at this time (January 1946) that I came back from the Army and started my residency. It some ways I think it was fortunate for me that he left, because you had absorbed everything from him like a sponge and developed it in your own way. And you were a better teacher. I really think I didn't suffer at all from the loss of Dr. Hathaway; even though it was Hathaway (Waters) Anesthesia that I wanted to learn. He was a terrible lecturer though a fairly good side-by-side teacher. But you put it over very clearly--and with considerable discipline, as I remember. You felt very strongly and we knew that at least figuratively we were going to get our knuckles rapped if we weren't
doing exactly as we were supposed to be doing. You also kept us somewhat research
oriented by involvement in your curare project.

Well, you don't think that you were the only ones that suffered from this do you? I'll
never forget one time we were working on the dogs before we had really started our
project. I was trying to find out what tremendous doses of curare would do, if anything.
I gave huge doses--maybe four hundred times the apneic dose and then sat there and
breathed for hours and hours. At this time we weren' trying to bring them back. We
would keep them going for as long as we could stand it and then kill them.

I think I started around one o'clock on this particular animal. It was a great big
mongrel. Of course the crew left about five. I think it was about eight o'clock at night
I decided that he had lived this long--I might as well dispose of him. Well it happened
that he was an experimental animal that the neurosurgeons had done some work on and
they wanted to post him. So I was supposed to put the carcass in the regrigerator. This
was up on the top floor of Hooper at that time. So I killed him with intravenous
chloroform and then I hauled him over to the refrigerator. It was all I could do to carry
him across the floor, he was so big. I opened the door and the refrigerator was full of
about six dozen eggs and I don't know how many quarts of milk. Will I couldn't see
putting him in there--all covered with dog fleas. There was a small size garbage can
with a bail standing there. I managed to lift the thing up. Of course he was as limp as
a rag, being newly dead and full of curare besides. I curled him down in the can and
got him out, clear across the campus, over to the hospital, along the third floor hall and
into the pathology ice box. I told the neurosurgeons what I had done and the next
morning I got a call from them They were trying to post the animal. They asked me to come and look at him. They had had to cut the can off. He was curled up just like a corkscrew and was stiff as a board. They finally got his head off and did their post.

I remember the dog we gave a hundred times an apneic dose and wanted to bring it back. We ventilated that dog in shifts for 66 hours. It did die, but it had actually started to come back breathing. We were not able to maintain its fluid balance adequately.

We brought another dog back after 50 times an apneic dose, not knowing it was pregnant, and it delivered normal pups later.

That was the one that Bob Clark ended up finishing. He sat with it for 16 hours. Afterwards Charley Aiello (in charge of the dog lab) said, "I don't understand. She doesn't move around. She just sits."

After the war, staff anesthesiologists of the newer generation became more available. Marshall Skaggs, Marge Noble, and John Ashford were there for a few months each.

Those three were there because they wanted to learn the curare technique and I was teaching them. But one time at a meeting I got up and started to say something about the fact that they were only staying because they were learning and Dr. Bell interrupted furiously. At the end of the time he said to me, "What do you think Mr. Durie [hospital administrator] would say if he knew that you were teaching these people when they are being paid?" Paid, yes--maybe five dollars an hour.

Dr. Hathaway was terminated July 1, 1946. The residency program was threatened
with disapproval because we did not have a Board Certified Chief. Fred Beckert left for the navy, Al Harris with Army credit completed his program, Thorne Hopkins and Adella de Lappe left to practise in the San Joaquin Valley. The situation was serious enough that administration and the search committee had to pay attention. The Anesthesia Department was separated out of the Surgery Department and given control of its own finances. Dr. Frank Murphy was brought in as Chief.

Well, in the first place he could talk a bird off a bush. I never saw anybody with such a gift of gab. I've heard him lecture for an hour and you'd be fascinated every minute. But when you got out of the room, if you thought back over it you would realize that he hadn't said one single thing that was worth listening to.

Another thing, he was certainly a money maker in his own right. Besides me he got Bob Churchill in the department. He made me sign an agreement, and I'm sure he made Bob sign a similar one, that my salary was to be $750 a month and I think Bob's was to be $500 and we never could ask for a raise. The rest of the money must have gone straight into his pocket. When he was finally booted out of the place he had made his pile. He was smart. He saw the potential of that when he looked the department over.

After 15 months I had had it. It really got tough, because I couldn't go along with so many of his practises. He didn't believe in monitoring patients at all. He never took blood pressures or paid attention to the patients that I could see. He used twice the maximum recommended dose of whatever anesthetic he was using.

At that time my insurance was covering the whole department for malpractise since
I was the only person who had any insurance. I went to Dr. Bell and told him I wouldn't do it. Dr. Bell was angry. He finally took that over himself and covered Murphy on his own malpractise insurance. If anything had happened he would have been out on a limb—especially with the doses Murphy was using. He used 15% procaine for his spinals. He never had any trouble, but I don't know why not.

Since Phyllis' whole life revolved around her dedication to anesthesia it was of great concern to her that she was not board certified. Dottie Wood had been grandfathered (grandmothered?) in when the American Board of Anesthesiology was first organized. Phyllis determined that she would do whatever was necessary to become certified. Because of the circumstances she was not required to have a formal residency, but was required to take the exams. Organized study was impossible with the working schedule she kept and commuting from Berkeley. She took out three months and attended a lecture course given by Dr. Rovenstine who realized that many residents were unable to get any didactic training because of the pressure of OR schedules during the war, so he provided this course for their benefit. Phyllis also used the libraries and attended department meetings at other hospitals such as Presbyterian. She really worked hard despite an episode of mononucleosis and did get certified. I believe this was in 1947.

From here on I did not see Dr. Harroun other than visits once or twice a year at her family home at 2725 Forest Avenue in Berkeley, where she had lived since 1920. My memory is not so specific or detailed.

Fred Beckert finished his navy time and went to St. Mary's Hospital as Chief of Anesthesia, and Phyllis joined him there in private practice late in 1947. She returned to
teaching at Highland Hospital in 1953. In the sixties she served at Los Angeles General Hospital and Wadsworth General Hospital, but then was disabled for several years after an auto accident. During this period she made some exquisitely constructed models of molecules to illustrate a theory of anesthesia advocated by Dr. Linus Pauling which led to a continuing friendship with him. The models were exhibited nationally and at least some are now in the Guedel Anesthesia Library in San Francisco.

In 1970 Dr. Harroun retired and spent the rest of her days at her Forest Avenue home. She was clear mentally to the end, but suffered increasing debility from a fracture, emphysema, heart problems and failing vision. In 1983 she sustained a cardiac arrest at Alta Bates Hospital and awoke to find herself being resuscitated by a doctor whom she had helped train when he was a resident at Highland Hospital. She died in Berkeley, June 15, 1985. There were no surviving close relatives, but she is remembered lovingly by a host of friends to whom she was a "Very Special Person".

Fred Beckert, who started his residency several months before I did, participated in much more of the initial curare work. He also has the same concern that the work Phyllis Harroun did should be better known. I suggested that he should write a separate paper on the curare project to complement this report. He accepted with enthusiasm and has produced a fascinating review (which I anticipate will be published soon) (??)