

JULE GREGORY CHARNEY
MC 184 BOX 1, F. 51

UNIVERSITY of CALIFORNIA at LOS ANGELES : ARMY AIR
FORCES METEOROLOGY TRAINING SCHOOL, 1942-1946

012

Digitized



Meteorology Class

U. C. L. A.



NOVEMBER
1942

TO THE 1942 CLASS

It has been a privilege to me, as a refugee, to be able to help train a selected group of American youth for the use of science in warfare. Although my voice has now been heard in the course to such an extent that you may know my ideas by heart, I have consented to conclude by writing this preface.

In our science of meteorology, teachers as well as students are only beginners struggling with the first difficulties toward achieving accuracy in predictions. This should serve as an incentive to everybody to try to advance the knowledge about the many problems which are still obscure. I hope and believe that among the U.C.L.A. meteorological graduates listed below there are a few who will contribute in that way. This challenge may seem to concern only those few, but I want to have it addressed to all. By trying to meet the challenge everybody will, in his own way, do the utmost toward winning the war.

J. BJERKNES

PROFESSORS

Kaplan, Joseph, 1732 Kelton Ave., West Los Angeles, Cal.
Bjerknes, Jakob, 620 Adelaide Dr., Santa Monica, Calif.
Holmboe, Jorgen, 449 Levering Ave., West Los Angeles,
California
Neiburger, Morris, 1607½ Camden Ave., West Los Angeles,
California

INSTRUCTORS

Zacher, Aleene, 902 S. Burnside, Los Angeles, California
Charney, Jule, 646 Kelton, West Los Angeles, California
Dalkey, Norman, 646 Kelton, West Los Angeles, Calif.
Gustin, Bill, 491 Mesa Road, Santa Monica, California
Edinger, James (Capt.), 214 South California Avenue,
Monrovia, California
Gustafson, Arthur (Capt.), 1024 El Paso Drive, Los Angeles,
California
Kellogg, William (Lt.), 10500 Seabury Lane, Los Angeles,
California
Shniad, Harold (Lt.), 1301 No. Stanley, Los Angeles,
California
Shields, Gordon (Lt.), 2319 Earl St., Los Angeles, Calif.
Street, Kenneth (Lt.), 14340 Dickens, Sherman Oaks,
California.

ASSOCIATE PROFESSORS

Leighly, John B., Dept. of Geography, U. of Calif. (Berk.)
Sverdrup, H. U., Director of Scripps Institute of Oceanography,
La Jolla, California
Conrad, Victor A., Climatology, Harvard University, Cambridge,
Mass.

OFFICERS

Captain Bagby, Robert E., Commanding Officer
1st Lt. Kinghorn, John G., Adjutant
2nd Lt. Steele, Lynn D., Physical Instructor

CADETS

Allan, Robert M., 1560 Carlton Road, San Marino, Calif.
Ament, Richard P., 739 N. College Ave., Claremont, Calif.
Ball, Francis X., 77 Niagara Falls Blvd., Buffalo, N. Y.
Barker, Lawrence, 995 Hampton Road, Arcadia, Calif.
Beckwith, Stephen L., 333 19th St., Santa Monica, Calif.
Bishop, Floyd Ernest, 3178 "O" St., Sacramento, Calif.
Blair, Neil M., Troy, Mo.
Blunk, Paul Magnus, Fair Oaks, Calif.
Bonnot, Charles Durand, La Ward, Texas
Bordon, Martin, 2427 S. Mansfield Ave., Los Angeles, Cal.
Bundgaard, Robert C., 1045 S. Columbine, Denver, Colo.
Burson, Ralph, 321 N. Maple, Eureka, Kansas
Carter, Eugene A., Fayette, Iowa
Clark, Joseph J., 32 Shippan Ave. Ext. Stamford, Conn.
Crook, Jr., Walter B., Parchinan, Miss.
Coony, John Joseph, Rt. No. 2, Highland, Calif.
Cope, Stephen J., 225 E. Lee St., Greensbro, N. C.
Davis, Donald C., 426 S. Marian Ave., Washington, Iowa
Dee, John, 380 South Vine St., Denver Colo.
Dereskevich, Albert S., 3141 Theodore St., Scranton, Pa.
Doty, Edward Andrew, 11238 Osborn St., San Fernando,
Calif.
Ducan, George H., 10557 Ashton, Los Angeles, Calif.
Erxleben, Lloyd W., Wayne, Nebr.
Everts, Ed, 2607 Benvenue Ave., Berkeley, Calif.
Exner, Lawrence J., 2060 E. Pacific Ave., Phila., Pa.
Finley, William L., 2725 Ashby Ave., Berkeley, Calif.
Fickenscher, Edgar H., 621 - 28th St., Sacramento, Calif.
Forsythe, George E., 1819 Hill St., Ann Arbor, Michigan
Foster, John A., 155 E. 4th St., San Bernardino, Calif.
Godfrey, Steve M., 167 - 56th St., Niagara Falls, N. Y.
Gray, Benjamin Galbreath, 112 S. Serrano Ave., Los Angeles,
Calif.

Greeson, Leonard Eugene, Lerna, Illinois
Griffing, George Warren, Smith Center, Kansas
Gysbers, Jack Cogswell, Box 247, Fair Oaks, Calif.
Hartz, Wilford Leroy, Box 452, Wheatridge, Colo.
Hedrick, John Howard, 200 N. Gerona, San Gabriel, Calif.
Henley, Victor Ralph
Hunn, Herbert J., 612 36th St., Richmond, Calif.
Horak, Henry George, 800 N. 10th, Kansas City, Kan.
Johnston, Robert Dancy, 440 S. Canon Dr., Beverly Hills,
Calif.
Jones, Earl Leroy, 2013 N. Jackson St., Palestine, Tex.
Keyfauber, Donald Stephen, 3304 N. Central Ave.,
Phoenix, Arizona
Landgren, George L., 116½ E. 25th St., Hibbing, Minn.
Lumpkin, Henry Earl, Box 497, San Marcos, Tex.
Luxenberg, Harold, 1403½ N. Catalina St., Hollywood,
Calif.
McHorse, Stephen Andrew, 2301 Coggin Ave., Brown-
wood, Texas
Mapes, George Sterling, 2621 N. 44th, Lincoln, Neb.
Matson, Bill W., 729 SW. Harrison, Portland, Ore.
Miller, Charles Stanley, 609 Coral Way, Ft. Lauderdale,
Florida
Mitchell, Walter R., 1121 E. Main St., Mankato, Minn.
Mordy, Wendell, 2004 Detroit Dr., South Pasadena, Calif.
Morgan, Charles Tarleton, 126A S. Louise St., Glendale,
Calif.
Neill, James C., Coulterville, Ill.
Nelson, Arthur Hansen, 502 S. 11th St., San Jose, Calif.
Nichols, Kenneth Paul, 311 W. Yosemite Ave., Madera,
Calif.
Norris, William G., Rt. 1, Box 271, Orosi, Calif.
Oliver, Robert Kenneth, 21 Garber St., Chambersburg,
Penn.

Phillips, Silas Bent, Jr., 72 Oxford Road, Newton Center,
Mass.
Piacentini, Benjamin, 1118 Carruth Ave., Fresno, Calif.
Poage, Bill C., Burton, Wash.
Pribble, Lynn H., 511 S. First West, Logan, Utah
Rippe, Dayle D., Ohioa, Nebraska
Rosenberg, Robert F., Cold Spring Road, Williamstown,
Mass.
Russell, John Willard, Rt. 1, Brawley, Calif.
Setterberg, James M., 3022 S. E. Tibbetts St., Portland,
Oregon
Sloan, Young Tenney, Greenwood, Texas
Smythe, William Martin, 1406 Tonopah St., Reno, Nev.
Stallard, Thomas Brown, 2315 Belmont, Parsons, Kansas
Swift, Frank Charles, 1095 St. Louis Ave., Long Beach,
Calif.
Tavelli, Joseph Allen, 1015 College, Redlands, Calif.
Timm, Loel Clayton, Fayette, Iowa
Vaughan, J., 51 Charles St., Boston
Waddell, Mathews Cary, 693 Goodrich Ave., St. Paul,
Minn.
Wheless, Chester Lee, Rt. 1, Box 364, Austin, Texas
Wheless, Nicholas H., Jr., 948 Trabue St., Shreveport, La.
Wilson, Fuller Hugh, R. 6. Ft. Wayne, Ind.
Winger, Carsten M., Decorah, Iowa
Worthman, Paul E., McComb, Ohio
Captain Hawkins, Kenneth C., 1251 Holmby Avenue,
Los Angeles
First Lieutenant Jameson, D. C., 888 Grove Way,
Hayward, Calif.

C A A

Alleman, Victor C., 202 W. 18th St., Santa Ana, Calif.
Fair, John Douglas, 102 The Uplands, Berkeley, Calif.

Goldberg, Leon Martin, 130 West 86 St., New York City,
New York
McKown, Robert Emery, 307 NE. 16th Ave., Portland,
Oregon
Stocks, Donald B., 4832 SE 92 Ave., Portland Oregon

NAVY

Ablow, Clarence M., 1943 N. Van Ness Ave., Los Angeles,
Calif.
Hagins, Thomas Cleveland, 407 East 3rd, Fordyce, Ark.
Rutowski, Richard Walter, 6919 Bellaire Ave., North
Hollywood, Calif.
White, Robert Len, 2122 W. Washington Blvd., Los An-
geles, Calif.
Williams, Robert Martin, 822 N. Mariposa Ave., Los An-
geles, Calif.

WEATHER BUREAU

Schmalz, William M., 2847 Brinker Ave., Ogden, Utah
Williams, Philip Jr., 779 11th Ave., San Francisco, Calif.

PRIVATE STUDENTS

Bell, Gordon B., 1817 Veteran Ave., Los Angeles, Calif.
Cohen, Sam T., 346 N. Huntley Dr., Los Angeles, Calif.
Culbertson, Margaret, 2965 Second Ave., San Diego, Calif.
Forrest, Jack P., 1269½ Barrington
Levin, Sheldon M., 341 N. Poinsettia, Los Angeles (temp.)
Mowry, E. C., 1380 Waverly Rd., San Marino, Calif.
Smith, William, Box 2, Tallahassee, Fla.
Wilkins, Josephine, 915 Mayo St., Los Angeles, Calif.
Zagorin, Harold, 418 N. Spaulding Ave., Los Angeles,
Calif.

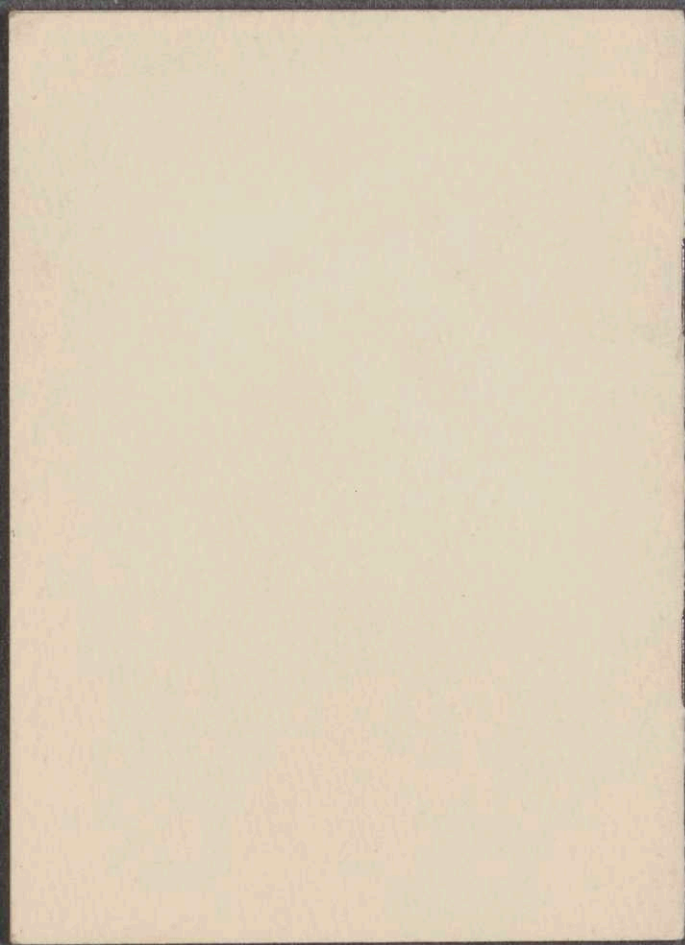
Lansley

759 S. Orange - I. O.

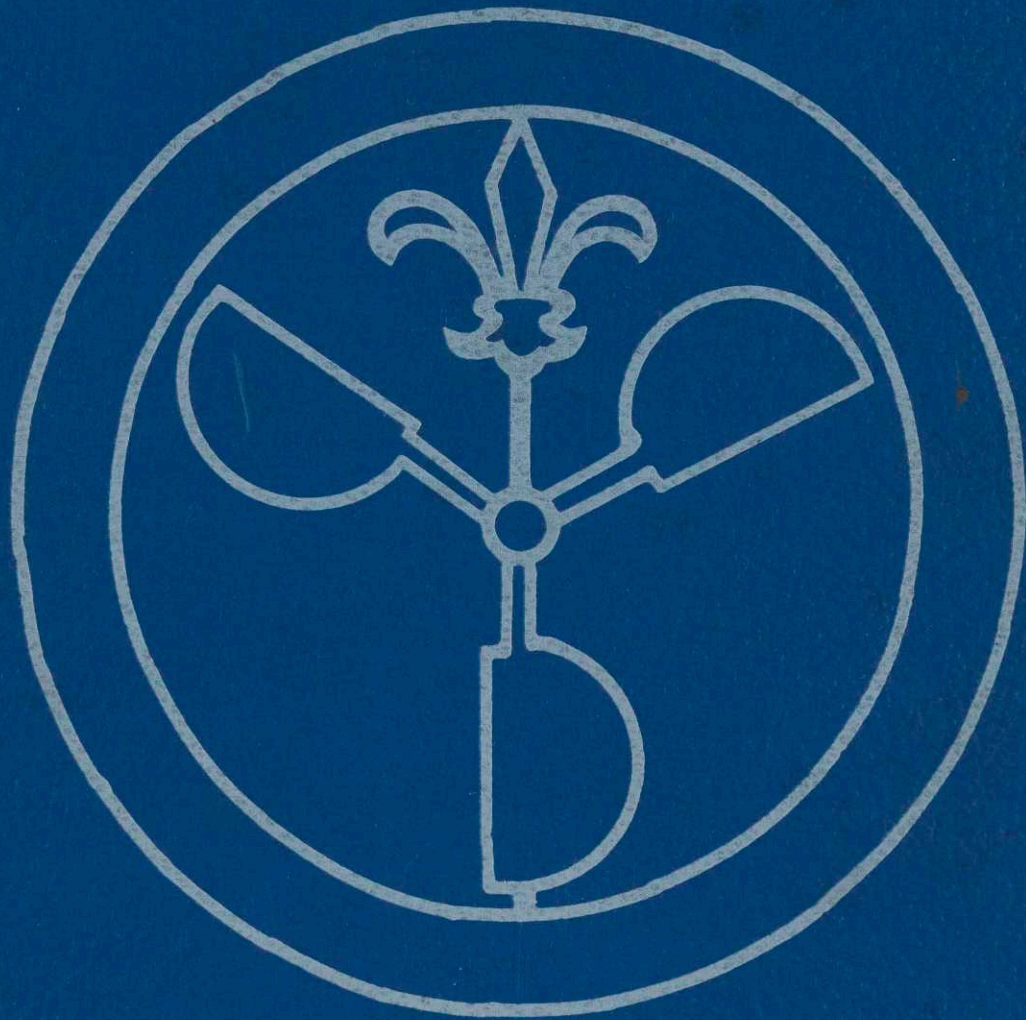
Poe, Ben C.
Newington Ind.

Sykes, John P.
24 W 69th St
N. Y. N. Y.

Hanley, Victor R.
875 - 52nd St.
Sacramento, Calif.



WEATHER FOR ACTION



CLASS SEVEN

Fitzew Holmboe

COELIUM AD PROELIUM

ELIGE

**WE WILL CHOOSE
THE WEATHER FOR
ACTION**

The Classbook of Class Seven
Army Air Forces Meteorology
Training School, University of
California at Los Angeles

March, 1943 – June, 1944

F O R E W O R D

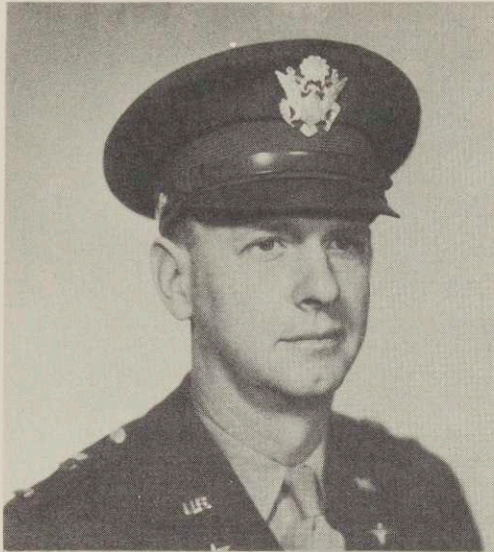
The first thing a good forecaster does when he begins to analyze a situation is to look at the past history on the previous weather maps. And it is sometimes almost as instructive, before an old series of maps is rolled up and put aside, to glance back reflectively over the development of the systems and trace how one led reasonably to another; perhaps how one little wave at the edge of the horizon in Texas grew great and swept sound and fury across the country to New England, or another of which much had been predicted died without even so much as a trace of precipitation to mourn its passing.

When it came near time for Class Seven to roll up its last practice series and scatter itself with the four winds, its members unanimously decided that they would like a permanent record of its activities and development. Some others felt that here was another interesting problem in continuity which would be fun to work with. So a staff was organized and undertook to publish this class book for Class Seven.

The thing that impressed the Staff about the cadets of Class Seven is the way they have changed after fifteen months together. When they assembled first in Seattle in March, 1943, they were a group of college men jerked rudely from campus into uniform; surprised, awkward, and incoherent enough to form Cable's Commandos. The ranks of spectacled soldier-students marched and studied for six months on the campus of the University of Washington. After an interlude at Boeing Field near Seattle, when forty-three of their comrades left to go to the Institute of Meteorology at the University of Chicago, they arrived at the University of California at Los Angeles. Here they were joined by Naval Ensigns and Latin American students, and Class Seven was formally constituted. Now, as the development of Class Seven comes to a close, the staff sees a group of men very different from that earlier

group of fifteen months ago. Now we are strangely uniform in appearance and thought; we have a new set of reactions and values; new ties of friendships. Perhaps only Class Seven itself, and then only when in a reflective mood, can realize how much it has changed. For such reflection the Staff has prepared this class book. It presents here as well as it can, the past history of Class Seven. Here is the continuity. The forecasts must be left to the thoughtful reader—and to the verification of time and the destiny of war.

For a book of this kind to be produced by men whose time already had too many demands upon it required the full cooperation of all. A hundred odd jobs were done which cannot be acknowledged, from compiling names to offering snapshots. It is in a very literal sense, therefore, that this is the class book of Class Seven. Those who pretended to work the hardest are Ken Burkhard and Edmund Dews, editors; Don Johnson, finance and everything else; Don Deffenbaugh, Bill Blair, and Louis Walters, photographers; "Chip" Cheney and Ben Bohnhorst, copy; and "Deano" Gardner, cover. Charles Dunning, Art Aronsen, "Omar" Clayman, "Bore" Boreham, "Haralthr" Gibson, Jack Machlis and "Windy" Landerholm remembered what their flights had done and wrote it up for us. Tom Chin, Jerry Olson and "Hymo" Ellis took care of things at Chicago. Ensign Warren C. Thompson handled the naval contingent of Class Seven. "Woody" Dickey, Glenn Jackson and "Lover" Matthews gave their time for typing copy, as did Bernice Stangler, Lee Kauffman and Margaret Mowbray in the office. The staff wishes to acknowledge valuable advice from Lt. Arden Lanham and aid from Lt. Ralph Papirno and from the girls "down in Research," Kim Blair, Betty Crowder, Joyce Bates and "Jeff" Faries. Especially the thanks of Class Seven go to Dick Ewing, without whose help this record would never have got further than the editor's notebook.



DEDICATION

We dedicate this book to the three officers who were most responsible for converting us from "schoolboys" into Officers of the Army Air Corps.

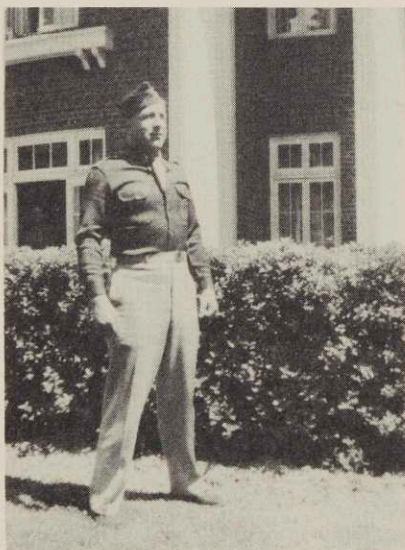
1st Lt. Leonard A. Voss, graduate of University of Missouri and R.O.T.C. . . . Reserve Officer . . . called to active duty in April, 1942 . . . stations: Jefferson Barracks; B.T.C. No. 5 at Kearns, Utah; TD Boeing Aircraft; and UCLA . . . came to UCLA in November 1943 . . . acted as Adjutant until Major Adams left, and then became our Commanding Officer.



Our Commanding Officer . . . tall, reserved, dignified, efficient . . . gave us military lectures, things we needed to know as officers . . . set an example for us, a true officer and gentleman.

1st Lt. Lynn D. Steele, was a First Sergeant in the Field Artillery . . . went through O.C.S. at Miami Beach . . . stationed at U.C.L.A., Adjutant and Physical Training Director.

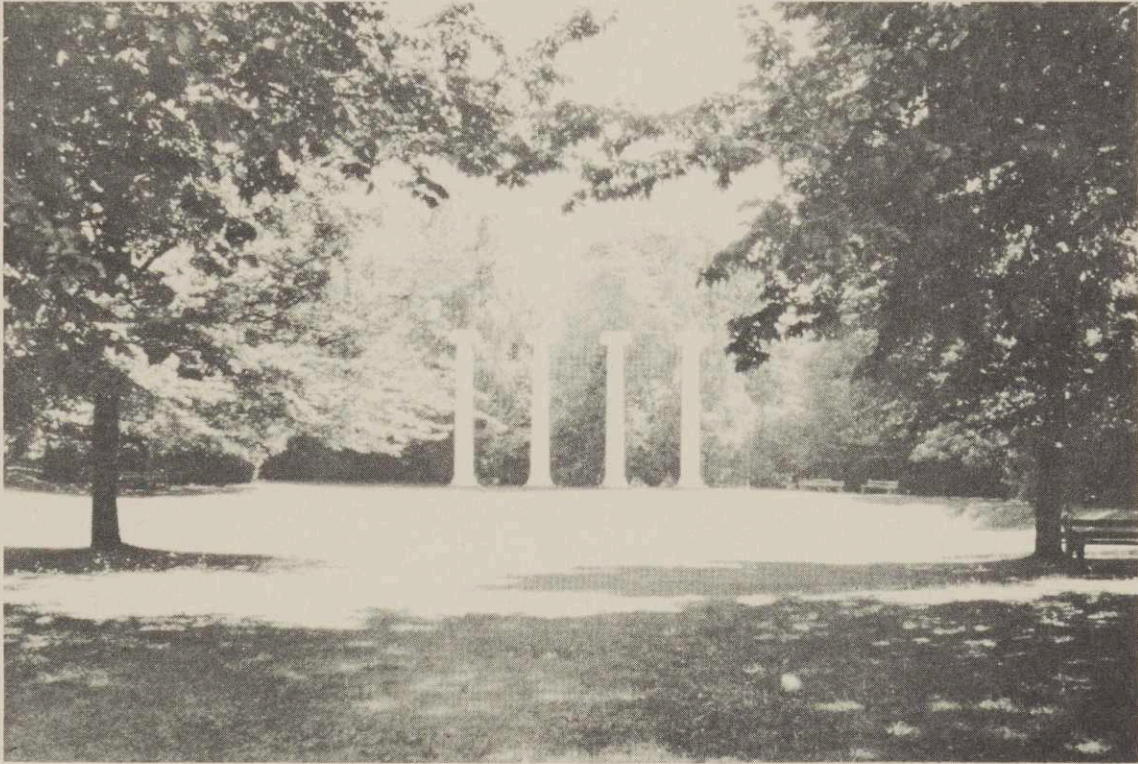
Adjutant and Physical Training Director . . . husky, muscular, a humorous glint in his eye . . . southern drawl . . . kept us in good physical shape . . . cut our arm swing down.



1st Lt. Roy H. Turbyfill, Jr., was in the Medical Corps as an enlisted man . . . went through O.C.S. at Miami Beach . . . stations: B.T.C. No. 5 Kearns, Utah; B.T.C. No. 8, Fresno, California; our Adjutant at Washington

Our Adjutant at Washington . . . big and burly . . . drilled us, trained us, kept us jumping, giggered us right and left . . . but all for a purpose: to make soldiers out of us . . . gave us a beer bust . . . played basketball with us, went to our dances, was really one of us.

It may be we will never realize the full extent of our debt to these officers. But as graduation draws near, it becomes clearer to us how much we owe. In recognition we dedicate our book to them.

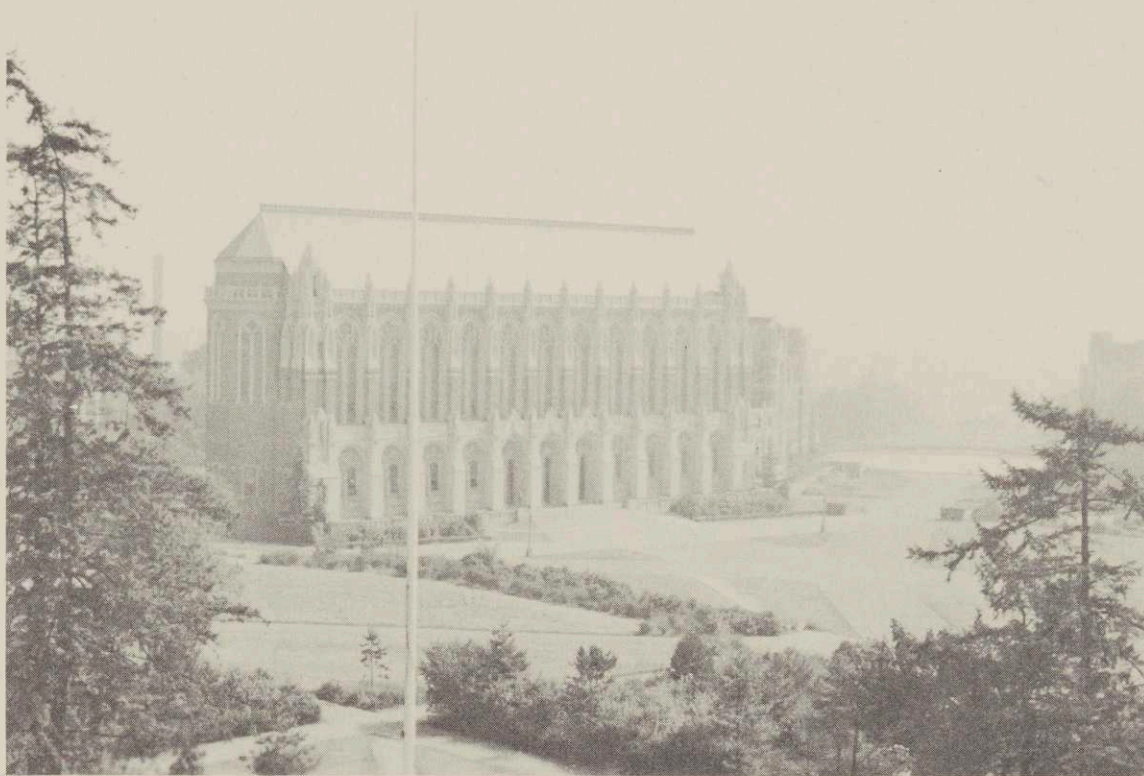


The past history of the cadets of class seven begins at the University of Washington. There one man had an unrivalled opportunity to observe us and judge our progress. He has offered the following appreciation of the synoptic situation:

Below are listed some of the thoughts that filtered through my mind as I allowed my memory to go back to those sunny days at the University of Washington. Strangely enough I didn't remember the rain.

Incoming: Long hair, civilian clothing, alert, intelligent, fun loving, young, playful, careless, poor physical conditions, skeptical, not too studious, poorly policed quarters, shy—(in a few cases), no singing.

During training: Student officers, "The Colonel," "Calman," "Stewart," "Keegan." Learning chain of command, poor supply sergeants, Saturday inspections, swimming classes, obstacle course, cross country, P.T. tests, speedball, football, basketball, chinning, wrestling, ropes—rush, rush, rush. Drill, reviews for visiting officers, working off gigs on Saturday, dances with AWS, soft life in fraternity houses, marking clothing, Lt. Cable leaving, Captain Carvin . . . getting "dust conscious." Private dances in barracks No. 4; cokes, cookies, and doughnuts. Sighting exercises, bayonet drill, manual of arms, gas chamber, squad drill—every man giving commands, tour as flight leader, antagonism toward navy, P.T. uniforms, learning the "Weatherman's Song." Songfest—"We was gypped." Major Brewer's talks—



"What! No sleeping?" Experts with carbine and sub-machine guns. Review for Major General Curry.

Last weeks: Superb physical condition, aggressive, heavier, more muscle, confident, thorough, neat, studious, casanovas, drill masters, proud carriage, good housekeepers, dust conscious, well disciplined, continual singing and good! Supper with beer, smokes, etc., at Boeing Mess. Cleaning up junk yards, meeting cadet board, guard duty at Boeing . . . half detachment caught going through fence. Trip on train, apples, oranges, candy, gum, card games, frequent stops, good messing.

Conclusions: Never have I spent a more enjoyable period. Every boy was of the finest. Our little detachment passed in review before some mighty big boys and was acclaimed by them as being superior. We had the best detachment anywhere. Now at the Flying Fortress School I work with a selected group, but no other unit can ever reach the perfection nor the place in my heart and memory attained by you. . . the finest group of boys ever.

"Gig Keegan"

Roy H. Iversen, Jr.

1st Lt., Air Corps.

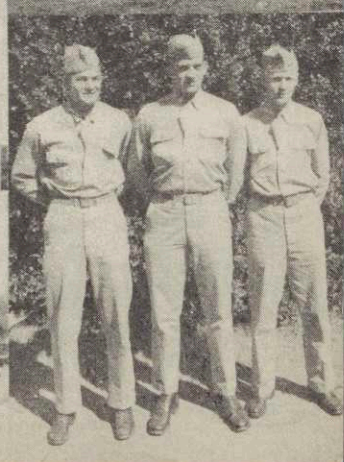
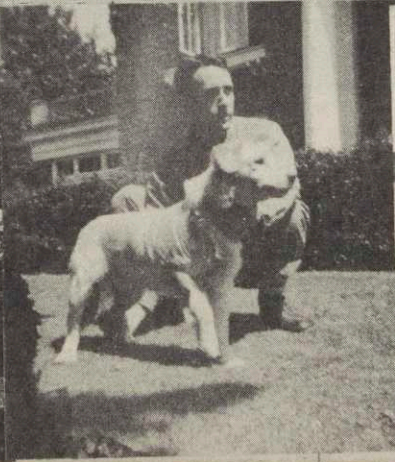
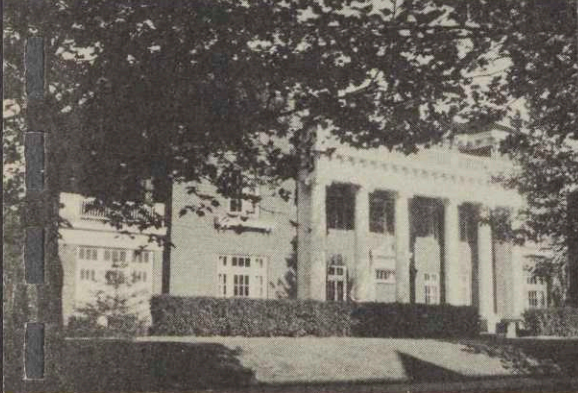
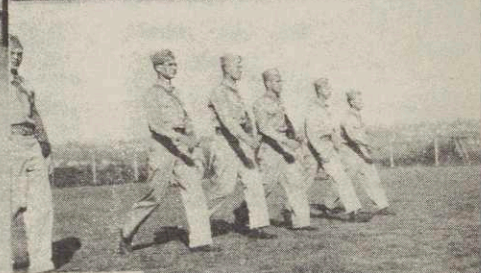
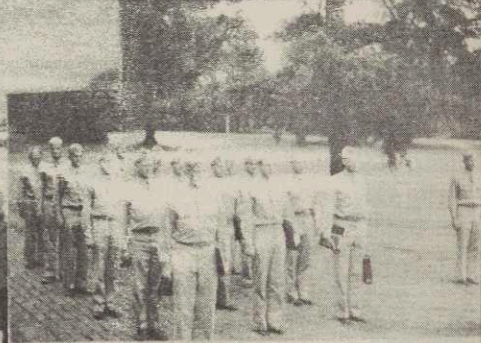
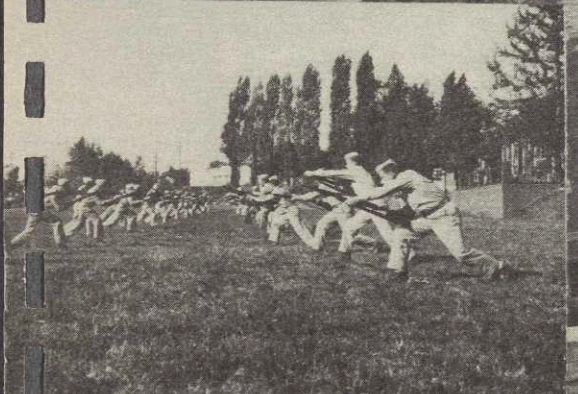
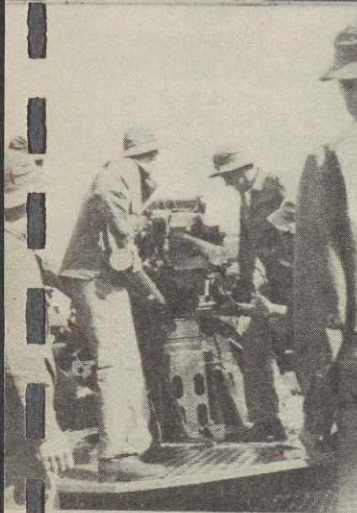
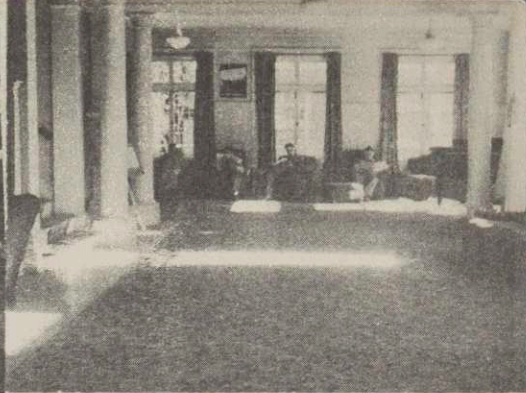
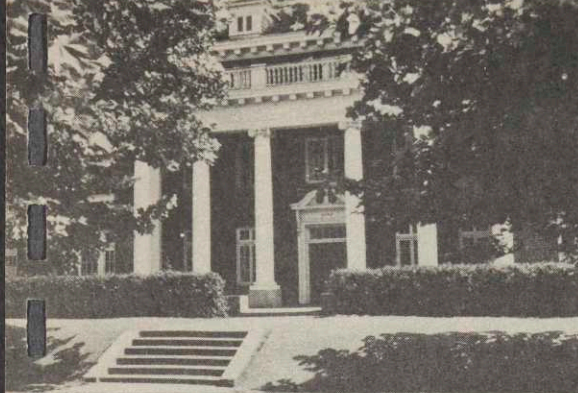
Adjutant, P.T. Officer, Special Services, Training, Finance, Supply, Laundry, Dry Cleaning, Chemical, Range, Statistical, Historical, Personnel, and Housing Officer . . . Chaplain?

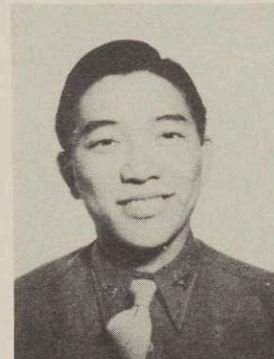
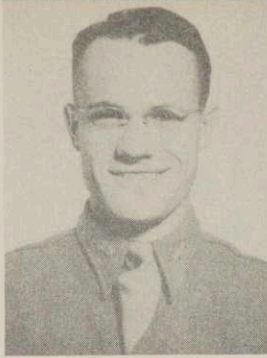
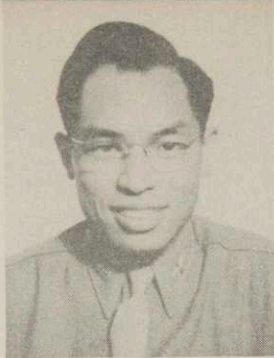


UCLA

The worry about getting everyone on the train . . . triple decker berths for the luckier ones . . . blackjack and poker, with Turby on the short end and Cummins with an extra month's pay . . . keeping the Navy away from our apples, oranges and candy . . . food served by our own boys and how they ate like kings . . . pass the hat for the porter . . . waiting at Union Depot for baggage and busses . . . the wide eyes of the new-comers as we traveled out famed Sunset Boulevard . . . our surprise at the luxury of the barracks . . . the new found freedom that we hadn't known at Washington . . . the feeling of learn-

ing something worthwhile . . . the shock of learning that Lt. Steele had roomed with Lt. Turbyfill at OCS . . . our envy of Class 6 with only three months until their graduation . . . weekly quizzes, but no Chicago tests . . . Mr. Neiburger and Lt. Forsythe, our first taste of UCLA faculty . . . innumerable codes to learn . . . warm weather . . . better gym . . . cross country . . . and finally, the feeling that although we were still months away we had turned the corner, and at the end of the long trail ahead there really was a pot of gold bars.





**BJORKLUND
BLAIR
BRADSHAW**

**CHEW
CHINN
CHOY**

**COOPER
DEFFENBAUGH
DUNNING**

**ENENSTEIN
FADLER
FLEISCHMAN**

**GAMBLE
GRUBB
HODGES**

Barracks one: To the U. of W. it was a fraternity house, but to our men it was "Barracks One," headquarters, and on the top two floors, home of flights A and B. Up there we listened to the chimes from the campus on Sunday mornings; we looked out the big windows on the back porch at the summer moon over Lake Washington; and from one of the corner rooms we could look across the street on the Alpha Phi's sun-bathing porch. Up there we lived, made our beds, shined shoes, talked, laughed, scrubbed, washed, and dusted like eager beavers. We horsed around a lot. There were pillow fights and water fights. Beds and bedding were thrown out windows and down stairs. Timmins bashed a hole in the plaster wall one time when he ran into it too hard.

There was a hole in the ceiling over the hall where Bohnhorst's leg came through while he was cleaning the attic.

The top floor was Flight B's. H. G. Thompson was flight leader of Flight B, and known as "Mercury," because of his initials. And "Sabu" Thompson, the jungle-boy, went to the Jungle Inn on the week-ends to drink "dognoses." "Tool" Hartman, quiet, big, and awkward, always ready with something unexpectedly funny to say. Joe Fadler made a profit by selling pictures he took. Ken Shepherd sat in his room and played "Sophisticated Lady" on his trumpet. Bob Rosene got up before reveille, put on his G.I. shoes, and stomped down the hall to the wash room. Norm Riggle was chief objector to Rosene's

commotion. Willie Brannon, gay and carefree, accepted all of life's little tragedies with his "C'est la vie!" In August, Merle Morris received the news from his wife that he had become a father. Don Howard, always ready to laugh—except early in the morning. John Harris, a medical student at heart was famous for the letters he received, beautiful girls drawn on the envelopes. Louie Pentney, small, boyish grin on his face. Jerry Olson, "Mop-haid," never combed his hair, always smiling about something, feet smelled to high heaven despite his preventive efforts. He chose Chicago. Ben Bohnhorst was our adjutant until he was married. Then they made him "intelligence officer." Art Calman was adjutant next, went around crooning to himself—

and the world at large. Don Gedney was in our flight until he got inflammatory rheumatism, and was given a medical discharge. Tom Wendel entered the course late and was transferred to another school. Al Marris, a very quiet and soft spoken lad, was one of the brighter boys—savvied vectors.

John Clayton was claimed by Flight B. He was commander of our group. Serious and stern, he was a good soldier, a good commander. He and Marris chose Chicago. Roy Bradshaw, a fellow who's easy to like, wants to be a forester, thinks weather is important in forestry. Roger Hungerford was a forester too. He and Bradshaw gave their little talks in English on trees, etc. Norman Bjorklund, with flaming red hair was ever ready for a wrestling match.

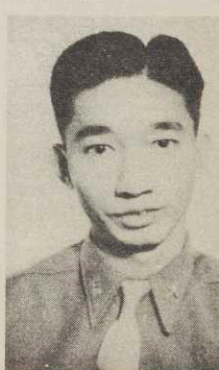
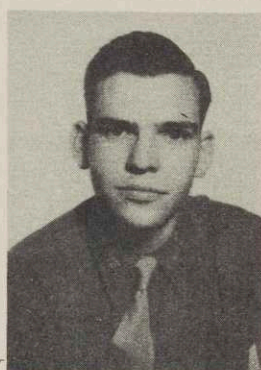
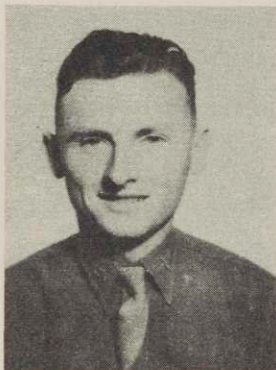
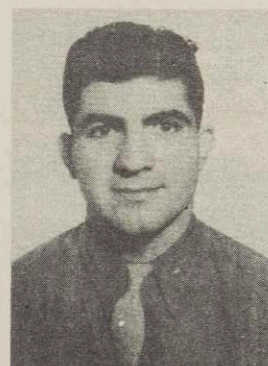
**KAUPER
MILLER**

**MERLE MORRIS
NEWMAN
PETERSEN**

**REED
RIGGLE
ROSENE**

**SEVADJIAN
SHEPHERD
TIMMINS**

**WERNER
WOOLEY
YEE**

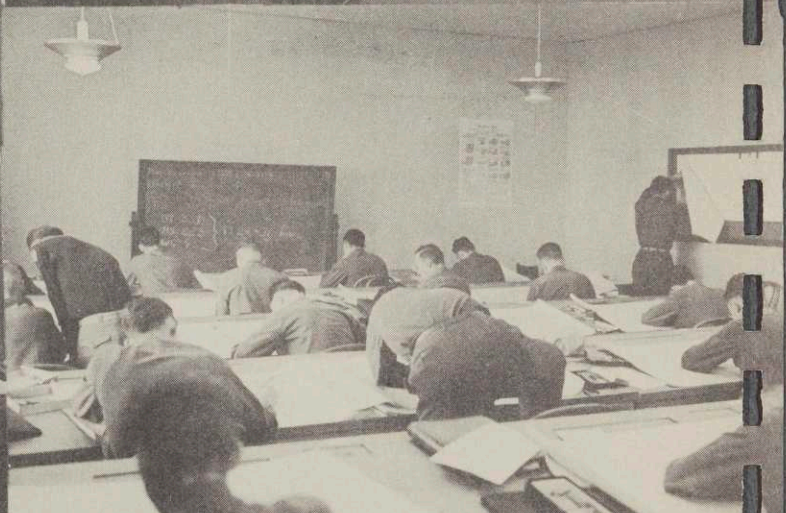
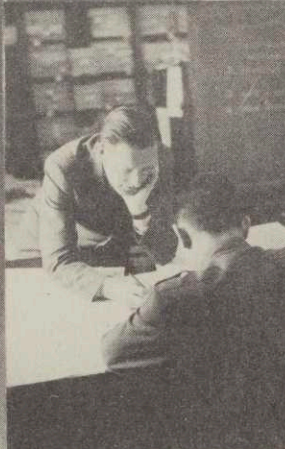
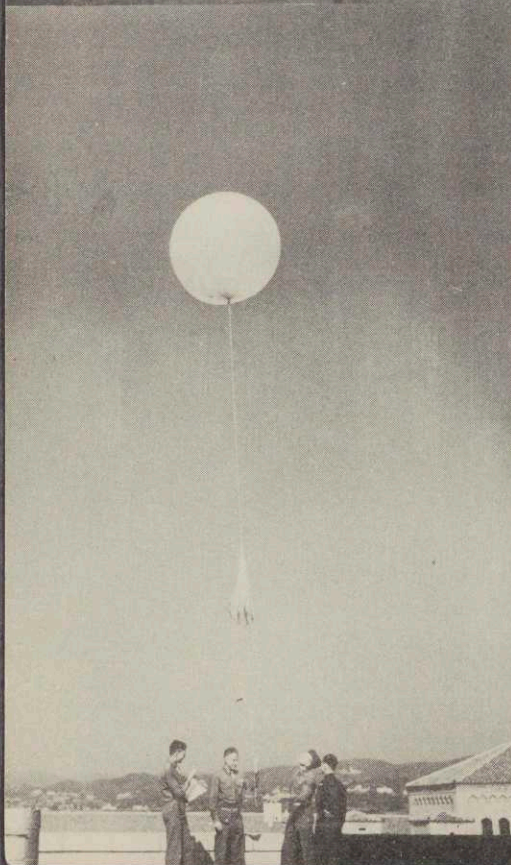
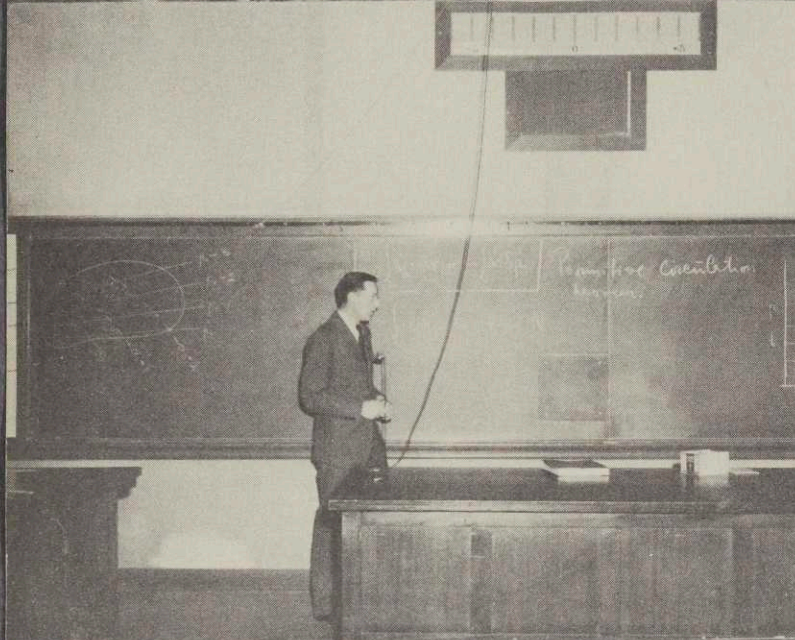


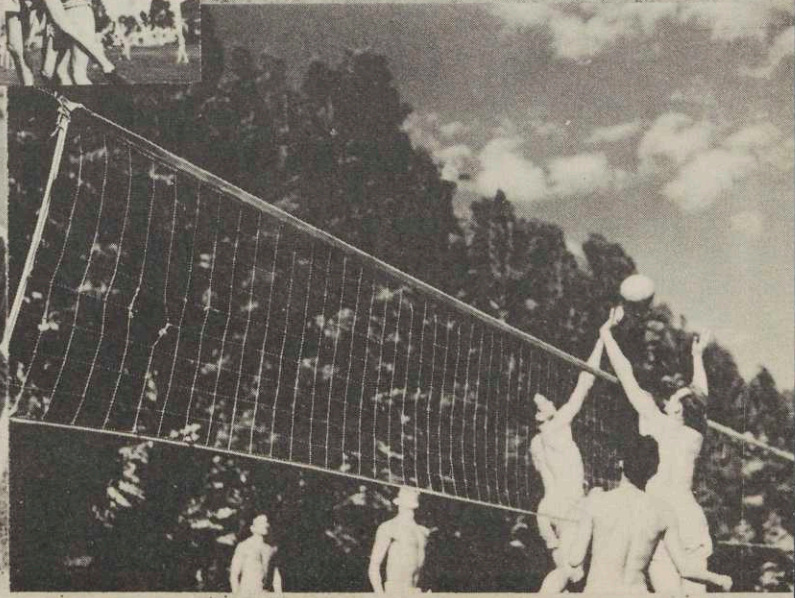
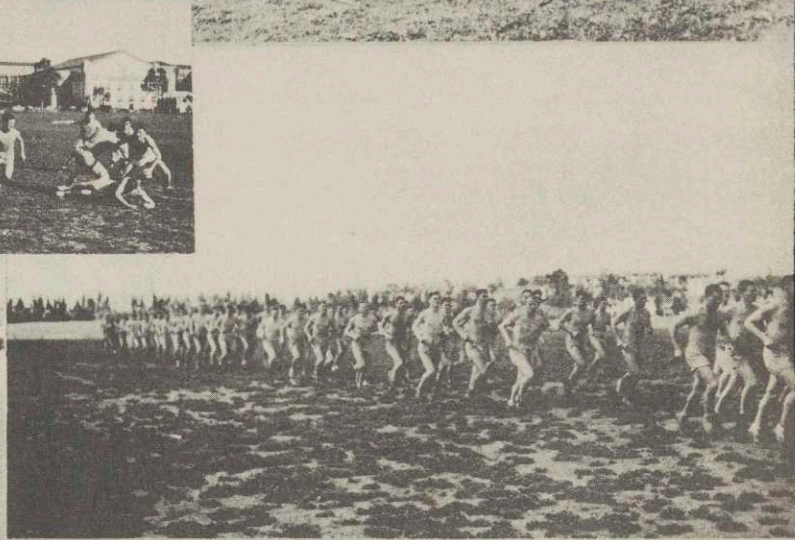
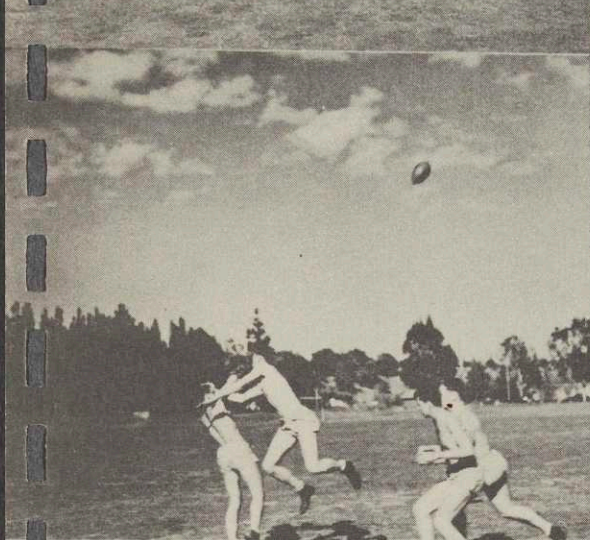
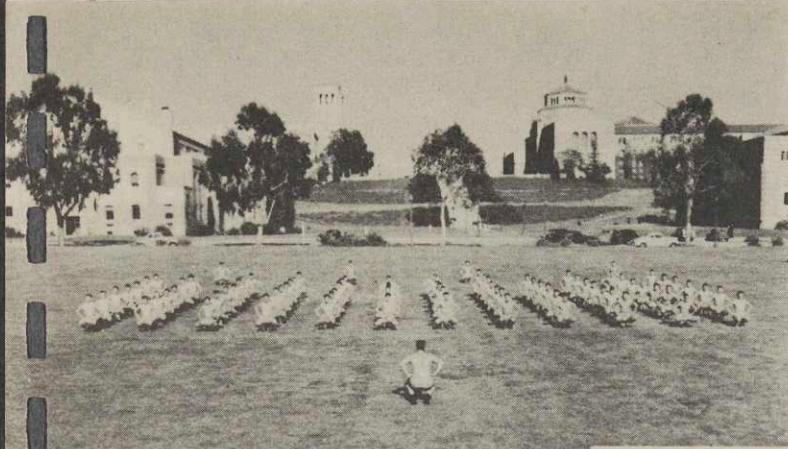


CLASS 7 - SATURDAY; 1 APRIL 1944

0800-0812: Plot and analyze 40 mph constant wind speed chart
 0812-0824: 48 hr prog chart for the above
 0824-0836: X-section thru atmosphere at 45° slope (90° X-section)
 0836-0848: 184 km. chart—include the following isopleths: absolute
 (a) Constant shear vector. (e) Constant potential vorticity
 (b) Constant radiation flux. (f) Isopycnics (Box lunches optional)
 (c) Isotherms. (g) (Lt. Doerflinger)
 (d) Constant mass transport (the $\nabla \cdot \mathbf{v} \cdot \nabla \cdot \mathbf{v} \cdot \nabla \cdot \mathbf{v}$ term) (4) Lavender cross-hatch at areas still visible.

0848-0850: TREECKY QUISS!
 0850-0905: Forecast 40 mph wind level for all seas 500 to 599 which are divisible by the sq. root of the shear-stability ratio; vector
 0905-0919: Compute maximum temp for the 500 mb surface at Svappa vvara, assuming a type Cpn climate
 0919-0924: You may do whatever you want during this entire period. DO NOT WASTE TIME!
 0924-0940: NIP Discussion P. PS 29, CB 19, Labs, Remathly or Westwood Bowling Alley
 0940-1000: Submit private pictures for Lib 147.
 TEAM ANACONDA PATTERSON-





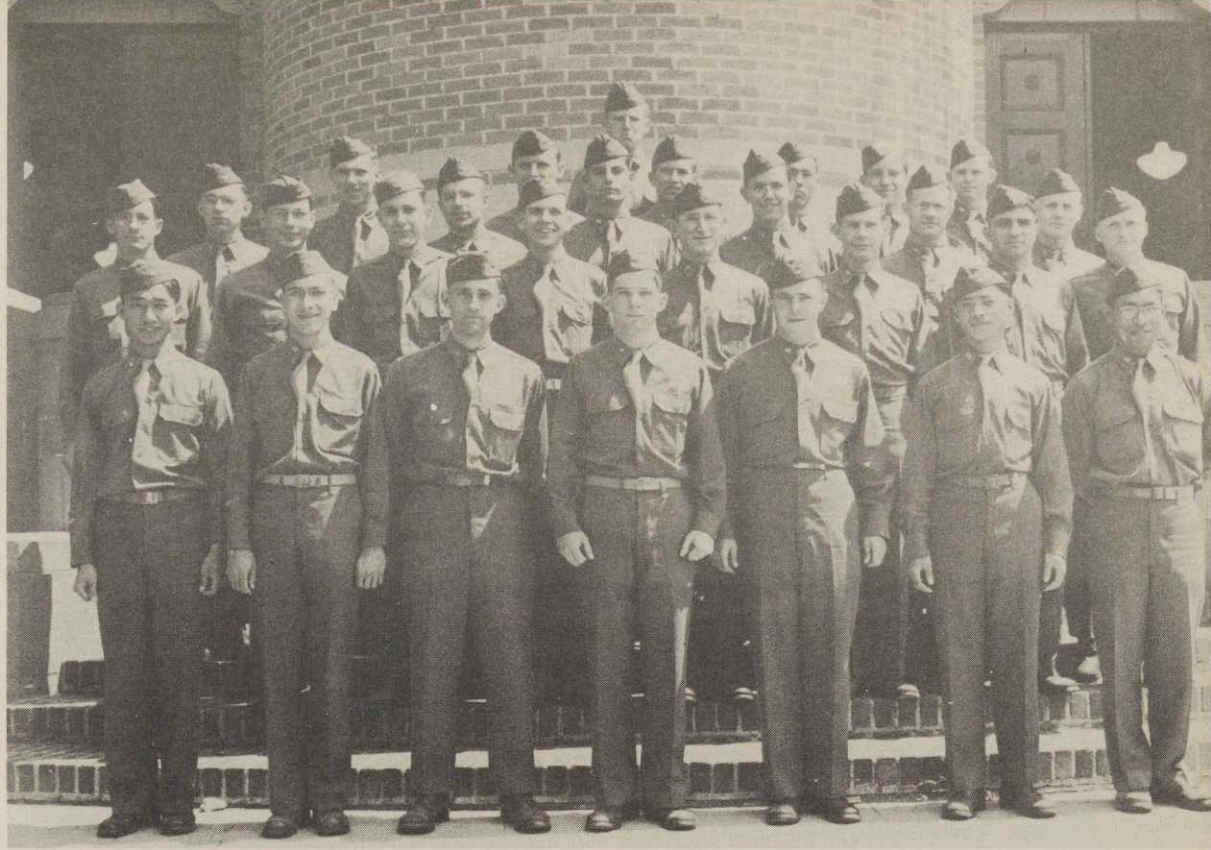


Norm Enenstein usually didn't wake up until a couple hours after reveille. Willie Hodges earned the nick name "Booby-Trap." One of his own booby traps went off on him one night, drenching him to the skin. Always cheerful, he sings happy hymns to himself in his sweet tenor voice.

Tom Chin was the leader of Flight A, and soon won and held our respect. After the organization of the detachment, Flight A was assigned the second floor of Barracks One. The twenty-odd of us found our quarters in the several rooms or big sleeping porch. Deffenbaugh, of considerable musical talent; Louis Wilson who transferred out of the course; Grubb, "brain" and flight chaplain; Dunning, too modest to tell the truth about himself; Cooper

man of varied moods; Jim Fuller, sleepy all the time . . . chose Chicago; all these lived in the sleeping porch. The varied tastes and opinions in this group made life there most interesting.

One of the liveliest corners of the floor was the theatre of many card games, bull sessions, contests of brute strength and all that stuff that occupied our free hours. There was the Reed, Newman, and Miller room . . . always a complete mess. These men used to see who could stay in bed the longest and still make the first formation dressed. About five minutes seemed to be average time to get up, dress, make beds, clean room and fall out. Reed is the only man in the flight with a family of his own making. Petersen and Bell were there. Pete will be re-



membered by his frown of consternation and Bell for his happy-go-luckiness which happy-go-luckied him out of the course. Gordon Choy and Jack Yee were roommates. Choy had to tolerate Yee's serenity and diligence . . . Yee, Choy's quips and wisecracks. Gamble was the flight alchemist and genius of the practical joke. We used to have trouble restraining him from practice on Lt. Turbyfill, who occupied the next room. Woolley, Gamble's roommate, spent his spare time canoeing on the lake.

Bill Blair and Bill Werner were roommates. Blair was the "Pappy" of the flight, being easily the oldest. Werner, gigs or no gigs, would turn his head even at strict attention in order not to miss a passing coed. The big fellow with the pleasant smile and

friendly greeting was Bob Austin, who transferred to flying. His post lights-out conversations with Sevadjian used to bring quite a rise out of Bill Armstrong, their roommate. Armstrong went to the U of Chicago.

In the next room were Collins and Combs. Remember Collins' laugh which would be answered similarly by Miller's from the other side of the barracks—hysterical and bloodcurdling?

Another of the boys who transferred out of the course was John Bressett, a cheerful Oklahomian, who brushed his teeth six times a day.

With but few exceptions, flights A and B became Flight One at UCLA—to continue studies, perhaps on a more intensified scale, and horseplay, not so frequently since the bars have come in sight.

WILLIAM GUSTIN, A.B. . . . graduate of Class 2 . . . working toward his doctor's degree . . . young and energetic, a rapid speaker . . . paced up and down the lecture room . . . jumped up on a table once, so he could reach the top of the lantern slide screen with his pointer . . . lectured to us on Chapter 6 of the Holmboe notes . . . conducted map discussions on the northern hemisphere series.

MORTON WURTELE, B.S. . . . graduate of Harvard in philosophy and mathematics . . . worked for the State Department before entering Class 4 . . . candidate for M.A. in Meteorology . . . quiet and pleasant . . . lectured on condensation and visibility . . . gave us an excellent set of notes on fog.

CHARLES HEDGES, B.S. . . . graduate of University of Chicago . . . worked for the Weather Bureau . . . was laboratory instructor at the Institute of Meteorology at the University of Chicago . . . mild, tall, dark . . . lectured on meteorological instruments.

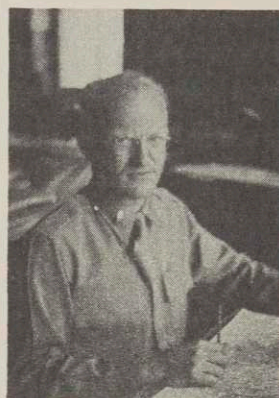
The practical work of meteorology is done in the lab, where personal attention and guidance are necessary. The men who worked with us in lab were our officers, most of whom are graduates of former classes at U.C.L.A. With their help we drew surface and upper air charts, isentropic charts, cross-sections, "prog" charts; we forecasted and became after a time, weather men.



LT. PATTERSON



LT. LEOPOLD



LT. HENDRICKSON



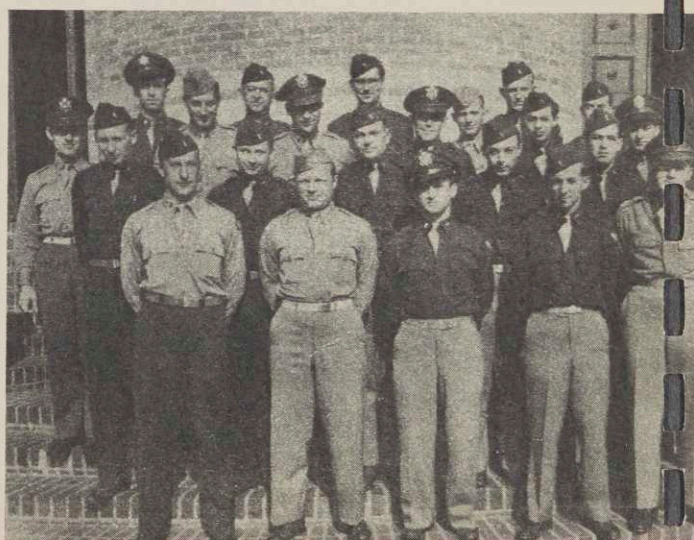
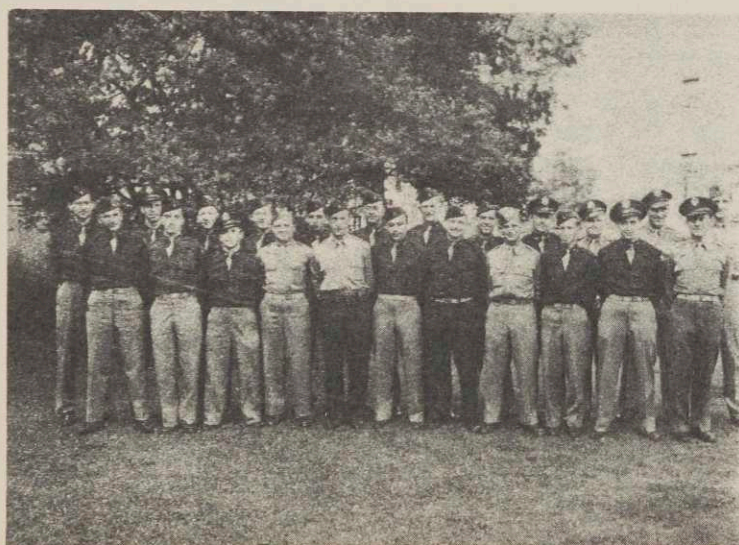
LT. PAPIRNO



LT. SHIELDS



LT. (j.g.) ARTHUR





JØRGEN HOLMBOE



MORRIS NEIBURGER



MARGARET WHITCOMB

The faculty in Meteorology at UCLA is one of the strongest ever assembled in this country. Under the inspiration of J. Bjerknes, who left campus before the arrival of Class Seven, we were trained in the knowledge of the classic Norwegian school. Every member of the staff is capable and efficient; some are men of international reputation, with whom it has been an honor to work.

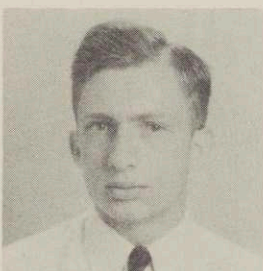
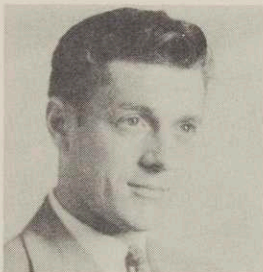
JØRGEN HOLMBOE, B.S., M.S. . . . director and chief lecturer of our course . . . wide experience as a practical meteorologist . . . expert in the dynamic theory of meteorology . . . tall and lanky . . . spoke excellent English with a Norwegian accent . . . author of the ne'er to be forgotten "Holmboe Notes" . . . a scholar and a true gentleman.

MORRIS NEIBURGER, B.S. . . . twelve years of service with the Weather Bureau . . . special training at M.I.T. and the Univ. of Chicago . . . an expert practical meteorologist . . . he expects to do further research on potential vorticity, make it more practicable to the technique of weather forecasting . . . a conscientious, precise, little man, standing before us with the microphone hung around his neck . . . through his lectures on synoptic meteorology and advanced forecasting, we learned to apply theory to practice.

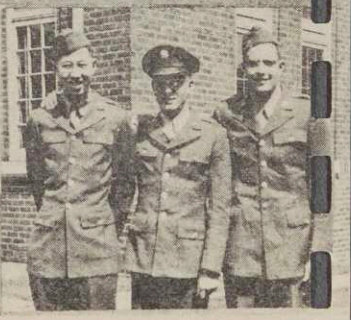
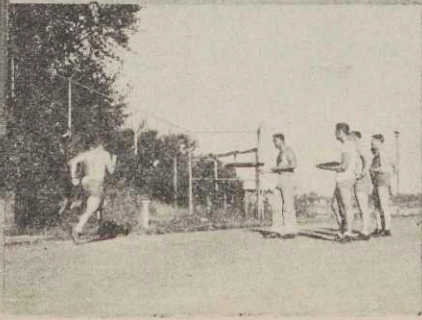
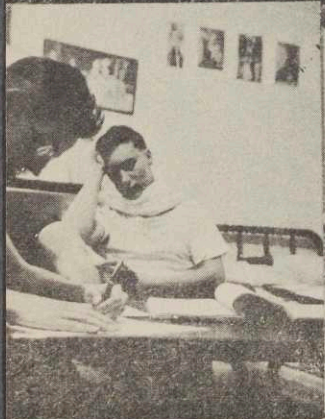
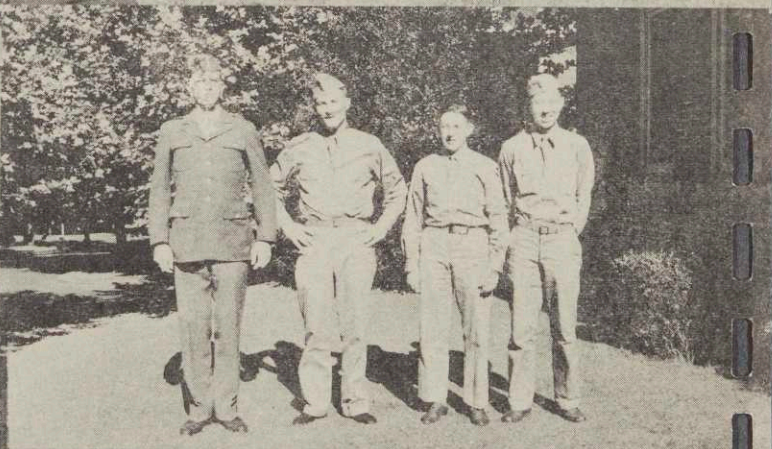
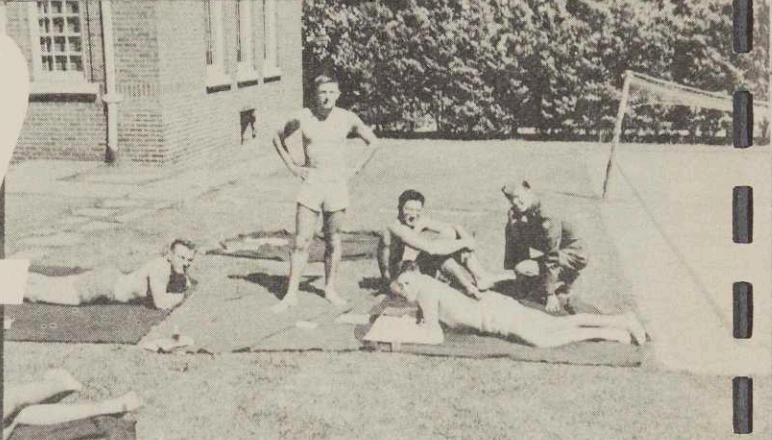
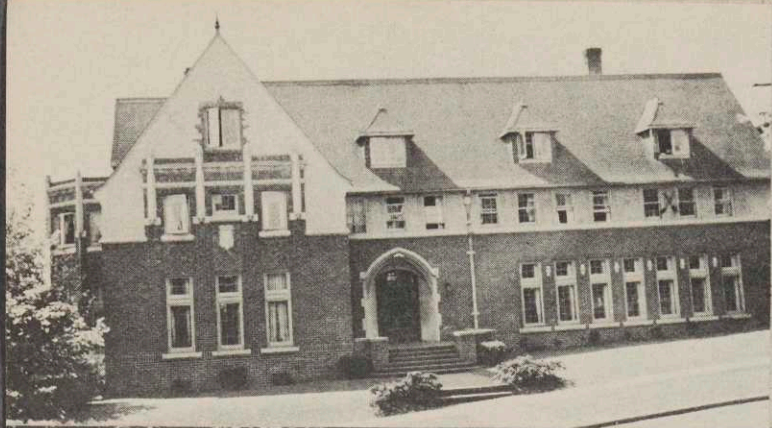
MARGARET WHITCOMB, B.S., M.S. . . . took her degrees from M.I.T. in meteorology . . . came to U.C.L.A. as lecturer in climatology in October, 1943 . . . the only woman on our faculty . . . good natured, full of laughs . . . showed us how to use climatology in forecasting.

HAROLD SVERDRUP, M.S. Ph.D. . . . Director of the Scripps Institute of Oceanography . . . one of the great Norwegian meteorologists . . . supervised the seven year's expedition on the "Maud" in the Arctic . . . a scientist, gentle and soft-spoken . . . leathery skin and wide-eyed . . . lectures on Oceanography . . . humorous, firm.

JULE CHARNEY, A.B., M.A. . . . candidate for a Ph. D. from U.C.L.A. in mathematics . . . instructor in meteorology ever since he completed the course with Class 2 . . . tall, dark, and handsome . . . a man of many jobs; lectured to us on radiation and the theory of turbulence, reviewed dynamics, conducted map discussions, study groups, and lab sections.



JULE CHARNEY
WILLIAM GUSTIN
MORTON WURTELE
CHARLES HEDGES



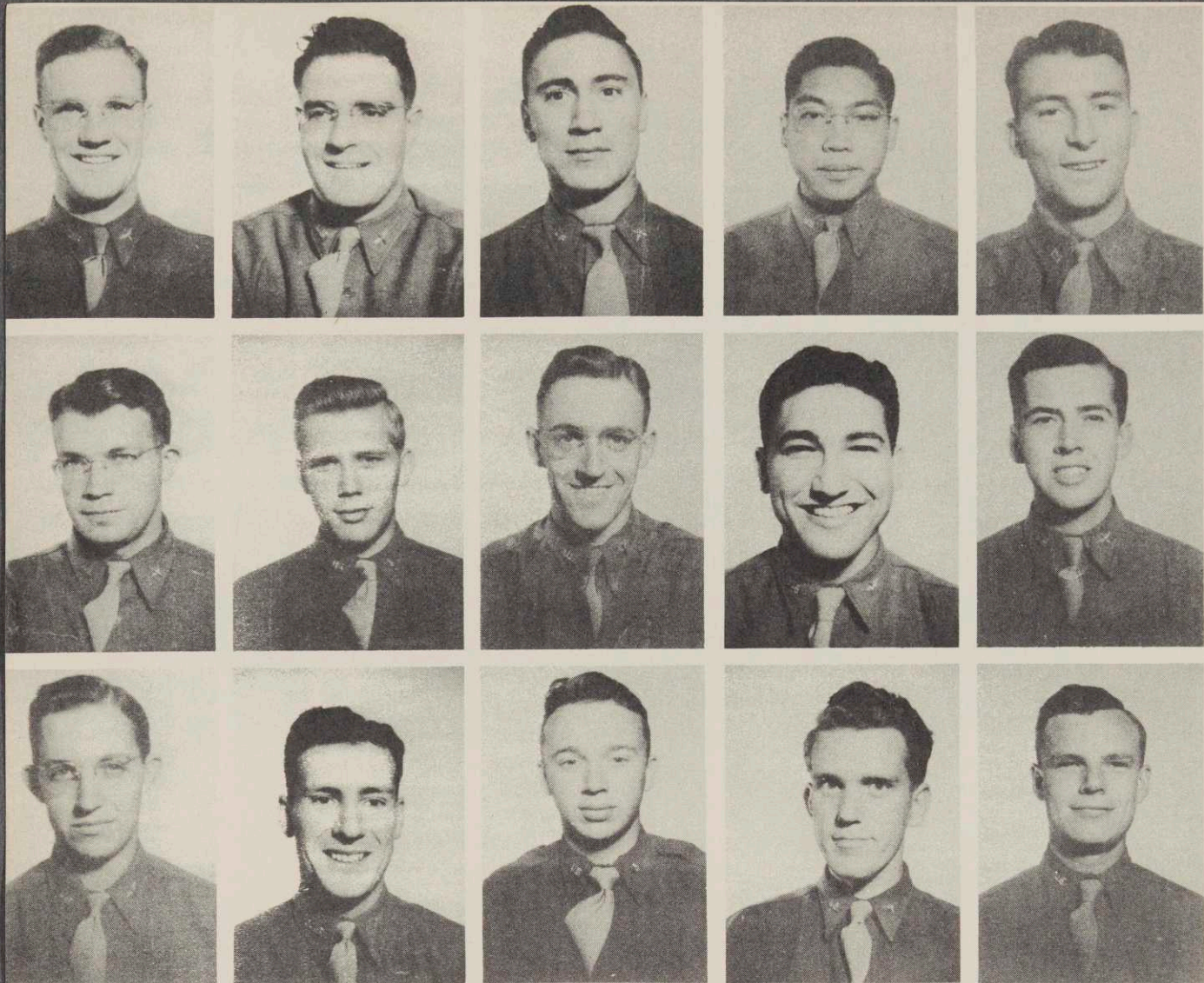


Barracks two, barracks two,
There's dust upon the floor,
We've seen it there before . . .

This familiar chant of Flights C and D may no longer ring in the Delta Chi fraternity house at the University of Washington, but the memories it brings back to the men of barracks two will linger on.

We will always remember, or how can we forget: The Saturday we invaded the Delta Chi house, drew rooms, roommates, and cockroaches . . . T/5 Kirkland and Mark Reynolds demonstrating their executive ability . . . Sgt. Smith's Sunday afternoon sessions with the Alpha Phis . . . the afternoon half of Flight D came down with the measles . . . the

night Owen Clayman short-sheeted Lt. Turbyfill's bed . . . how Barracks 2 came to be known as "The Rock" with "Warden" Smith, and how we serenaded Barracks 3 at those 6:00 A.M. formations . . . when things got so rough that Joe Wooley posted his orders on "How to Sleep" and the procedure to follow when the cell doors swung open at 3:00 A.M.—how Benny Woo's B-B gun was employed against the Alpha Phi house by Salladay and others . . . working off gigs on Saturday night, drinking beer and harmonizing around the piano with Snow, Longwell, Bigler, Stewart, Crose, Watts, Bates, and Clayman lending their vocal talents . . . "Dumbo" Beyer's escapade with the M.P.'s . . . Sunday afternoons spent sunbathing in the back yard while recovering from the night before . . . "Moo" and "Wah's" Friday



ALLEN
ROBT. ANDERSON
ANGELL

ARMER
ARONSEN
BEASLEY

BIGLER
BRECKNER
CHENEY

CHUNG
CLAYMAN
CROSE

CUMMINS
CUNNINGHAM
DAVIS

night laundry service, measuring their sheets in millemahs and microwoos, but still handing out short ones to all . . . Ted Livingston with his hysterical laugh and "if you need it more than I do" ten dollar contributions . . . Bangerter and Wooley with their bouncing rubber balls and hill-billy philosophy . . . the famous "Thank God for Friday" Club meetings down at one of the local pubs with such stalwarts as Stewart, Snow, Anderson, Longwell, Beyer, Cheney, Stroud, "Dog Nose" Rankin, Clayman, and Wendland in loyal attendance . . . how Van Voor-

hees, Noack, and Armer paid for the hole they put in the hall wall . . . Stewart, Siewertsen, and Andrews, the cadet officers of our barracks, who on numerous occasions were rewarded for their acts of "benevolence" toward their men by finding their bedding and general belongings spread from the roof to the basement of our asylum . . . the night Larson and Bates' furnishings changed places with those of Bigler and Watts . . . the one-armed bandit coke machine that laid in wait for "Bugs" Noack . . . "Baldy" Longwell and his wandering slide rule . .

"Windy" Murphy and his dapper summer fatigues . . . Rockie, Breckner, and Crose, the "punctual three" of the third floor, the first out for the morning formations; oops, here comes "Last Man" Stroud . . . "Lonesome Polecat" Angell and his "honey lamb" . . . "Cowboy" Ober and "Long Bill" Noack, the Mutt and Jeff combination of Flight D . . . the water fight that pitted Murphy and Armer against Van Voorhees and Stroud, ending when four pair of slippers floated out the latrine door . . . "No Legs" Beasley and his dry humor . . . "Ol' Boy" Perman, the "best marcher"

in Flight C . . . "Quiz Kid" Sherman . . . Allen and his "At ease on the porch" . . . Vern Hovren, the Idaho shepherder . . . the day Breckner, Snow, Angell, Wilson, Wendland, Bates, Clayman, Rose, Bigler, and Woo cut school to see Ann Corio, who frolicked as Bates shouted "Take it off, Annie" . . . "Pete" Peterson and "Buck" Taylor trying to outdo each other reading novels . . . Paul Scott and his nightly "Come on, you guys, let me go to sleep" to Rockie and Snow . . . Dick Salladay, always hanging out his strategically located window opposite the Alpha Phi

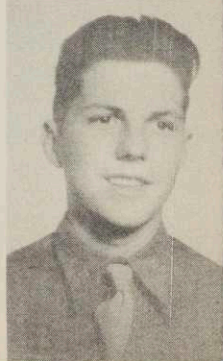
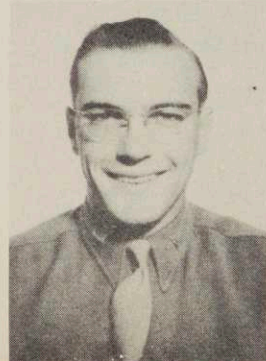
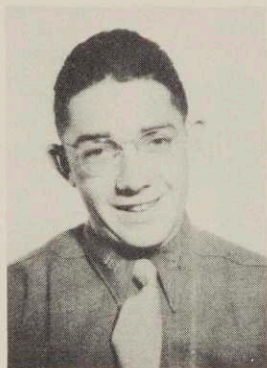
MURPHY
OBER
PERMAN

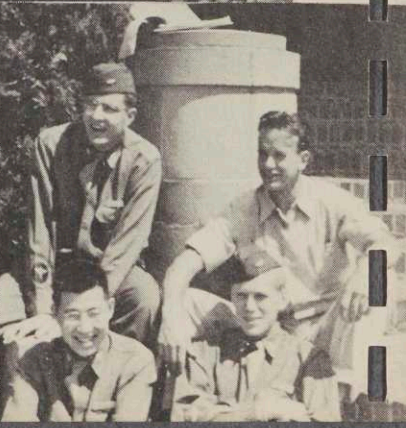
RANKIN
RICHARDS
ROCKIE

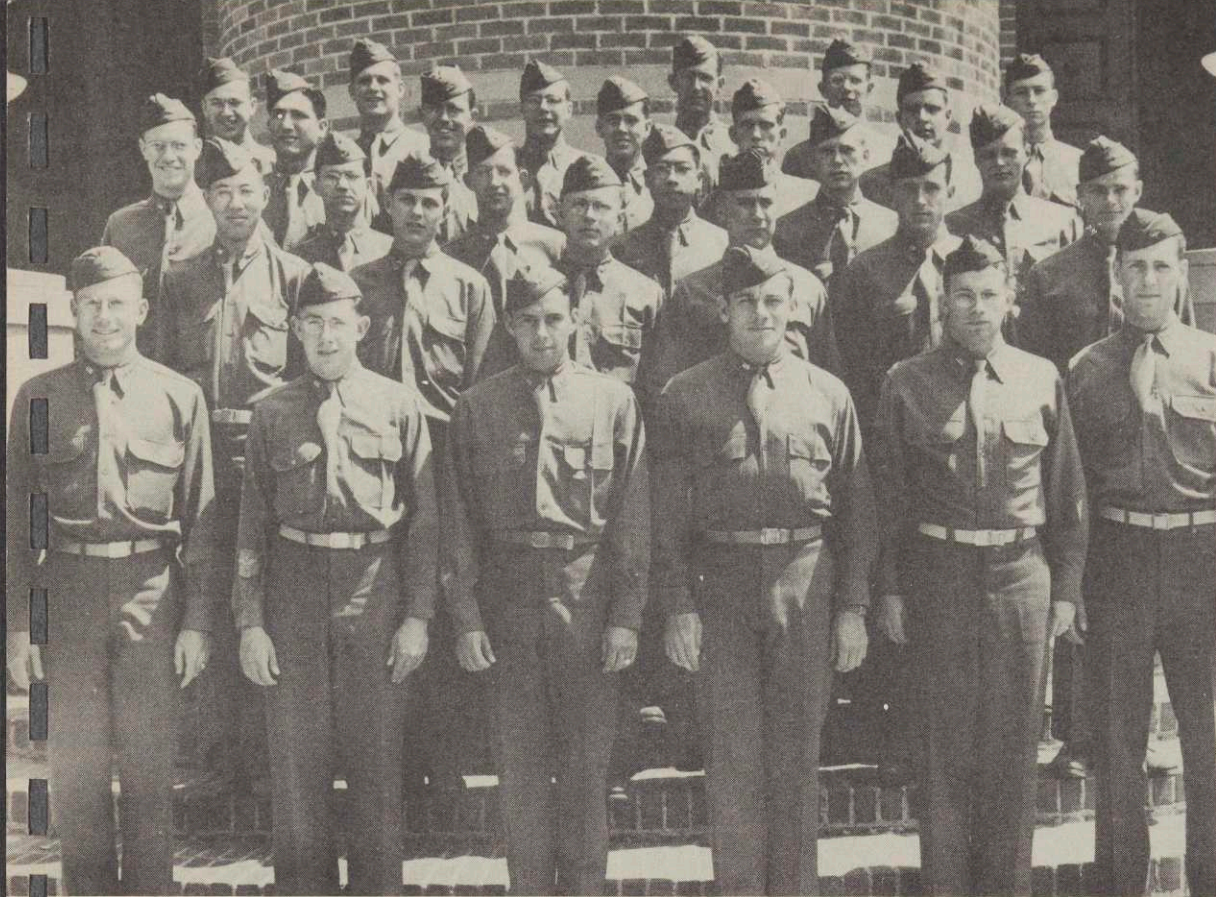
ROSE
SCOTT
SIEWERTSON

STROUD
VANVOORHEES
WALTERS

HOVREN
MAH





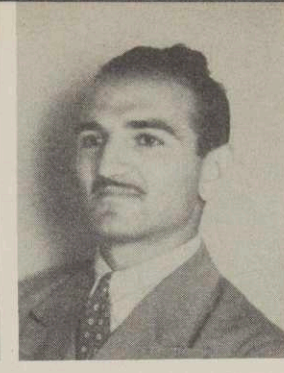
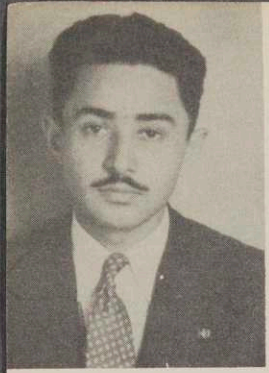


house . . . Bates, Peterson, Wendland, Wilson, and Rockie, the "Inseparable Five" of Flight C . . . "Wires" Van Voorhees, who never argued . . . Rose, butchering every good joke that ever came his way . . . Flights C and D being chosen respectively by "Turby" as the next to the worst and worst flights in the detachments.

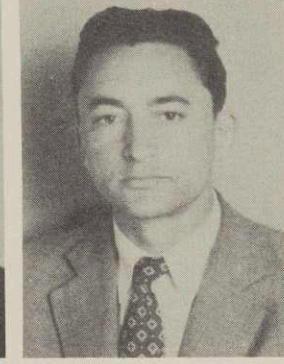
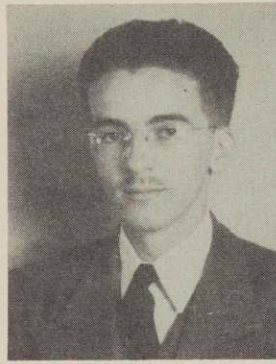
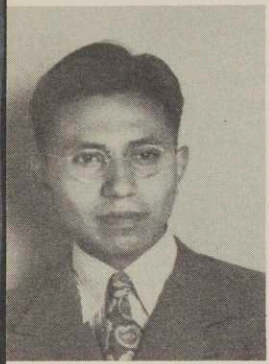
Aside from such frivolous activities, Barracks 2 established quite a reputation in other fields. Among our accomplishments was the inter-flight athletic championship won by Flight D. We supplied all the finalists in the ping-pong tournament with Clayman emerging as the victor after eking out the championship from Chip Cheney. In the final round of the basketball tourney, Flight D produced the two contrasting teams with the quintet composed of Rich-

ards, Cummins, Rankin, Larson and Noack winning the title. Bob Snow of Flight C was considered the top athlete in the detachment. Flight D won second place in the flight singing competition the first time they sang the "Weatherman's Song." We also had our outstanding student in the person of Ben Woo, one of the top men in the detachment. Barracks two was indeed a well rounded organization.

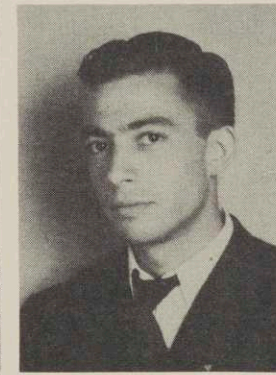
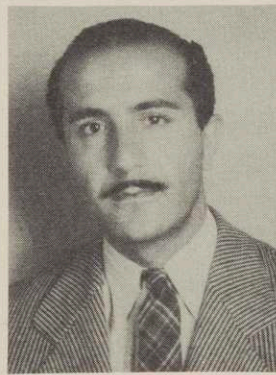
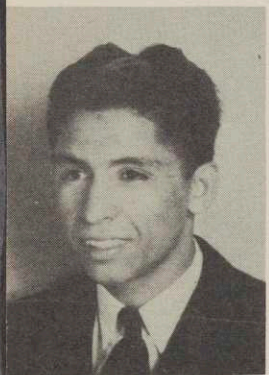
Then came the breaking up of the detachment at Washington and the dividing of the men between the University of Chicago and U.C.L.A., Flights C and D were consolidated, becoming Flight 2 of Squadron A. Although we have had a new organization and a new life at U.C.L.A., we now realize and in the future will realize more fully that memories from Barracks 2 will remain with us.



ACEVEDO Y LEYVA
GHEDINI
MONTAUTTI
NASTA



ACOSTA
HERRERA
MANANA
TEIXEIRA

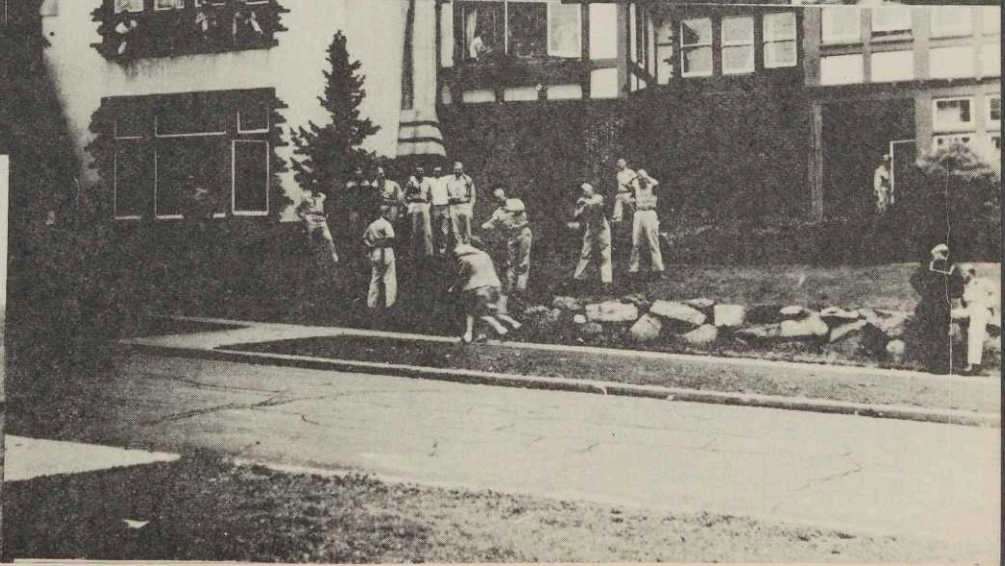
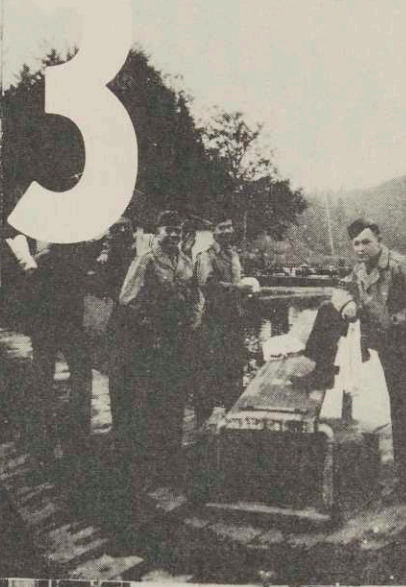
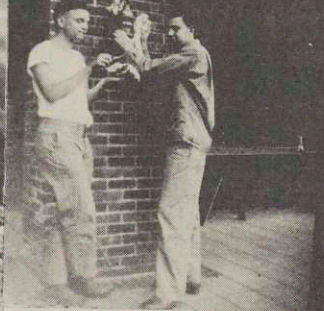
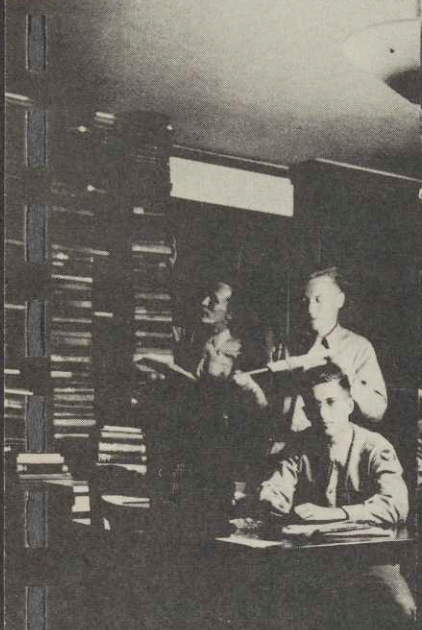
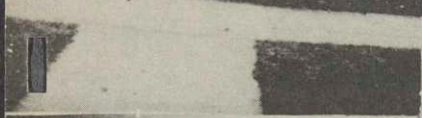
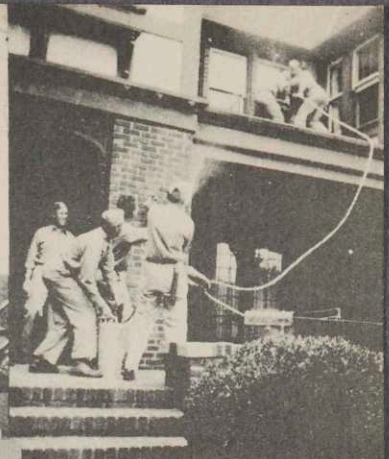


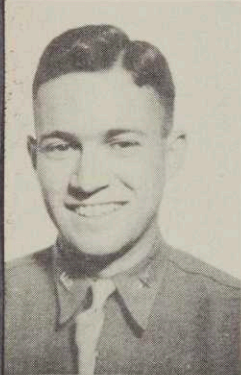
GALLO
MARESCO
PARRAS
DIEZ MARTINEZ

As one of the results of the closer friendship between the countries of Latin America and the United States, Class Seven had the good fortune of being partly made up of Latin American scholars. A part of the top forty of some two hundred men who took the weather observer course at the University of Antioquia, Colombia, they were given scholarships by this country to study "A" meteorology. Their biggest difficulty was probably the English language, but the Latin American members of Class Seven overcame that difficulty as every other, and after a few weeks we had come to realize that each one

was "a good man". Upon completion of their training most of them are being hired by Pan American Airways and are to return to their own countries as forecasters.

Cadets who were lucky enough to be in their laboratory sections found them good companions, full of fun and essentially like college men in this country, if perhaps a little more serious and more formally courteous. By the end of the course, we had come to look upon the Latin American members of Class Seven as "our Latin Americans."





BATESON
BOREHAM
BROWN

BURKHARD
BURTON
DEAN COLLINS

W. P. COLLINS
CRUISE
DICKEY

DOHNER
DORSCH
FARRAN

ABSHIER
ATHAY
BACHTOLD
BAER

The future members of Flight Three were welcomed one drizzly afternoon to the University of Washington Psi Upsilon house, soon known as Barracks Three, by Flight Leaders Don "Instant Action" Fitzgerald and Reed "A.B." Nelson. Before they were even unpacked, Monty Baer had a date and "Hoot" Gibson had gotten in Dutch for wearing a flaming red hat to the first formation.

T. J. Abshier and Fred Bartell quickly became adept at forecasting Seattle weather and wore their overcoats every day no matter the state of the weather in the morning, and they were usually right. Erle Brown, Ken Burkhard, and Erwin Kauper comfortably settled themselves in the library. Soon after they were situated, they noticed that the room was equipped with two telephones which soon began ringing with regularity. Unwittingly they had become permanent C.Q.'s for the entire six months

at Washington. "The Voice" Burkhard never worried when the phone went out of order; he simply stuck his head out the window and yelled across to headquarters.

It wasn't long before Dewey, "Wanta get your name in the papers," Cruise, the only man in the detachment with a portable foxhole, established his reputation as champion water-bagger. He wasn't bad at short-sheeting either, but Jim Jackson and Mark Burton were the real masters of that art. In

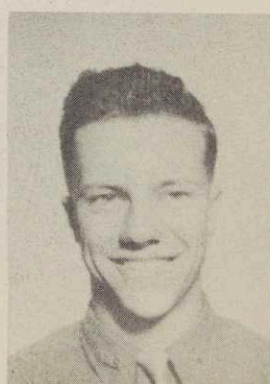
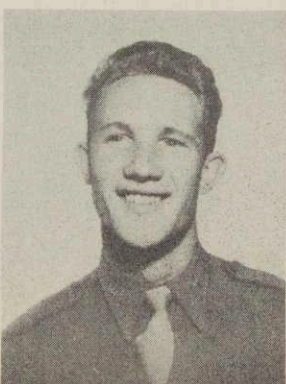
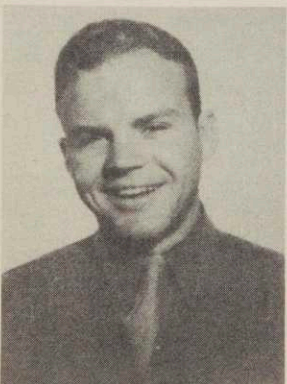
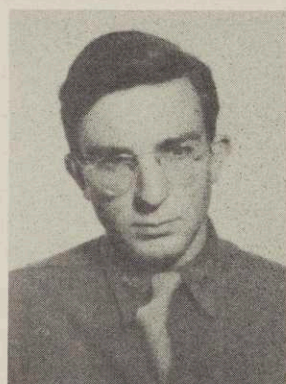
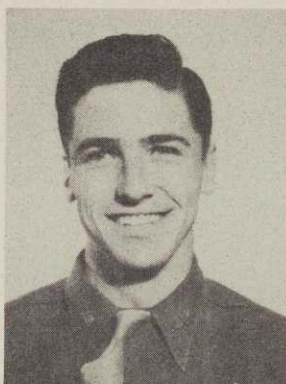
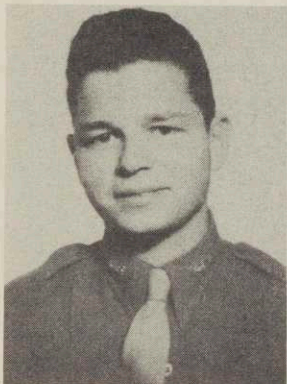
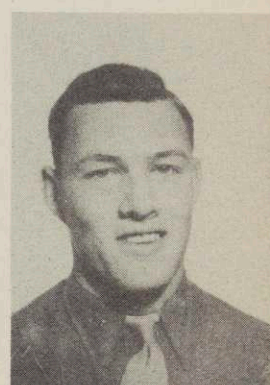
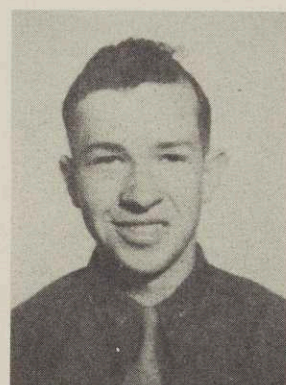
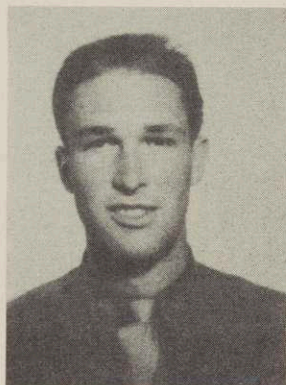
**FOSTER
FRIEDMAN
FRISBEE**

**GIBSON
GIFFORD
HAYWARD**

**HAZELBAKER
HOWARD
HYLTON**

**GLENN JACKSON
J. R. JACKSON
JOHNSON**

**KEENE
KEPHART
LENTZ**



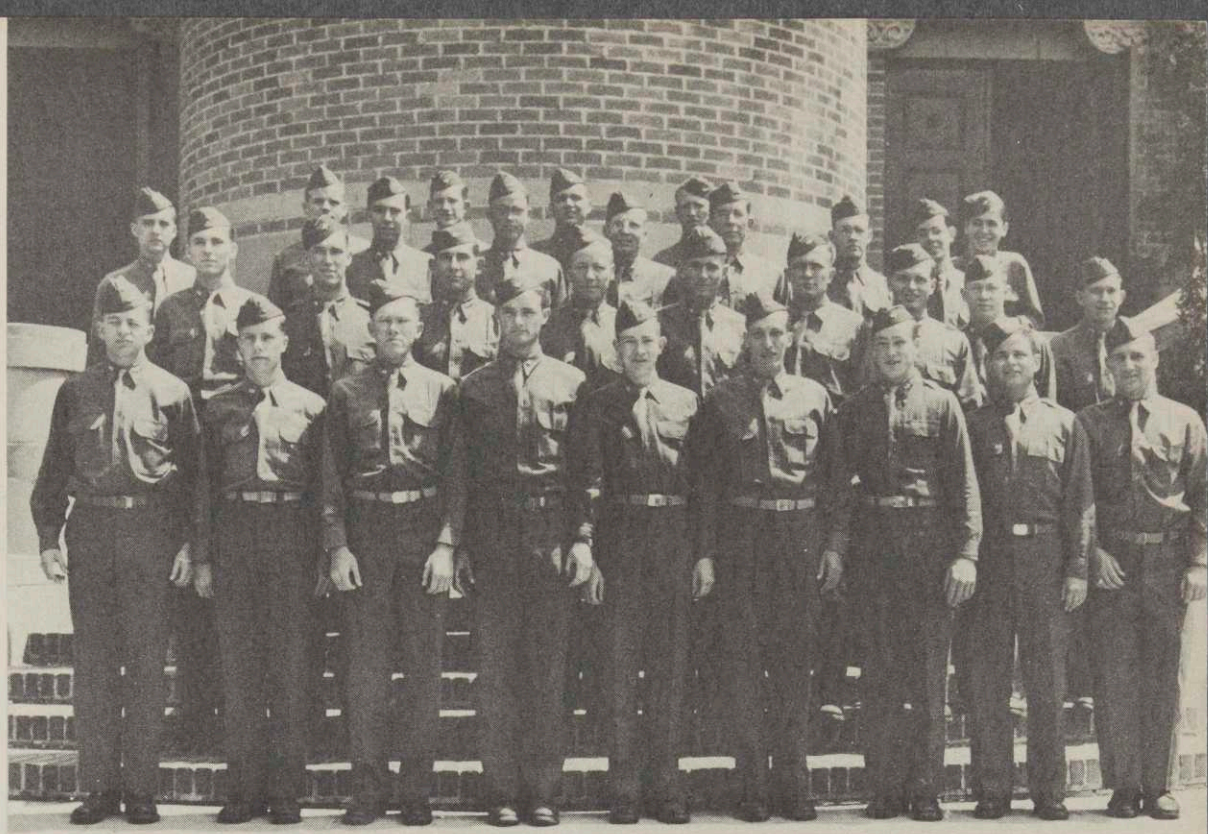


fact, one night they short-sheeted each other simultaneously while George Fleischman was trying on a new uniform.

There was never a dull moment at Barracks Three on Saturday afternoons when gigs were being worked off. Carl Hylton would give a sermon with Reed Nelson in helmet liner and leggings watching; Burch Bachtold and Bob Foster would try out their floor-waxing system, i.e., where Burch would lie on his stomach and Bob would twirl his feet; Frank Farran would work like mad so he could go make what he called "a very important social call." Meanwhile barracks-leader Sterling Hayward with a long black whip in his hand was trying to get the fellows to work.

Inspections were frequent and exacting; the principal enemy was dust, but that problem was soon licked. A detailed list of regulations with instructions that they be followed implicitly were distributed. One of the rules was that all books in each room were to be neatly stacked in two piles. Bruce Dorsch thought these strange instructions, since he studied in the library, but he followed them to the letter.

A typical evening at Barracks Three found a crowd around Laird Brody with him explaining, "I really don't know how to do this problem, and my method isn't very good," Bob Scanlon and Fred Bartell playing chess, Dick Best and Phil Garbutt arguing about airplanes, Frank Raney polishing his



shoes, Carrol Hoepner demonstrating the Australian crawl to Bachtold, Woodrow "Gramps" Dickey recounting experiences of the Civil War, Orlan Friedman trying to decide which pipe to smoke, Glenn Jackson and Ted Chung engaging in a pillow fight, Frank Chew reading his Chinese newspaper, and Hover Lentz and Dick Keene reenacting "Casablanca" as Rick and Sam.

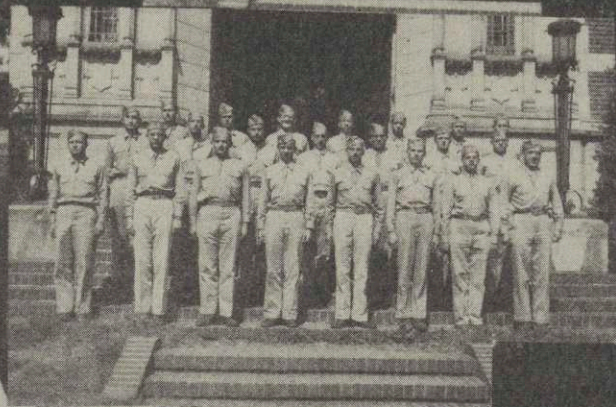
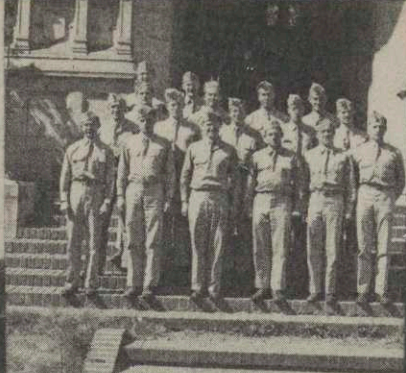
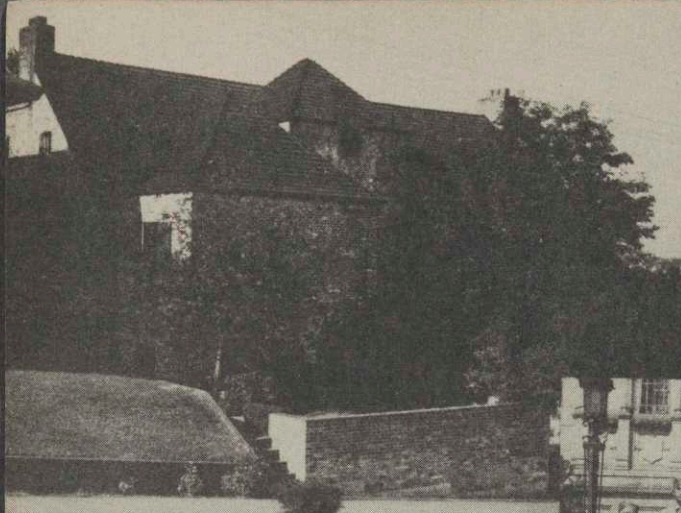
Monotony of the train ride to Los Angeles was broken by talking about the girls that moved in next door the week before we left and the dances that we had there every night that week pioneered by Duane "Sexy-Rexy" Gifford, and Frank Howard, the master of double-talk.

Upon arriving from Seattle and driving down Sun-

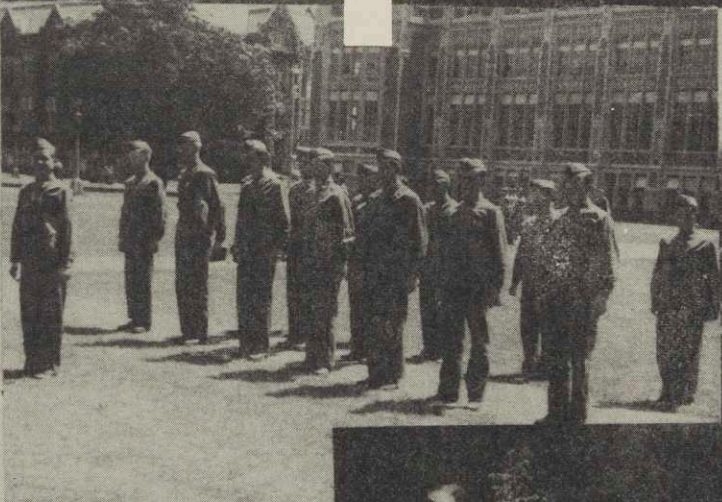
set Boulevard on a sunny day, Tony Athay and Don Bateson, Utah's strongest protagonists, admitted that Utah wasn't the only good place.

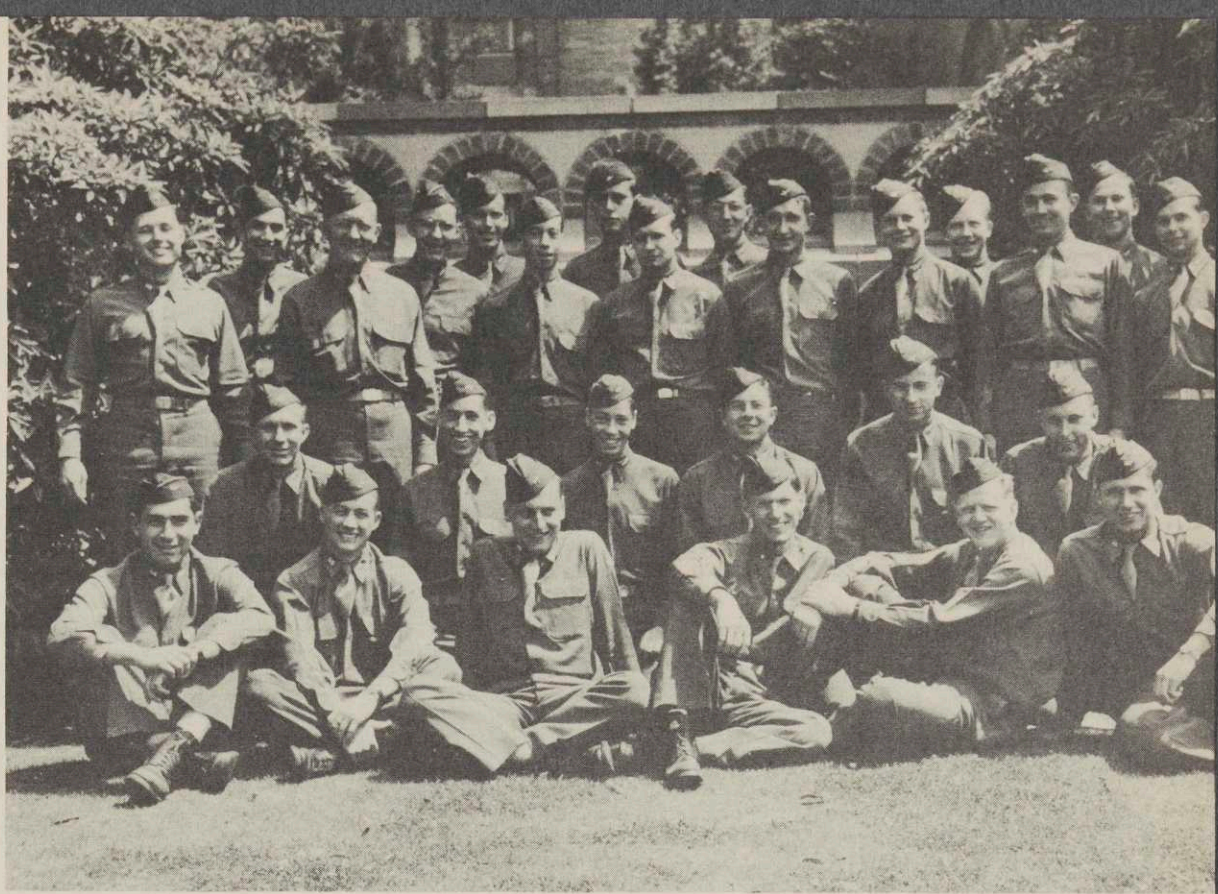
Three fellows who probably had as much fun as anyone in the detachment were the Collins twins, Dean and Warren, "Jug" for short, and Don Frisbee. They spent so much of their time at Santa Monica and Balboa that they were known as the "Sons of the Beach."

One outstanding thing about Flight Three has been its spirit which in spite of all attempts to stifle it remained unchanged. Even up to the last the Flight still sang louder and lousier than any other flight in the squadron.



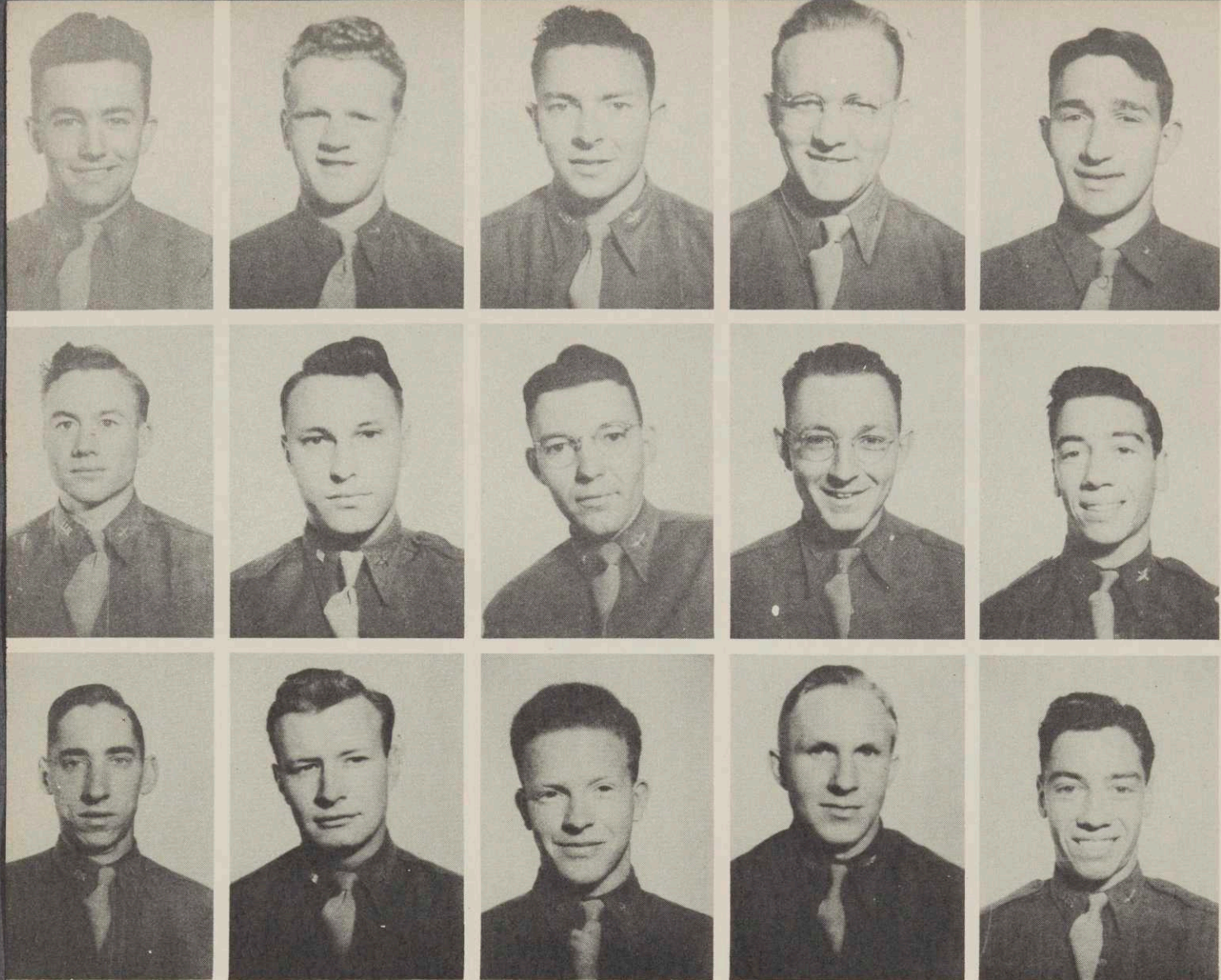
4





Flight G, Flight H, Barracks No. 4, and Flight No. 4, how could we forget them? Before long we may be scattered to the four corners of the earth, but when the big show is over and we meet again, the days we spent as cadets and students will be discussed, and no one will ever forget: . . . the day the first squad of Cable's commandos took the Phi Kappa Psi House by storm. A sorry bunch we were and what a mess we made . . . Delta-H and those Flight G Delta-H free-for-alls when the barracks ran with water. Major Keegan had a hard time keeping one eye open for Turby . . . and running his water pump at the same time . . . the repeated midnight air raids and fire drills with Turby storming through the barracks raising the very devil about our mistakes. We never will understand why "Lightnin'" Larson was always late at fire drills, and how Turby stuffed Long and Foltz under the same wooden bed . . . the

Friday night and Saturday morning scrubbing sessions we had in order to satisfy Captain Carvin's thirst for dust. If "The Hat" Dietrich and "Ears" Dunn had scrubbed a little longer they might have gone through to the basement. "Shorty" Bridgman was exempt from these weekend duties because he was kept busy giving the boys quickie hairtrims for the Saturday afternoon inspections. "The Lip" Johnson earned his exemption by becoming permanent laundry executive . . . when the grades came out and "Beans" Walters found himself in Frosh Pond for two firsts. This started a mania for throwing other men in, so it wasn't long until Bill Junker with his captain's diamonds pinned to his shorts, was swimming too . . . those GI beer busts when the whole outfit went out for a high time. Everyone did his best to consume as much beer as possible, but we always kept "By" Lundburg sober so he could drive



FRED ANDERSON
BARE
BELL

BOHNHORST
BRAMBLE
CARROLL

COONS
DEWS
DUNN

GARDNER
GILHOUSEN
GRANT

HAZELTINE
RICH. HIELD
ROBT. HIELD

the fellows home and roll "Stoney" Morris into bed. Between beer busts the "Thank God for Friday Club" and the "Sexy Six" lifted morale by wiping out the memory of those "big hairy" weekly tests . . . the Saturday afternoon gig formations with the usual climax of "Gig Keegan." As one of the boys, Keegan was not qualified for membership in Colonel Clayton's Oval Club and its immunity to gigs; hence rare were the weekends that Keegan didn't stay and help the rest of the unfortunates clean the barracks and mow the lawns . . . the day Flight G trotted off to "Hymo" Ellis' beautiful home on the shores of

Lake Washington for a fine dinner and a full day of fun. Everyone there felt as if he had spent a day at his own home. Heavyweight "Pal" Foltz provided the main attraction of the afternoon by shearing off the main mast of the sailboat as it floundered under his weight . . . the truly terrific "Monsters" that developed in the shape of "Body" Kangieser, "Yo" Bramble, "Chum" Maxwell, and Bobby Long . . . the "daily rumor edition" when Jerry Meier gave out with his excellent rumor service. It got so bad that no one believed anything that was said around the barracks. And then there was "Willie" Boutelle with

his far-fetched stories of beautiful girls and conquests. Seems as if he took out every pretty girl on the campus, although we seldom saw them. His stories were almost as tall as Jerry's rumors, but what a different plane of thought! . . . "Daddy" Gebo and associates locking their door and gold-bricking while we GI'd the barracks. They claimed to have enjoyed a poker game even though we forced water, smoke and mud into their little room. But from the way Daddy fought us when we finally cornered him in the bathroom, it must have been quite an ordeal . . . "Sid the Kid" Horrigan trying to

drag Yo Bramble out in the mornings; he tried pleading at 6:15, threatening at 6:30 and and resorted finally at 6:45 to the infallible solution, the fire extinguisher . . . Bell Boyer's running the gauntlet of booby-traps in Delta-H. His job as permanent CQ often led him into those hallowed haunts to quell a nocturnal riot . . . the Boeing campaign where many of the boys, with brooms in hand, were sent out each morning to sweep the streets; but "Arkie" Williams, "Del" Jennings, "Toad" Crane, and "Escondido" Carroll could soon be found sleeping in the mattress pile or under Bldg. 29 with "Windy" Lan-

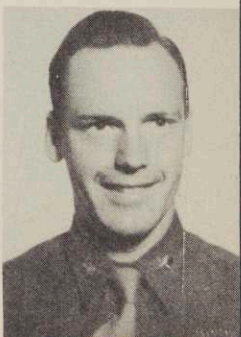
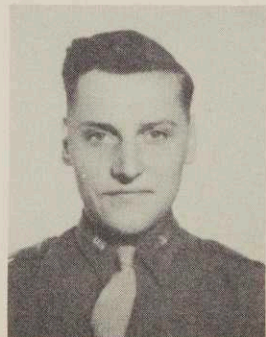
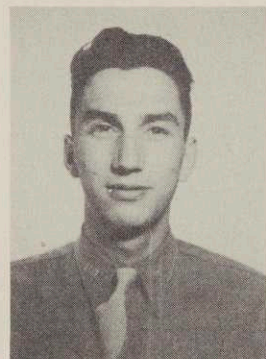
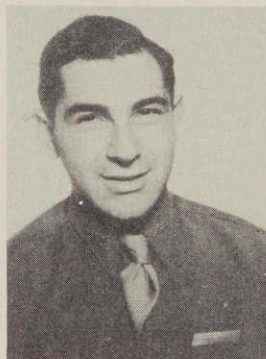
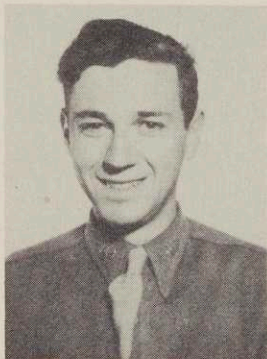
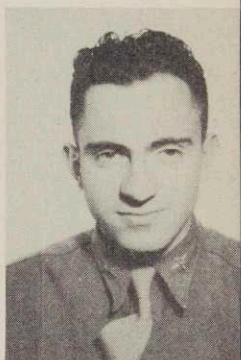
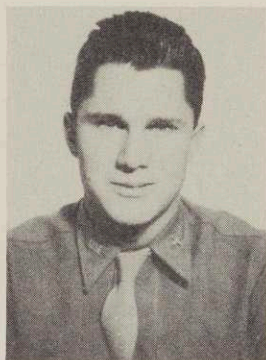
LUNDBURG
JENNINGS
JENSEN

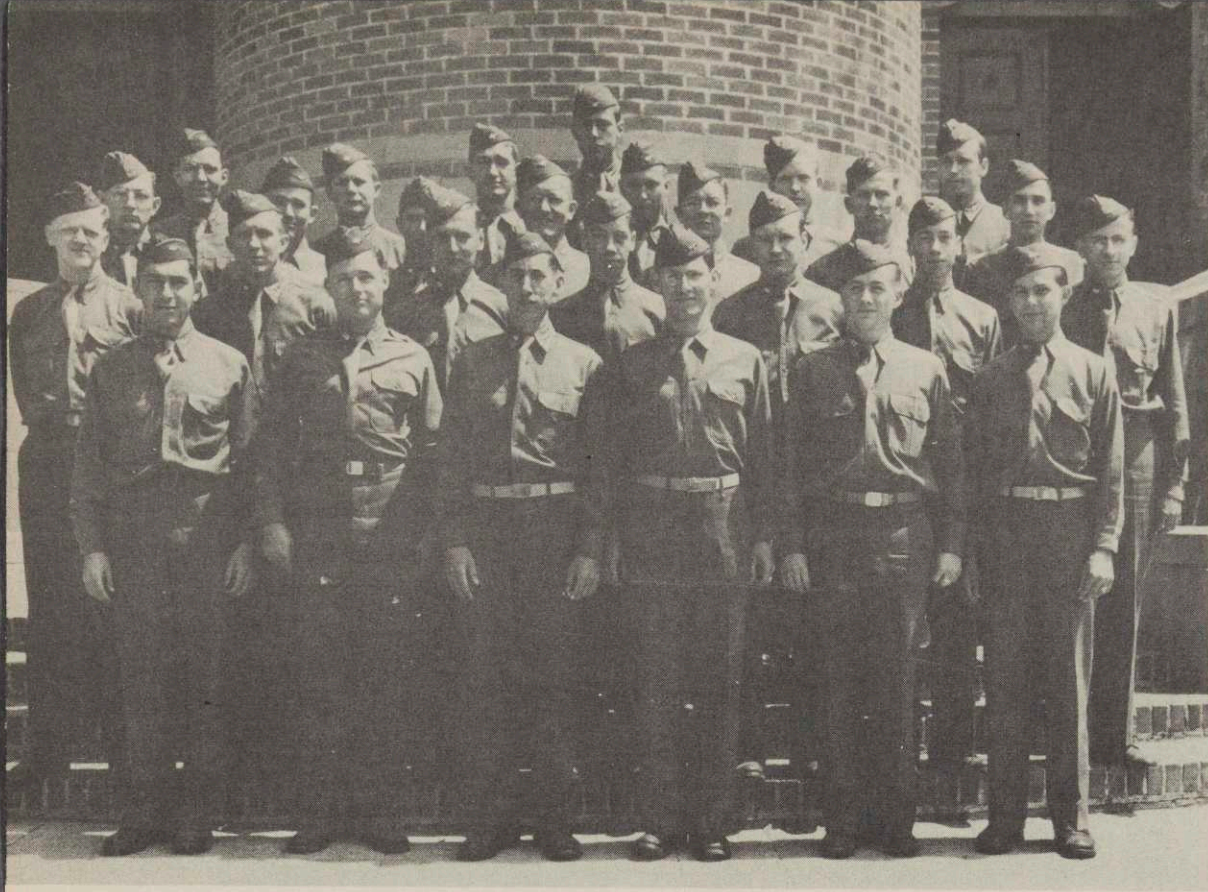
KANGIESER
KEYWELL
LANDERHOLM

LUKE
MACHLIS
MATHEWS

MAXWELL
MAYS
WM. MORRIS

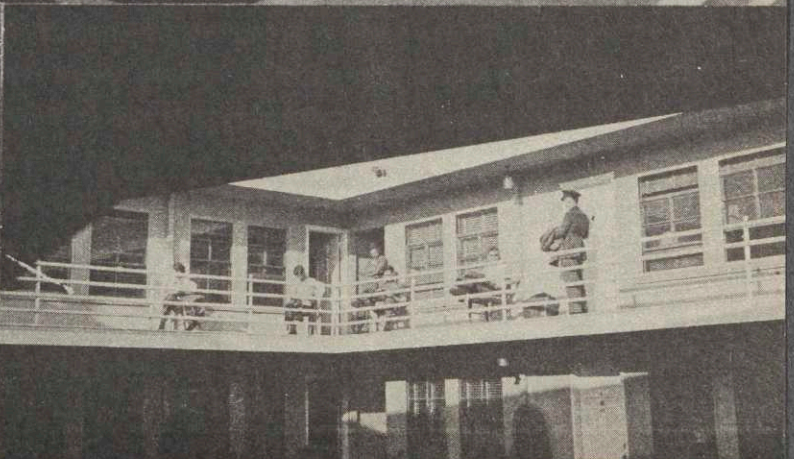
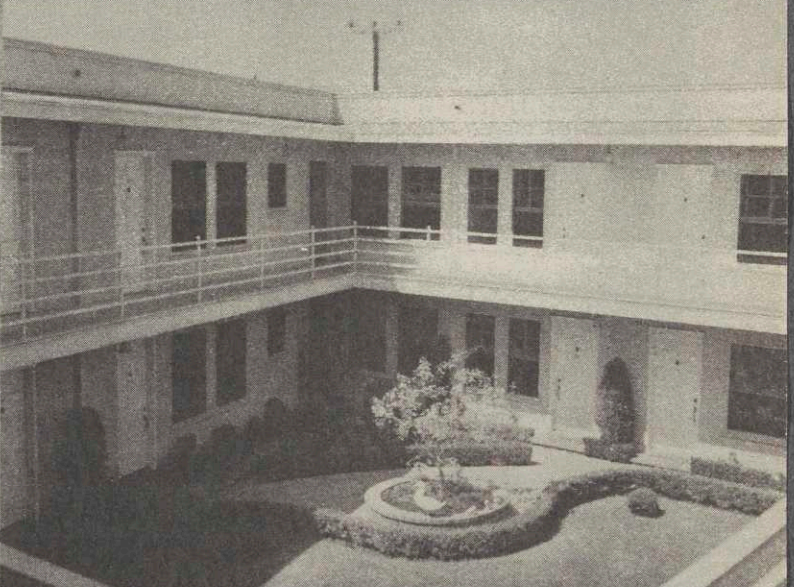
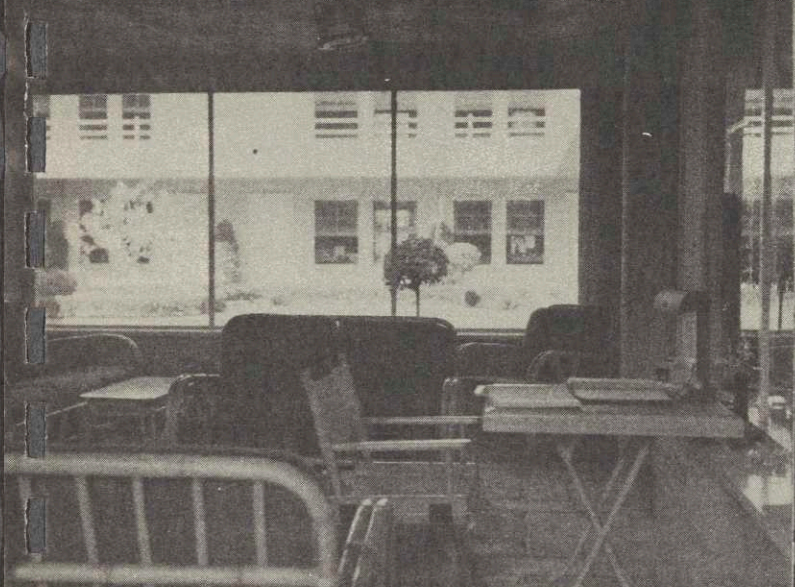
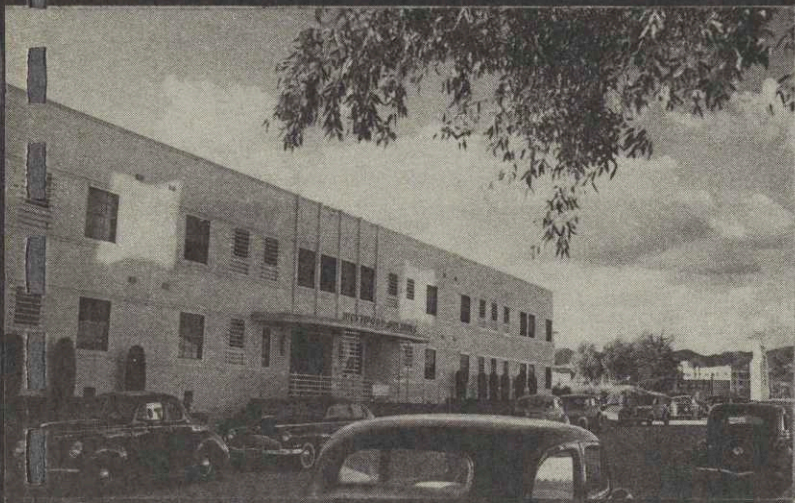
SCANLON
WILLIAMS
WRIGHT

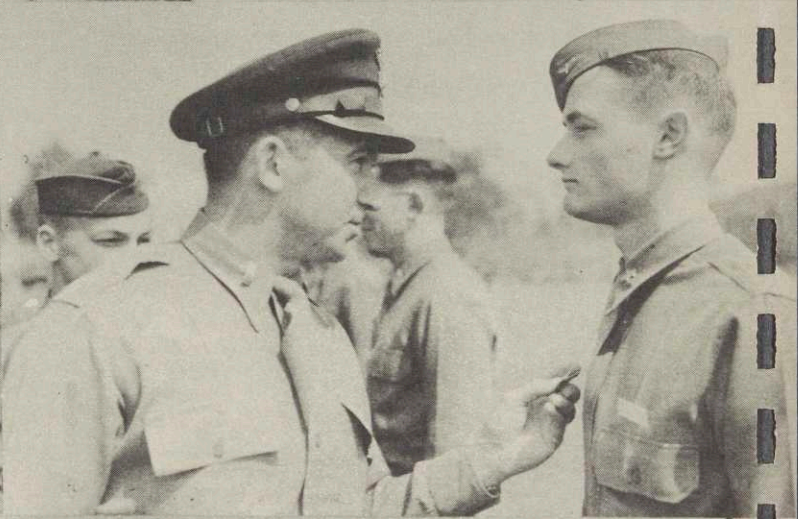
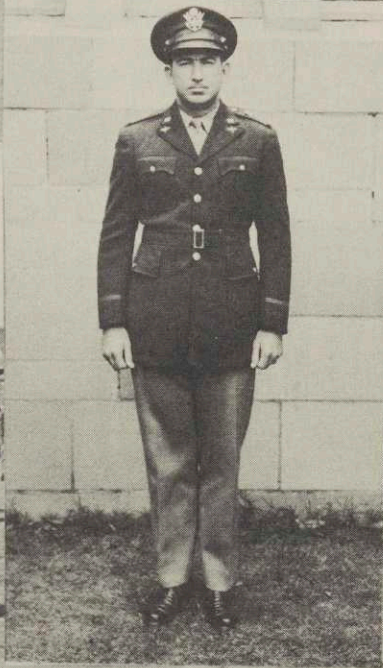
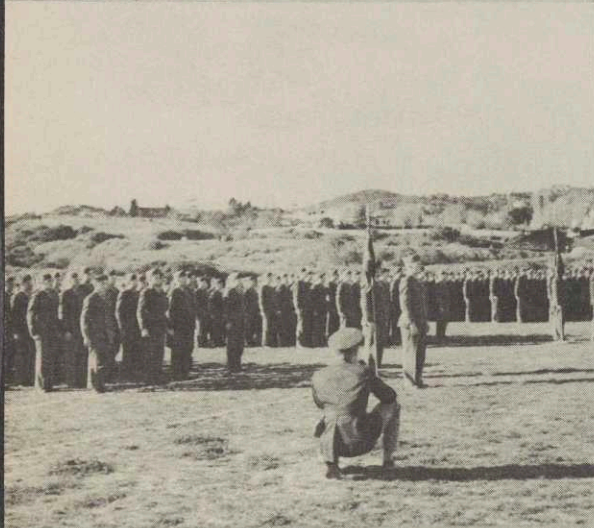


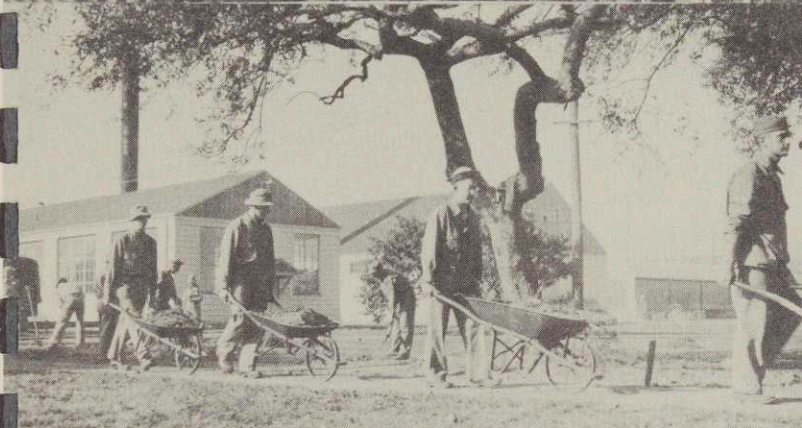
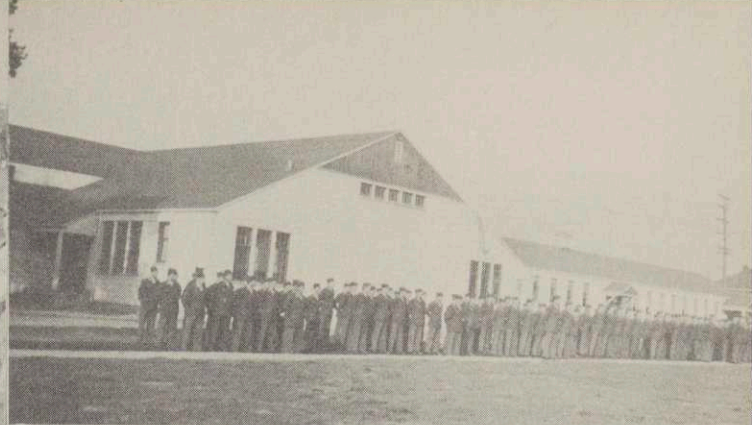


derholm and his dilapidated cards . . . when "Pop" Gardner, the grand old man of Flight No. 4, met his wife at the Los Angeles station. Boy, were we bowled over by her luscious "hello darling!" . . . our arrival at UCLA when Flight G and Flight H were merged as Flight No. 4. We also acquired master pianist "Moe" Scanlon; "late to formation" Keywell; tall, slim, and bored Class 6 man John Mays. Ben Bonhorst also joined us after serving as cadet adjutant . . . Flight No. 4's presenting "By" Lundburg and "Mommy" Anderson as the first two cadet captains . . . the poor suckers will know better next time . . . the paternal two, "F. O." Wright and "Snake" Grant, in that heated race to tempt the stork to their happy homes . . . the day "Tex" Ferris arrived in Los Angeles still trying to fly but again headed for basic training . . . "Ish" Hazeltine, ace swimmer, home from his airplane trip, pale as a ghost and definitely resigned to carving his airplanes from then on . . .

the slow table which held up every formation. Ed Dews roundly declared they were defending an ideal of democracy, but "Pop" Gardner and "Mort" Gilhousen just plain ate a lot . . . the long march over the hill to the campus with "Epsilon" Luke always out of step, and Joe Bare abusing the "big boys" up in front by throwing rocks. And the Hields (Which is Who?) spent most of their time trying to keep the formation from stringing out all over the campus . . . the days when "Red Dog" Dunn and "Bernoulli" Coons were rudely awakened in lecture by "Lover" Mathews and dragged to the PT field to participate in a football game which soon developed into a verbal contest. While the rest of the gang played games, "Bud" Carroll, Max Jensen, and "Mac" Machlis tortured themselves by running the long cross-country . . . Such things as these we will remember of Delta H and Flight G, and the good days at Washington and U.C.L.A.



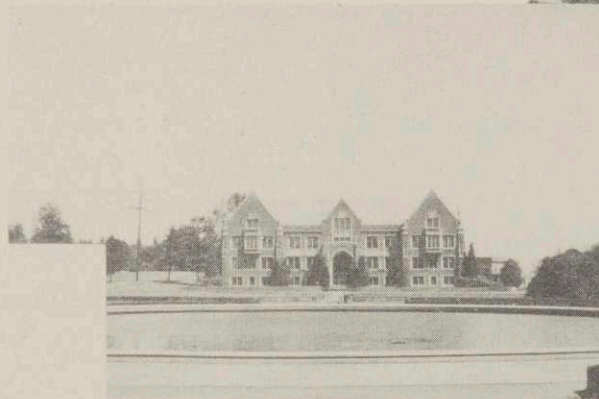




On to Boeing ... fraternity houses to dirty barracks ... work details daily ... poker and sleep ... licking that junk pile ... girl truck drivers ... guard duty and angry sergeants ... lectures by Brewer and Curry ... "you great big soldiers ... " firing on the range ... ninety six percent quality ... going through the "Forts" ... meeting the cadet board ... made cadets ... buying wings and US's ... farewell dinner.



COMMONS



GUGGENHEIM



PHYSICS



DR. C. L. UTTERBACK

The premeteorology detachment at the University of Washington will remember itself longest as "Cable's Commandos." Captain Charles D. Cable, our first commanding officer, tells how it came about: "About two weeks after we first started . . . Lt. Col. A. Frank Katzentine arrived to assume his duties as Commanding Officer of the Seattle Civilian School Area. Upon the occasion of his first visit of inspection, he remarked that the Detachment didn't look particularly robust and nicknamed the outfit . . . 'Cable's Commandos.' I told the Colonel at that time that my boys were plenty strong between the ears, and that in the last analysis, it was strength of that type which would probably win the war."

The task of strengthening and testing our muscles "between the ears" was entrusted at Washington to Dr. Clinton L. Utterback, physicist and oceanographer. Dr. Utterback's experience with wartime training program extends from interior ballistics in the last war to V-12 physics in the present; pre-meteorology he took in easy stride. "Now, boys, I have three things I want to tell you this morning." And no matter how busy he was to other people, he always had time for a talk with one of us. Study of Mathematics and Vectorial Mechanics was directed by Drs. Carpenter and Loughridge, who did us good by lecturing over our heads.

Somewhere "vectors" and "Doc" and "Cable's Commandos" will all fit into the lasting composite picture of our six months at Washington.



THE WASHINGTON GANG AT CHICAGO

Standing are Reed Nelson, Frank Raney, John Clayton, Bill Iunker; back row, Harry Keegan, Jim Fuller, Keith Johnson's ear, Tom Chin, Jim Bates, Jerry Meier, Dick Larson, Laird Brody, Don Beyer; third row, Jerry Olson, Carrol Hoepner, Asa Armstrong, Floyd Andrews, Fred Bartell, Don Fitzgerald, Bob Crane, Willard Brannon; second row, Pete Sherman, Jack Dietrich, Al Marrs, Bud Bangerter, Eli Combs; front row, Bob Snow, Bob Long, Ray Wilson, Ben Woo, and Sid Horrigan.

A REPORT FROM CHICAGO

From that October morning when we first stared up at "I" House and John Clayton reported: "We're from Washington, Sir," "The Washington Gang" has been our tag at Chicago. Among the thousand odd soldiers and cadets here we were far from lost. Under the leadership of Blauer "Flower" Bangerter we

placed twenty of the first forty in Mr. Byers' P.T. tests, and won marching contests until Lt. "Buck" McNamara one Saturday in desperation eliminated us for being "too professional." From week to week our representation on the cadet officer staff has varied greatly but Bill "Honker Yonker" Iunker and

"The Colonel" managed to stick longer than most, and it is rumored that Floyd "Cactus" Andrews holds the record for gigging the most formation absentees. Art "Lightning" Larson, Reed "Apple" Nelson and Jerry "Little old Man" Meier have well earned their Eager Beaver badges in P.T., whereas Fred "F.O." Bartell and Laird "Beaver" Brody are still worrying about the next academic washout.

First of many social landmarks was the Christmas party held in the twelfth floor "Zoo" and sponsored by Harry "Keegenelli" Keegan with newlywed Bob "Pop" Snow as Santa Claus. Among the more practical gifts exchanged were Tom "Curly" Chin's gorgeous comb and Sid "Dear Old Golden" Horri-gan's mange hair restorer. The day after New Years rumors began circulating about a certain party attended by dignitaries Ben "Mac" Woo, Ray "Fingers" Wilson, Wes Wendland and Harry Kee-gan, and introducing Jim "Junior" Fuller to the strange ways of Chicago night life. Of course few of cafe society will ever approach the finesse of Roger "The Lodger" Stewart, Art "Sam" Calman, and Sam "Father" Gebo on their famous excursions, while not without honor in the night club whirl were Jim "Sexy Remy" Bates' frequent trips to see "Gypsy" at McGovern's. Then, of course, there was the time Keith "The Lip" Johnson visited Lip's Lower Level and when asked for comment, said, "It's just a lot of people in a small place." They say Roy Eldridge seriously considered hiring jitterbug Jack "Weremouse" Dietrich, and J. C. Higgenbottom undoubtedly paid Bob "Monster" Long a press agent's fee for those South Chicago jam sessions; whereas on the top hat side Eli Combs and Al Marrs outscalped the scalpers for opera and concert tickets.

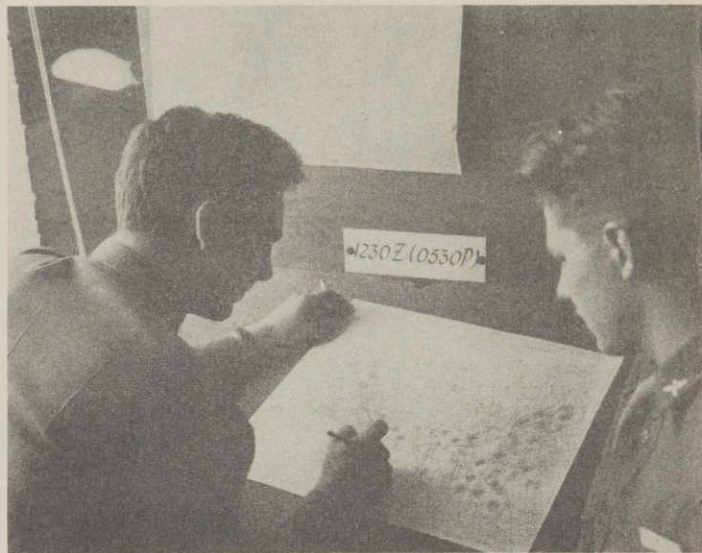
It wasn't long after the holidays that Willy "Corky" Brannon and Jerry "Mop" Olson conceived their famous percentile "Operator Rating" based on Johnson as absolute zero. Bob "Ichabod" Crane claims his

sojourn in that strange apartment should have brought at least a 990 rating, while Pete Sherman is still working on his score of 200, and George "The Noise" Boutelle is still talking modestly of his innumerable escapades. A human interest sidelight on "The Rating" was the award of a plus twenty score to Frank Raney "for effort." The Senior Dance for which we coughed up five bucks per was well worth the price if you saw Don "Fitz" Fitzgerald and Don "B.S." Beyer operating. As yet among our unanswered questions are Dick Larson's attachment to those corporal stripes and Asa Armstrong's apparently sincere desire to go back to Cutbank after the war. Of course any place would seem good after those harrowing winter nights on guard. "Hoot" Hartman claims the 0400 relief chopped him out of the ice on the back door post and "Long John" Watts never did find that comfortable chair inside post No. 3. Bryant Longwell succeeded in challenging all cadets and passing all civilians according to typical instructions. Then there were those weeks when we slaved to stay in meteorology and "Tex" Ferris worked equally hard to get out.

Carol "Hep" Hoepfner maintains that Chicago weather can never compare with those beautiful Seattle days, and it did seem that the zero degree isotherm hung quite persistently around 59th street. Though weather, work and disciplinary baloney have brought gripes no end, and the breaking up of the flight almost brought mutiny, "The Washington Gang" will remember longer a lot of pleasanter things. Now it's "officers and gentlemen" for us (it says here), and a job to do. Yes, it's goodbye Midway and a toast to the gang we loved the best: "Viva La Company."

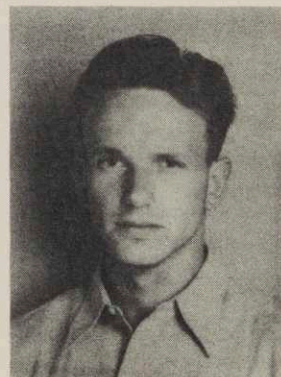
Jim Ellis

Editor's note: Inquiry reveals that "Hymo" Ellis, who modestly forgets to mention his own happy part in keeping "The Washington Gang" on top, has had an "Olson Operator" rating consistently above 900.

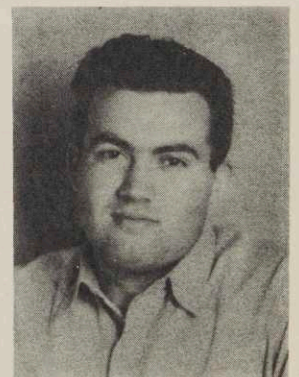


Class seven was the first class to be graduated from UCLA with practical weather station experience. On the third floor of Physics Building, two rooms were converted; light desks, display boards, and teletypes were installed, and early in the second quarter the UCLA weather station began operation with cadet observers, plotters, analysts, and forecasters. By graduation we had served at least four shifts at WXSTN.

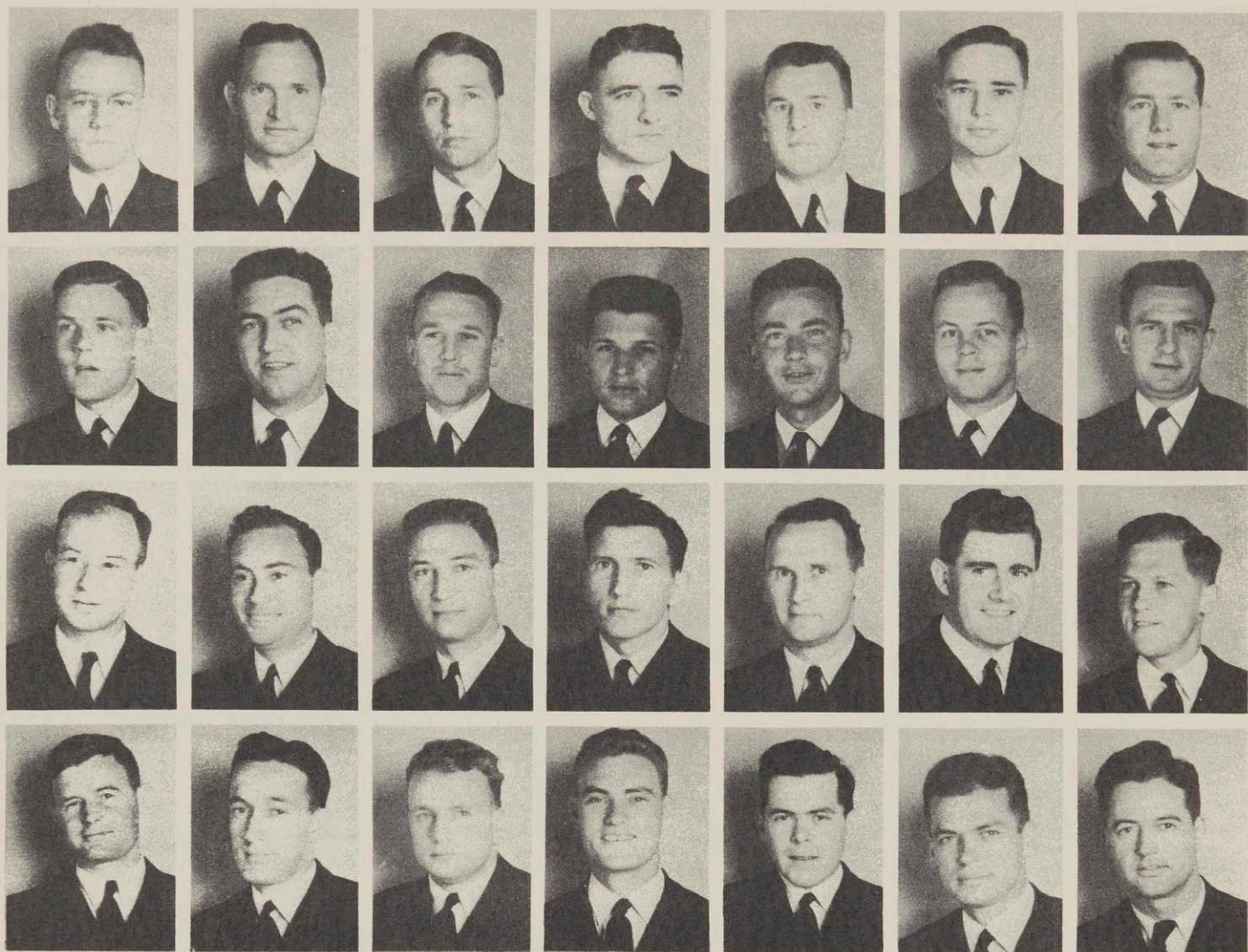
Two members of class seven who have been with us from the first at Washington are Harry Foltz and Bill Noack, who continued on Weather Bureau scholarships after honorable discharge from the Army.



BILL NOACK

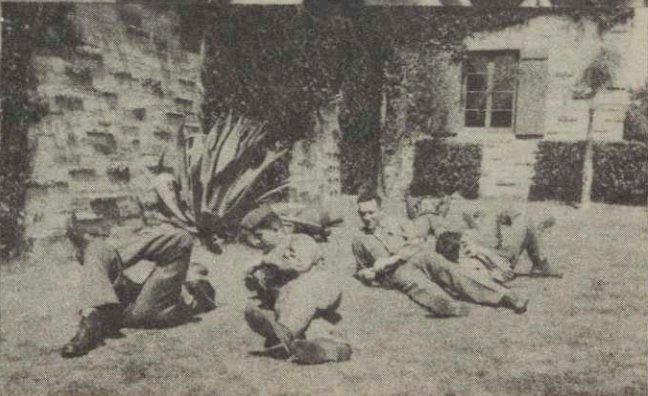
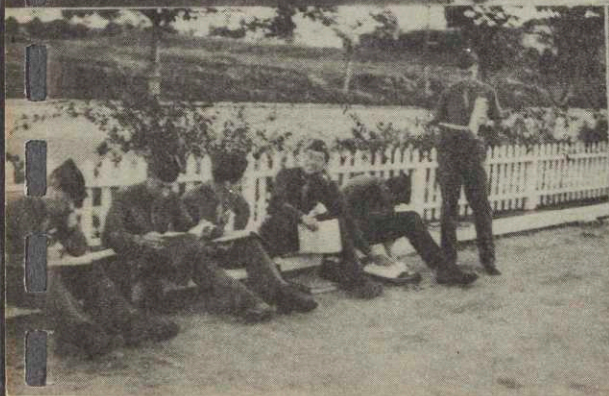


HARRY FOLTZ



The Navy group of Class 7 is composed of 30 A-V (S) reserve officers under the command of Captain William C. Barker, U.S.N. It constitutes the fourth to graduate as aerologists from the Naval Training School at the University of California. Training previous to the course consisted of two months of indoctrination and aerology at Pensacola for two-thirds of the officers, and two months general Naval indoctrination on Quonset Point for the remainder. On September 4, 1943, the class assembled on the campus for a

short review of mathematics and physics prior to the course. Under the helpful guidance of Lt. (jg) Arthur, the officers weathered the nine familiar months of "Aerological Engineering." In the pictures above they are, left to right: Thornton, Allen, Anson, Bedwell, Butler, Calvert, Clyman; second row, Ehringer, Fite, Ganahl, Getson, Gouze, Langdon, Leopold; third row, Munch, Murphey, Ritzman, Schockley, Shulstad, Simmons, Smiley; fourth row, Smith, Stauffer, Stevens, Thompson, Walters, White, Willis.



WE ARE THE MEN

T. J. ABSHIER

429 N. Greenleaf, Whittier, California
University of California
Mechanical Engineering

ASHAEL L. ALLEN

5202 Monte Bonito Dr., Los Angeles 41
Pasadena Junior College
Forestry

FREDERICK E. ANDERSON, JR.

861 42nd Street, Sacramento, California
Stanford University
Engineering

ROBERT A. ANDERSON

Woodburn, Oregon, RFD No. 2
Portland University
Civil Engineering

HOWARD M. ANGELL, JR.

4812 E. 40th St., Seattle, Washington
University of Washington
Mechanical Engineering

PAUL ARMER

1424 S. Catalina St., Los Angeles, Calif.
Loyola University
Chemistry

ARTHUR N. ARONSEN

2334 N. Point St., San Francisco, Calif.
Massachusetts Institute of Technology
Mechanical Engineering

RUSSELL G. ATHAY

57 S. Main St., Smithfield, Utah
Utah State Agricultural College
Radio Engineering

BURCH G. BACHTOLD

2379 28th Ave., San Francisco, Calif.
University of California
Electrical Engineering

MONROE BAER, JR.

2904 Regina Way, Sacramento, Calif.
University of California
Economics

JOSEPH B. BARE

Reed Point, Montana
Montana State
Electrical Engineering

DONALD C. BATESON

320 W. 1st S., Logan Utah
Utah State Agricultural College
Engineering

NEIL E. BEASLEY

Box 274, Summit City, California
Washington State College
Chemical Engineering

ALLAN G. BELL

608 W. Elk Ave.
Glendale Junior College
Engineering

GORDON O. BIGLER

Collinston, Utah
Utah State Agricultural College
Civil Engineering

NORMAN E. BJORKLUND

4240 Shasta Way, Klamath Falls, Ore.
Oregon State College
Chemical Engineering

WILLIAM A. BLAIR

2204 L St., Fresno, California
University of Chicago
Economics and Statistics

BEN A. BOHNHORST

219 S. Mentor Ave., Pasadena, Calif.
Chapman College
Philosophy and Psychology

ROLAND S. BOREHAM, JR.

621 N. Beverly Dr., Beverly Hills, Calif.
UCLA
Business Administration

ROY I. BRADSHAW

6420 Irwin Court, Oakland, California
University of California
Forestry

BILL K. BRAMBLE

3322 Bancroft St., San Diego, California
San Diego State College
Civil Engineering

NORMAN V. BRECKNER

711 N. First St., Tacoma, Washington
University of Washington
Economics

CHARLES F. BRIDGMAN

310 W. 13th St., Escondido, California
UCLA
Biochemistry

ERLE J. BROWN, JR.

137 Corinthian Walk, Long Beach, Cal.
California Institute of Technology
Mechanical Engineering

RAYMOND K. BURKHARD

926 Forest Ave., Tempe, Arizona
Arizona State Teachers College
Chemistry

MARCELLUS W. BURTON

19 Wadsworth, Los Gatos, California
San Jose State College
Engineering

WILLIAM J. CARROLL

San Pasqual Valley, Escondido, Calif.
California Institute of Technology
Engineering

MARSHALL C. CHENEY

116 Tunnel Rd., Berkeley, California
University of California
Criminology

FRANK CHEW

1468 81st Ave., Oakland, California
University of California
Agricultural Economics

WILLIAM G. CHINN

715 Commercial St., San Francisco, Cal.
University of California
Mathematics

GORDON CHOY, JR.

1631 Sacramento St., Vallejo, Calif.
University of California
Civil Engineering

THEODORE L. CHUNG

1150 Washington St.,
San Francisco, California
University of California
Electrical Engineering

OWEN B. CLAYMAN

428 S. Las Palmas, Los Angeles, Calif.
UCLA
Engineering

DEAN F. COLLINS

2097 N. El Molino, Altadena, Calif.
Pomona College
Engineering

WARREN P. COLLINS

2097 N. El Molino, Altadena, Calif.
Pomona College
Engineering

BERNELL W. COONS

175 Borica St., San Francisco, Calif.
Brigham Young University
Mathematics

ALFRED COOPER, JR.

6221 Crescenta, Calif.
Occidental College
Physics

W. LEONARD CROSE

558 El Monte, Baldwin Park, Calif.
UCLA
Engineering

DEWEY W. CRUISE

11356 Homedale, W. Los Angeles, Cal.
UCLA
Business Administration

JACK W. CUMMINS

Lakeview, Oregon
Oregon State College
Chemical Engineering

DONALD C. CUNNINGHAM

3856 Somerset Dr., Los Angeles, Calif.
UCLA
Mathematics

RAYMOND E. DAVIS

1830 W. Vernon Ave.
Los Angeles, Calif.
UCLA
Engineering

CARL D. DEFFENBAUGH

2456 N. E. 12th Ave., Portland, Ore.
Oregon State College
Mechanical Engineering

EDMUND DEWS

470 Siskiyou Blvd., Ashland, Ore.
Stanford University
History

THE WEATHER MEN

WOODROW W. DICKEY

14153½ Hamlin St., Van Nuys, Calif.
UCLA
Civil Engineering

ERNEST E. DOHNER

616 Valley View, Fullerton, Calif.
Fullerton Junior College
Engineering

BRUCE W. DORSCH

5255 Mayfield Rd., South Euclid, Ohio
San Diego State College
Engineering

IRVING S. DUNN

255 E. 2nd St., Logan, Utah
Utah State Agricultural College
Civil Engineering

CHARLES E. DUNNING

RFD No. 1, Box 1134, Phoenix, Arizona
Phoenix Junior College
Physics and Mathematics

NORMAN H. ENENSTEIN

115 S. Kenmore Ave., Los Angeles, Cal.
University of Southern California
Aeronautical Engineering

JOSEPH O. FADLER

136 N. Olive, Orange, California
Santa Ana Junior College
Physical Science

FRANK F. FARRAN

1315 W. Cypress Ave., Redlands, Cal.
University of Redlands
Engineering

GEORGE W. FLEISCHMAN, JR.

1375 Orange Ave., Long Beach, Calif.
University of California
Engineering

HARRY P. FOLTZ

3944 S. W. Condor, Portland, Oregon
University of Portland
Industrial Administration

ROBERT J. FOSTER

273 E. 19th St., San Bernardino, Calif.
California Institute of Technology
Chemical Engineering

ORLAN S. FRIEDMAN

915 S. Genesee St., Los Angeles, Calif.
UCLA
International Relations

DON C. FRISBEE

239 S. Peck Dr., Beverly Hills, Calif.
Pomona College
Business Administration

DEAN P. GAMBLE

787 N. Holliston Ave., Pasadena, Calif.
Pasadena Junior College
Biochemistry

DEAN S. GARDNER

1102 W. 28th St., Los Angeles, Calif.
Los Angeles City College
Chemistry

HARALD S. GIBSON

225 Myrtle St., Turlock, California
Modesto Junior College
Chemistry

DUANE R. GIFFORD

2820 Orchard St., Corvallis, Oregon
Oregon State College
Aeronautical Engineering

PHILIP GILHOUSEN

Star Route, Arcata, California
Humboldt State College
Engineering

JAMES W. GRANT

905 N. Ave., La Grande, Oregon
Brigham Young University
Meteorology

WILLIAM A. GRUBB

1346 Bennett Ave., Long Beach, Calif.
California Institute of Technology
Chemistry

STERLING R. HAYWARD

369 N. 1st E., Logan, Utah
Utah State Agricultural College
Chemistry

DON L. HAZELBAKER

RFD No. 1, Grangeville, Idaho
University of Idaho
Forestry

KARL S. HAZELTINE

Box 77, Mt. Hermon, California
San Jose State College
Engineering

RICHARD HIELD

151 Garfield Ave., Pomona, Calif.
Pomona College
Mathematics

ROBERT R. HIELD

151 Garfield Ave., Pomona, Calif.
Pomona College
Mathematics

WILLIAM H. HODGES

801 Roswell Ave., Long Beach, Calif.
Long Beach Junior College
Electrical Engineering

VERN E. HOVREN

Salmon, Idaho
Montana State College
Architecture

FRANCIS J. HOWARD

601 S. Windsor Blvd., Los Angeles, Cal.
UCLA
Electrical Engineering

J. CARL HYLTON

43 E. 2nd N., Heber, Utah
Utah State Agricultural College
Engineering

GLENN F. JACKSON

Box 571, Helper, Utah
University of Utah
Chemical Engineering

JAMES R. JACKSON

619 N. Alpine Dr., Beverly Hills, Cal.
UCLA
Physics

ROBERT W. JENNINGS

3431 Moraga St., San Francisco, Calif.
Heald Engineering College
Engineering

MAX L. JENSEN

Faiview, Utah
Brigham Young University
Business

DONAL D. JOHNSON

Rigby, Idaho
Brigham Young University
Biochemistry

PAUL C. KANGIESER

1710 Fairview, San Gabriel, Calif.
UCLA
Meteorology

ERWIN K. KAUPER

4412 Turquoise St., Los Angeles, Calif.
UCLA
Geology

WALLACE R. KEENE

1637 Barker, Lawrence, Kansas
University of Kansas
Mathematics

JAMES A. KEPHART

25 E. Carol Ave., Burlingame, Calif.
University of California
Economics

FRANK KEYWELL

335 Cloverdale St., Los Angeles, Calif.
UCLA
Chemical Engineering

IRWIN C. LANDERHOLM

2901 Fruit Valley Road
Vancouver, Washington
Reed College

HOVER T. LENTZ

621 Vine St., Denver, Colorado
Princeton University
Pre-Law

WALTER J. LUKE

Thompson Falls, Montana
Montana State College
Chemical Engineering

JOHN B. LUNDBURG

732 Baden Ave.,
South San Francisco, Calif.
University of California
Architecture

JOHN MACHLIS

1731 32nd Ave., Seattle, Washington
University of Washington
Mathematics

BERTWING C. MAH

1449 Oxford St., Berkeley, Calif.
University of California
Economics

JUST REMEMBER

- EARL B. MATHEWS**
1710 Jefferson St., Boise, Idaho
University of Idaho
Electrical Engineering
- DONALD E. MAXWELL**
491 Leland Ave., San Jose, California
San Jose State College
Physics
- JOHN M. MAYS**
2039 Glencoe Way, Hollywood, Calif.
California Institute of Technology
Physical Chemistry
- TROY P. MILLER, JR.**
1940 Chilton Dr., Glendale, Calif.
UCLA
Engineering
- MERLE E. MORRIS**
Box 41, Kanab, Utah
Utah State Agricultural College
Electrical Engineering
- WILLIAM V. MORRIS**
620 Peralta Way, Fresno, Calif.
University of California
- FOSTER E. MURPHY**
3740 Lemon Ave., Long Beach, Calif.
University of Washington
Forestry
- R. LEITH NEWMAN**
11059 Sherman Way,
North Hollywood, California
UCLA
Civil Engineering
- BILL NOACK**
RFD No. 9, Box 1293, Sacramento, Cal.
University of California
Forestry
- JOHN R. OBER**
830 Northville Road, Oakland, Calif.
Stanford University
Chemical Engineering
- RICHARD S. PERMAN**
656 E. Palm, Altadena, Calif.
Pasadena Junior College
Chemistry
- STANLEY S. PETERSEN**
800 Greenwood Ave., San Mateo, Calif.
University of California
Forestry
- ADELBERT R. RANKIN, JR.**
702 S. Grant, Tacoma, Washington
Washington State College
Civil Engineering
- CHARLES H. REED**
2432 Webster St., Berkeley, California
University of California
Languages
- CHARLES W. RICHARDS**
311 N. Fifth, Boise, Idaho
Boise Junior College
Chemical Engineering
- NORMAN A. RIGGLE**
56 N. Hill Ave., Pasadena, California
Pasadena Junior College
Mechanical Engineering
- JOHN D. ROCKIE**
8330 S. W. 41st St., Multnomah Station,
Portland Oregon
Washington State College
Geology
- THOMAS A. ROSE**
2320 Montrose Ave., Montrose, Calif.
Glendale Junior College
Chemical Engineering
- ROBERT B. ROSENE**
129 N. Lindsey, Pico, California
Whittier College
Chemistry
- ROBERT I. SCANLON**
3507 N. Hudson St., Tacoma, Wash.
College of Puget Sound
Mathematics
- PAUL A. SCOTT**
Ontario, Oregon
Oregon State College
Chemical Engineering
- EDWARD M. SEVADJIAN**
1194 N. Raymond Ave., Pasadena, Cal.
Pasadena Junior College
Engineering
- KENNETH R. SHEPHERD**
505 Grant St., Mesa, Arizona
Arizona State Teachers College
Chemistry
- HANS A. SIEWERTSEN**
1614 Burwell St., Bremerton, Wash.
Washington State College
Electrical Engineering
- EDWARD D. STROUD**
6708 Liggett Dr., Oakland, California
University of California
Business Administration
- WILLIAM C. TIMMINS**
2649 Louisiana St., Longview, Wash.
University of Washington
Engineering
- TRACY E. VAN VOORHEES**
2730 Hollyridge Dr., Hollywood, Calif.
California Institute of Technology
Mechanical Engineering
- LOUIS G. WALTERS**
916 N. Mariposa, Hollywood, Calif.
Los Angeles City College
Electrical Engineering
- WILLIAM L. WERNER**
2511 Darby St., Berkeley, Calif.
University of California
Mechanical Engineering
- DAVID L. WILLIAMS**
1973 Maine Ave., Long Beach, Calif.
UCLA
Accounting
- DONALD D. WOOLLEY**
1708 S. Atlantic Blvd., Alhambra, Cal.
Pasadena Junior College
Chemical Engineering
- FRED T. WRIGHT**
239 W. First St., American Fork, Utah
Brigham Young University
Chemistry
- JACK K. YEE**
724 S. Central Ave., Phoenix, Ariz.
Phoenix Junior College
Chemical Engineering
- CHICAGO GANG**
- ARTHUR ANDREWS**
315 E. 7th St.
Anaconda, Montana
Montana State College
- BILL ARMSTRONG**
Cut Bank, Montana
Montana State College
- BLAUER L. BANGERTER**
3837 S. 32 W.
Salt Lake City, Utah
Utah State Agricultural College
- FRED BARTELL**
P. O. Box No. 96
Sonoma, California
University of California
- REX J. BATES**
2927 S. W. Hume Court
Portland, Oregon
Oregon State College
- DON L. BEYER**
369 W. Scott St.
Fond du Lac, Wisconsin
Ripon College
- GEORGE W. BOUTELLE**
113 Covina Ave.
Long Beach, California
California Institute of Technology
- WILLARD T. BRANNON**
107 N. 33rd St.
Billings, Montana
University of Montana
- LAIRD BRODIE**
3415 N. E. 34th
Portland, Oregon
Reed College
- ART CALMAN**
1572 First Ave.
San Diego, California
San Diego State College
- TOM G. CHIN**
322 17th Ave.
Seattle, Washington
University of Washington

WE ARE THE ONES

JOHN L. CLAYTON

8776 S. State St.
Midvale, Utah
University of Utah

TRAMMEL COMBS

Care of California Cotton Mills
Railroad and Kennedy Aves.,
Oakland, California
University of California

ROBERT L. CRANE

37 W. Judson Ave.
Youngstown, Ohio
University of Arizona

JACK M. DIETRICH, JR.

801 Missouri Ave.
Deer Lodge, Montana
Stanford University

JAMES R. ELLIS

4016 50th Ave., S.
Seattle, Washington
Yale University

EDSEL FERRIS

Port Arthur, Texas
University of Washington

DON FITZGERALD

Pomeroy, Washington
Washington State College

JAMES A. FULLER

1243 5th St.
Bremerton, Washington
Washington State College

SAM GEBO

1509 17th Ave. N.
Seattle, Washington
Pomona College

HAROLD R. HARTMAN

720 C St.
Coeur D'Alene, Idaho
Central College

CARROL HOEPPNER

4835 Lake Washington Blvd.
Seattle, Washington
University of Washington

SIDNEY F. HORRIGAN

411 N. E. Birch
Camas, Washington
Willamette University

WILLIAM B. JUNKER

E. 350 17th Ave.
Spokane, Washington
Washington State College

KEITH JOHNSON

8249 15th N. E.
Seattle, Washington
University of Washington

HARRY E. KEEGAN

704 W. 18th
Spokane, Washington
Washington State College

ARTHUR Q. LARSON

La Grange, Illinois
Northwestern

RICHARD R. LARSON

8535 S. W. 41st
Portland, Oregon
Oregon State College

BOB LONG

W. 1008 24th St.
Spokane, Washington
Washington State College

BRYANT R. LONGWELL

Los Angeles, California
Oregon State College

GERALD MEIER

1523 N. Oakes
Tacoma, Washington
Reed College

ALBERT MARRS

4269 Ibis St.
San Diego, California
San Diego State College

REED H. NELSON

260 W. Lefalle St.
Salem, Oregon
University of Oregon

JERRY OLSEN

Price, Utah
Utah State Agricultural College

FRANK RANEY

E. 2820 18th
Spokane, Washington
University of Idaho

PETER R. SHERMAN

2812 S. E. 7th Ave.
Portland, Oregon
University of Oregon

ROBERT E. SNOW

407 5th N. E.
Puyallup, Washington
University of Washington

ROGER J. STEWART

919 N. Sheridan
Tacoma, Washington
Washington State College

JOHN C. WATTS, JR.

P. O. Box 111
Orem, Utah
Brigham Young University

RAY H. WILSON

E. 1928 S. Riverton
Spokane, Washington
Washington State College

WESLEY A. WENDLUND

405 Milwaukee Ave.
Deer Lodge, Montana
Montana State College

BEN WOO

2206 1st W.
Seattle, Washington
University of Washington

ARMY OFFICERS

LEONARD A. VOSS, 1st LT.

RFD No. 4
Higginsville, Missouri

LYNN D. STEELE, 1st LT.

Adjutant
Elm Hill Road
Nashville, Tennessee

FRANCIS N. BUCK, 1st LT.

2614 Euclid Avenue
Cincinnati, Ohio

CHARLES S. GIRTON, 1st LT.

RFD No. 1
Bloomsburg, Pennsylvania

KENNETH P. NICHOLS, 1st LT.

311 W. Yosemite Ave.
Madera, California

JOHN W. OLSEN, 1st LT.

Care of Chas. Garrison
Wyssa, Oregon

SAMUEL A. PATTERSON, 1st LT.

10763 Valleyheart Dr.
North Hollywood, California

JAMES M. SETTERBERG, 1st LT.

1704 Manning Ave.
West Los Angeles, California

GORDON C. SHIELDS, 1st LT.

1901 N. Commonwealth Ave.
Los Angeles, Calif.

CHARLES G. P. BEER, 2nd LT.

6116 S. Cimarron
Los Angeles, California

IRWIN B. BERCH, 2nd LT.

3203 E. Spruce St.
Seattle, Washington

EDWARD S. BOYER, 2nd LT.

300 S. McCarty
Beverly Hills, California

CLETUS J. BURKE, 2nd LT.

1621 Cota Ave.
Torrance, California

ROBERT L. CASWELL, 2nd LT.

2359 17th Ave.
San Francisco, California

FRANK D. CRAWFORD, 2nd LT.

316 11th Place
Manhattan Beach, California

MORRIS S. HENDRICKSON, 2nd LT.

226 N. Main St.
Marion, Ohio

ARDEN LANHAM, 2nd LT.

1119 Pine St.
South Pasadena, California

LUNA B. LEOPOLD, 2nd LT.

10455½ Ashton Ave.
Los Angeles, California

WHO LET THEM FLY

CLARENCE G. MORRIS, 2nd LT.

RFD No. 1, Box 102
Cave Junction, Oregon

C. A. NEWCOMB, JR., 2nd LT.

P. O. Box 88
Port Hueneme, California

RALPH P. PAPIRNO, 2nd LT.

1734 64th St.
Brooklyn, N. Y.

DAVID M. ROCKWOOD, 2nd LT.

10631 Eastborne
West Los Angeles, California

OLE B. SEVERSON, JR., 2nd LT.

1144 Elizabeth Street
Denver, Colorado

JAMES R. TAYLOR, 2nd LT.

2539 Washington
Santa Monica, California

ROLAND H. TAYLOR, 2nd LT.

RFD No. 1
Republic, Missouri

AYLMER H. THOMPSON, 2nd LT.

1845 W. 66th St.
Los Angeles, California

LELAND V. WESTERLUND, 2nd LT.

2714 J St.
Eureka, California

LATIN AMERICANS

GUSTAVO ACEVEDO y LEYVA

Sinaloa No. 214
Mexico, D. F., Mexico

LUIS ALBERTO PEREZ ACOSTA

Carrera 17 No. 22-82
Bogota, Colombia

JUAN S. GALLO

Son Martin 587
Antofagasta, Chile

ULYSSES GHEDINI

R. Frederico Steidel 97
Apt. No. 6
Sao Paulo, Est. S. P., Brazil

RODRIGO HERRERA

Avenida 10, Calles A.V./la
Apartado No. 47
San Jose, Costa Rica

ROBERTO RAFAEL MARESCO

Medrano 1352, Apt. No. 14
Buenos Aires, Argentina

JOSE OSCAR DIEZ MARTINEZ

V. Carranza 35, Desp. 8
Mexico, D. F., Mexico

JORGE MONTAUTTI

Uruguay 1264
Montevideo, Uruguay

TABARE D. PALAS MANANA

Joaquin Requena 962
Montevideo, Uruguay

LEONARDO MELLA PORRAS

10 de Julio 217
Santiago, Chile

A. ANDRES NASTA

Azcuenaga 1031
Buenos Aires, Argentina

THEODORO R. TEIXEIRA

Base Aerea de Porto Alegre
Rio Grande do Sul, Brazil

NAVY AEROLOGISTS

DANIEL E. ALLEN, JR., Ens.

21 Kingston Ave.
Rockwood, Tennessee
University of Tennessee

HERBERT F. ANSON, Ens.

121 Irvington Ave.
Bradford, Ohio
Wilmington College

ROBERT R. BEDWELL, Ens.

RFD No. 2, Box 325
Evansville, Indiana
Evansville College

BERNARD W. BOSELY, Ens.

2208 S. 7th St.
Council Bluffs, Iowa
Parsons College

CHARLES V. BUTLER, Ens.

Lebanon, Tennessee
Lambuth College

EDWARD C. CALVERT, Ens.

307 W. 10th St.
Erie, Pennsylvania
Penn State College

BORIS CLYMAN, Ens.

18 N. Stenton Place
Atlantic City, New Jersey
Rutgers University

ALBERT G. EHRINGER, Ens.

Princeton, Illinois
University of Illinois

ROBERT C. FITE, Ens.

Brinkham, Oklahoma
Central State of Oklahoma

JOSEPH F. GANAHL, Ens.

Box 265
Corona, California
Stanford University

RUSSEL F. GETSON, Ens.

5037 E. 117th St.
Garfield Heights, Ohio
Miami University

DUANE A. GOUZE, Ens.

10766 National Place
Los Angeles 34, California
University of Minnesota

ARNOLD F. HORSTMANN, JR., Ens.

251 W. Como Ave.
Columbus, Ohio
Ohio State

CLAYTON R. LANGDON, Ens.

246 W. Market St.
Mercer, Pennsylvania
Grove City College

ROBERT S. LEOPOLD, Ens.

Box 1109
Tallahassee, Florida
University of Florida

JOHN F. MUNCH, Ens.

Box 45
Chapel Hill, North Carolina
University of North Carolina

JAMES A. MURPHEY, Ens.

990 Shelley St.
Pasadena, California
University of California

RUSSELL RITZMAN, Ens.

705 Normal Road
DeKalb, Illinois
Northwestern

GILBERT R. SHOCKLEY, Ens.

10478 Englewood Ave.
St. Louis, Missouri
Missouri School of Mines

LOYD N. SHULSTAD, Ens.

906 N. 22nd St.
Superior, Wisconsin
Superior State Teachers College

WILLIAM P. SIMMONS, Ens.

413 Pleasant St.
Holyoke, Massachusetts
Worcester Polytechnic Institute

WILLIAM D. SMILEY, Ens.

720 W. Wayne St.
Lima, Ohio
Penn State College

DALE K. SMITH, Ens.

1952 Malcolm Ave.
Los Angeles, California
UCLA

DALE A. STAUFFER, Ens.

RFD No. 1
Elkhart, Indiana
Washington State College

LLOYD J. STEVENS, Ens.

21 Oakview Ave.
Maplewood, New Jersey
Texas Christian University

WARREN C. THOMPSON, Ens.

9001 Rosewood Ave.
Los Angeles 36, California
UCLA

STEPHEN D. THORNTON, JR., Lt. (jg)

RFD No. 2 Box 973
El Cajon, California
San Diego State College

BRUCE J. WALTHERS, Ens.

4759 N. Newhall
Milwaukee, Wisconsin
University of Wisconsin

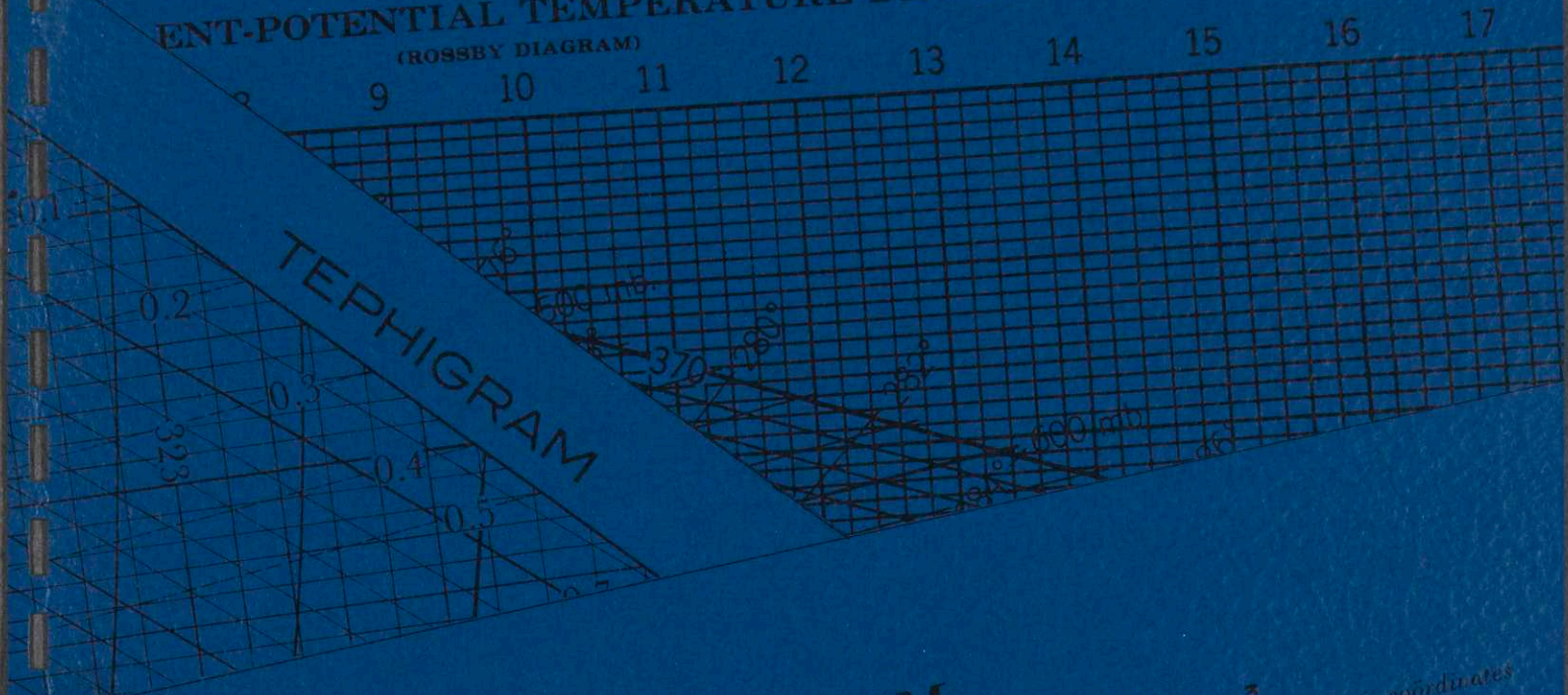
ARTHUR B. WHITE, Ens.

1913 S. Cecil St.
Philadelphia, Pennsylvania
University of Pennsylvania

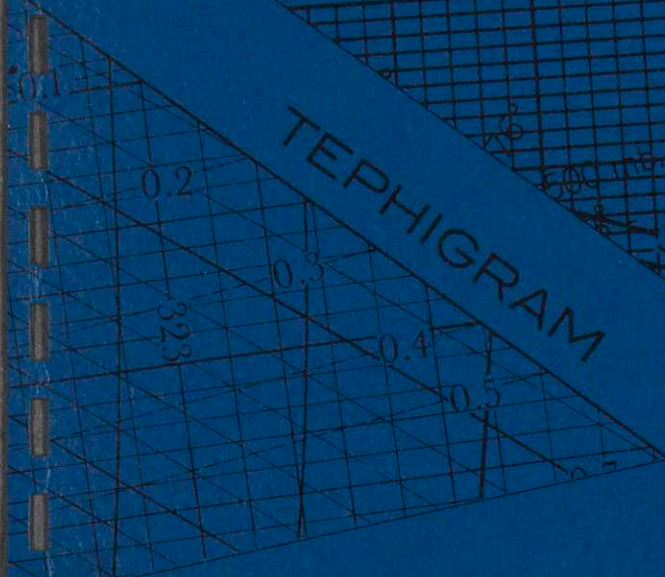
MELMUTH S. WILLIS, Ens.

Fountain Inn, South Carolina
Wofford College

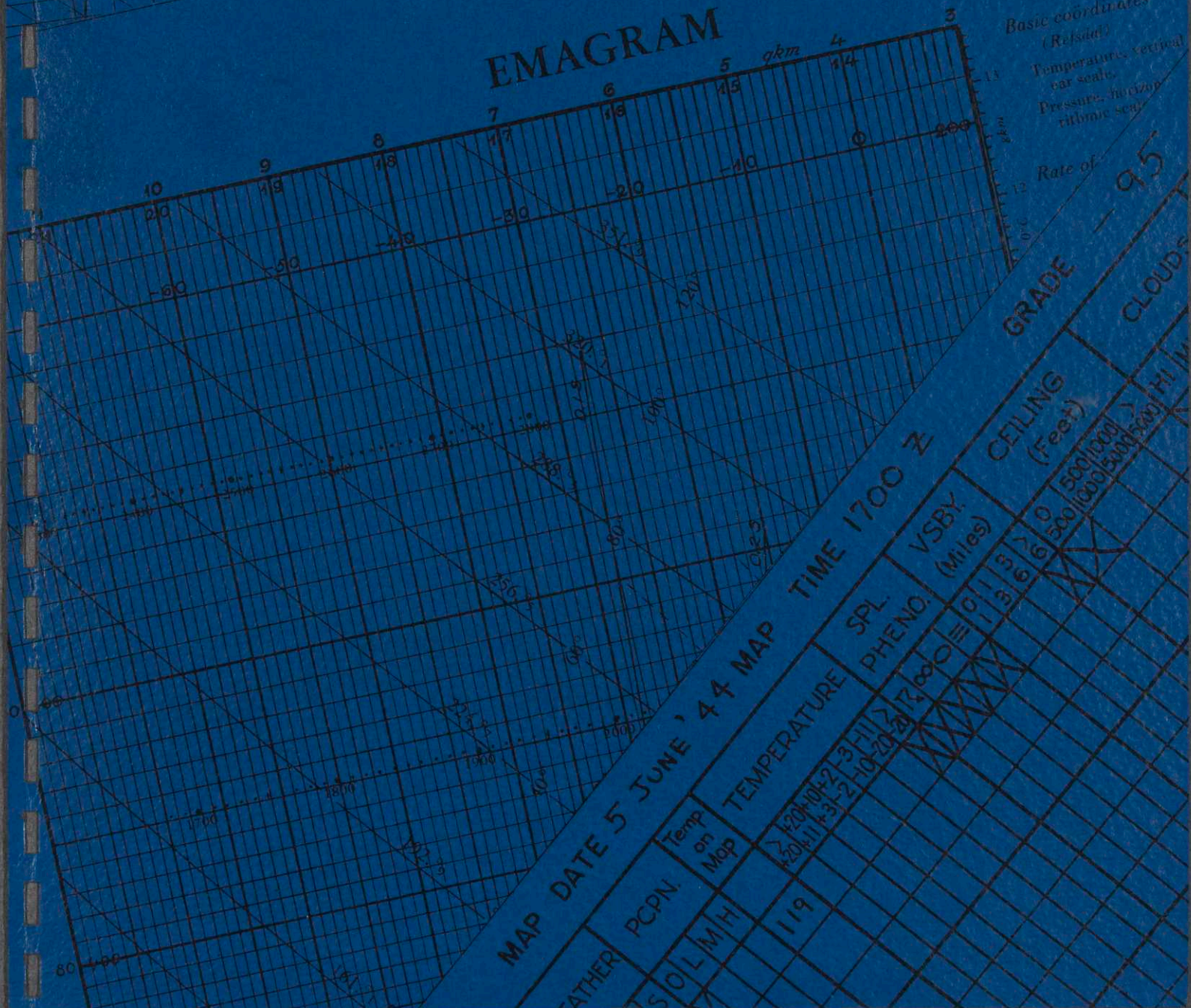
POTENTIAL TEMPERATURE DIAGRAM (GROSSBY DIAGRAM)



TEPHIGRAM



EMAGRAM



Basic coordinates
(Revised)
Temperature, vertical
air scale.
Pressure, horizontal
arithmic scale.

Rate of

GRADE - 95

CEILING (Feet)

VSBY (Miles)

MAP DATE 5 JUNE '44 MAP TIME 1700 Z

TEMPERATURE

SPL PHENO

PCPN

Temp on Map

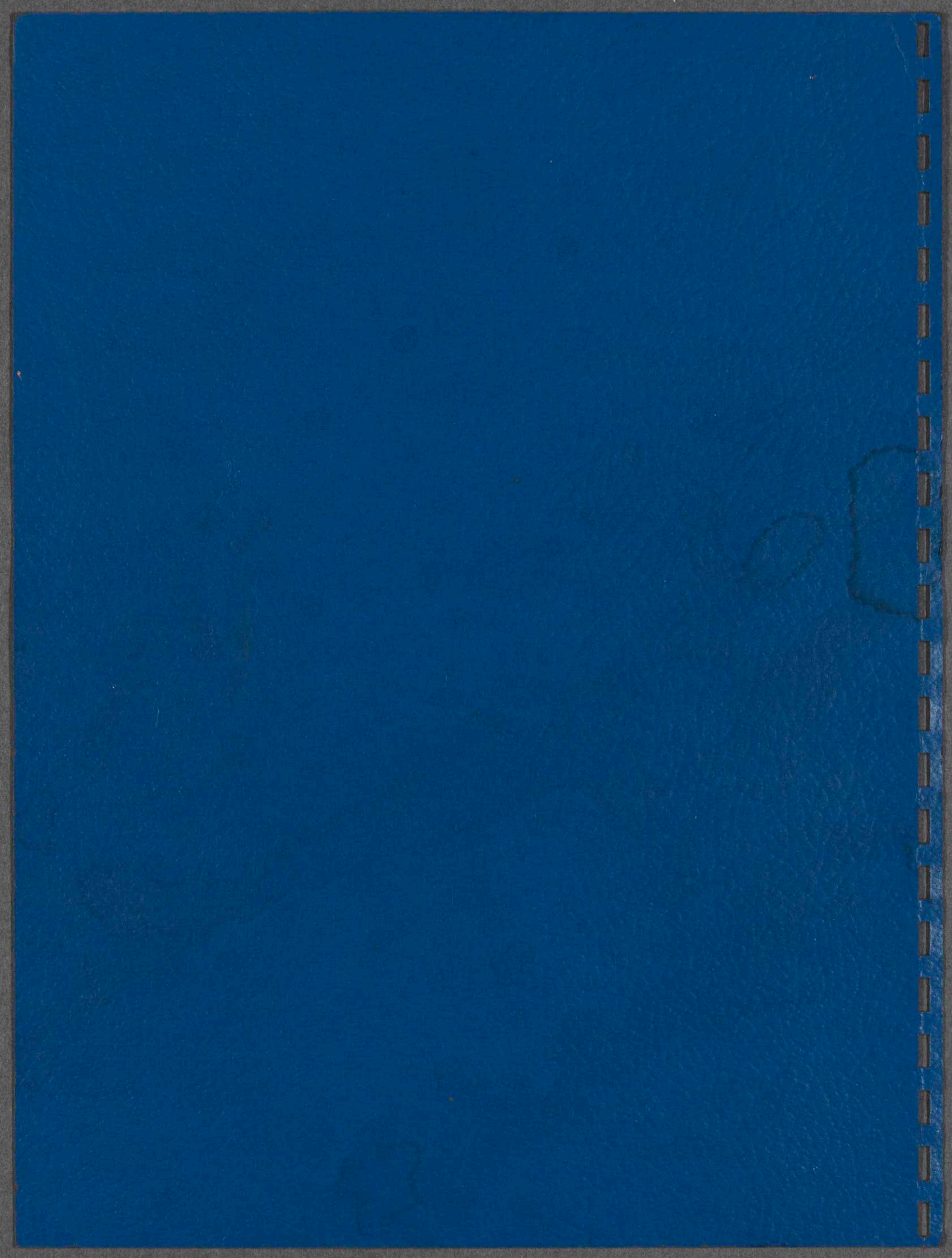
119

120 10 12 13
120 11 13 2 10 20 21

0 1 3 6

0 500 1000 1500 2000 2500

HI W



MM: 25 2300 EST

9.5	49.5	39	3 km.
15.5	48	32.5	3 km.
12.0	49.0	39	3 km
10.5	48	37.5	4 km
10.5	50	39.5	5 km
9.5	50	40.5	6 km
7.5	48.5	41	7 km
7.5	49.5	42	8 km
8.0	50.5	42.5	9 km
8.5	50	41.5	10 km
6.0	48	42	11 km
6.0	50	44	12 km

Nov 19 23 EST

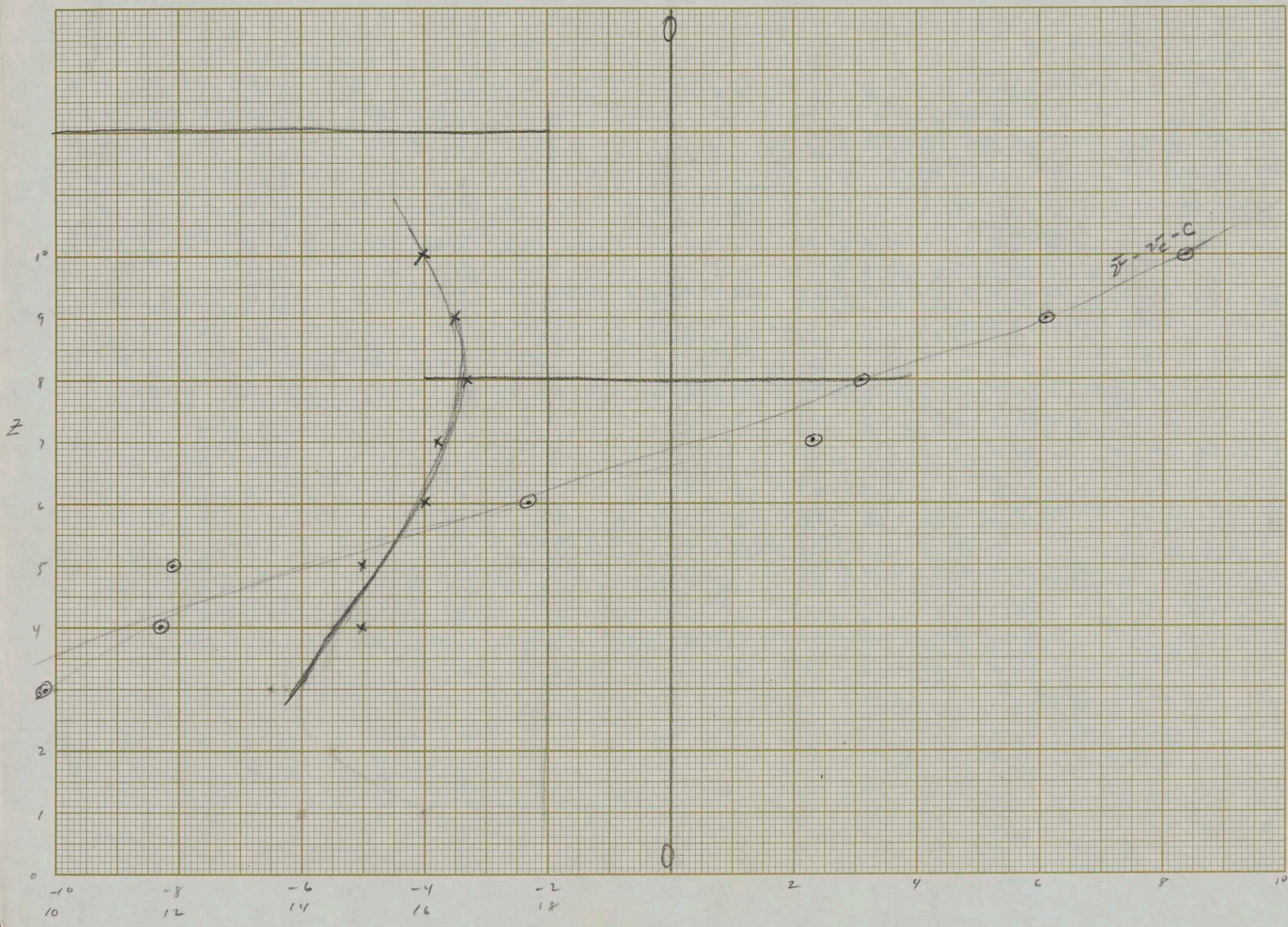
17	1 km
12	2 km
12.5	3 km.
14.0	4 km.
15.5	5 km.
16.0	6 km
15.0	7 km
14.5	8 km.
14.5	9 km.

95

Nov 19, 1100 EST
 - Nov 19, 2200 EST

	L/λ meters	$C_{\text{rad}}^{\text{theor}}$	$C_{\text{rad}}^{\text{meas}}$	\bar{v}	$1.48 \left(\frac{L}{\lambda}\right)^2$ $\frac{v_c}{\text{m/sec}}$	$\frac{v_c}{\bar{v}}$	A	$\bar{v} - v_c$
1	2.8×10^6	$.75 \times 10^6$	17.3	5.6	11.6	-23.3	16	-6.0
2	2.9×10^6	$.57 \times 10^6$	13.2	8.0	12.4	-17.6	14.5	-4.4
3	3.2×10^6	$.22 \times 10^6$	5.1	10.0	15.1	-10.2	13.5	-5.1
4	3.2×10^6	$.31 \times 10^6$	7.2	14.0	15.1	-8.3	15	-5.1
5	3.2×10^6	$.40 \times 10^6$	9.3	16.3	15.1	-8.1	15	1.2
6	3.0×10^6	$.40 \times 10^6$	9.3	20.4	13.4	-2.3	16	6.0
7	3.0×10^6	$.31 \times 10^6$	7.2	22.3	13.8	2.3	16.2	8.5
8	2.8×10^6	$.40 \times 10^6$	9.3	24.0	11.6	3.1	16.7	12.4
9	2.9×10^6	$.35 \times 10^6$	8.1	26.6	12.4	6.1	16.5	14.2
10	2.9×10^6	$.22 \times 10^6$	5.1	25.9	12.4	8.4	16.0	13.5
11								
12								
13								
14								
15								
16								

between 2 and 4 for $\alpha = 0$ $\therefore C = \bar{v} - v_c$



Analysis of the velocity field.

$$V = e^{-\left(\bar{a} - \frac{1}{2H}\right)z} \eta(\xi)$$

where $\xi = \xi_0 + 2\bar{a}z = \xi_R + \xi_i i$ $\left. \begin{array}{l} \xi_R > 0 \\ \xi_i < 0 \end{array} \right\}$

$$\bar{a} = \frac{-2.48 \times 10^{-5}}{0x}$$

$$\frac{1}{2H} = 6.25 \times 10^{-5}$$

$$\eta = \eta(\xi_R) + \xi_i i \eta'(\xi_R)$$

(for example if $\Delta\alpha = -.15$, $\bar{a} = 1.65 \times 10^{-4}$, $L = 4150$ km)

$$V = e^{-\frac{z}{10,000}} \eta(\xi)$$

$$\eta = R(\xi) e^{i\Phi} \quad \text{where } \Phi = \tan^{-1} \left[\frac{\xi_i \eta'(\xi_R)}{\eta(\xi_R)} \right]$$

ξ_R is an increasing function of z . If the wave is unstable $\xi_i < 0$ for such values η' decreases with ξ_R for all pos. values of ξ_i .

Now

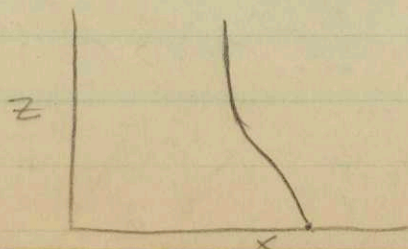
$$v \sim e^{-\frac{z}{10000}} \sqrt{\eta^2 + \xi_i^2 \eta'^2} e^{i\mu \left[x - ct + \frac{\Phi(z)}{\mu} \right] + i\mu c t}$$

for $t=0$, the trough line lies on the curve

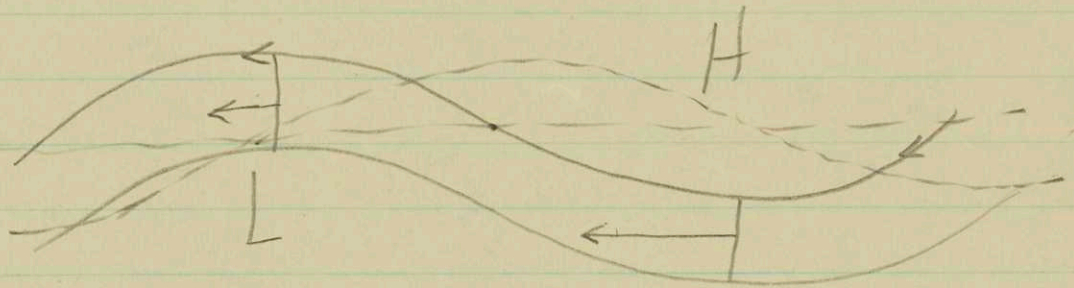
$$x + \frac{\Phi(z)}{\mu} = 0$$

$$\text{or } x = -\frac{\Phi(z)}{\mu}$$

where $-\Phi$ is a positive decreasing function of z .

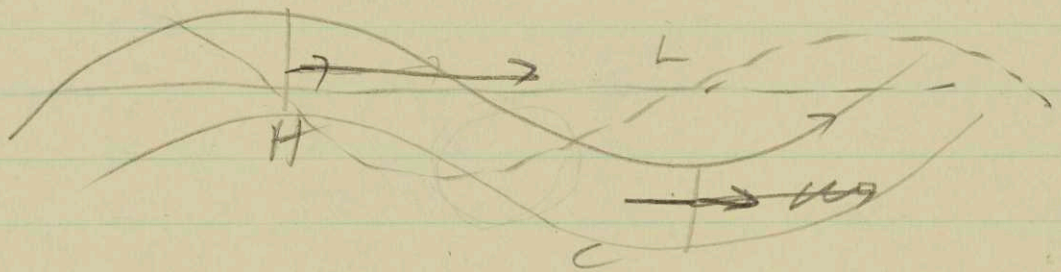


w



c

w



$u < c \rightarrow$ drift
 $< v_c$ convect

Seminar - Jan. 9, 1946

II Reduced equations

$$-\frac{g}{\bar{p}} (\bar{p} w)_z = f(c\alpha + g\mu) V + f c V_z$$

$$\frac{g\alpha}{\bar{p}} (\bar{p} w) = -f \left(\alpha c + \frac{\sigma^2 \bar{u}_z}{g} \right) V + \frac{\sigma^2 f (\bar{u} - c)}{g} V_z$$

$$i\mu g V = f (\bar{u}_z - g\mu) V - f \bar{u} V_z$$

$$\left\{ \begin{array}{l} \eta = \frac{\mu^2 (\bar{u} - c)(\bar{u} - c - u_c)}{f^2} \ll 1 \\ \equiv y\text{-wind component is geostrophic} \end{array} \right\} \begin{array}{l} \alpha = \frac{1}{\bar{p}} \frac{\partial \bar{p}}{\partial z} \\ \alpha = -\frac{ER(\delta_0 - \delta)}{g} \\ \sigma^2 = cRT \\ \mu = \frac{\mu^2 (\bar{u} - c - u_c)}{f^2} \end{array}$$

I Form of Solution

$$u' = U(z) e^{i\mu(x-ct)}$$

$$v' = V(z) e^{i\mu(x-ct)}$$

$$w' = W(z) e^{i\mu(x-ct)}$$

III Rossby-Helmholtz formula and generalization

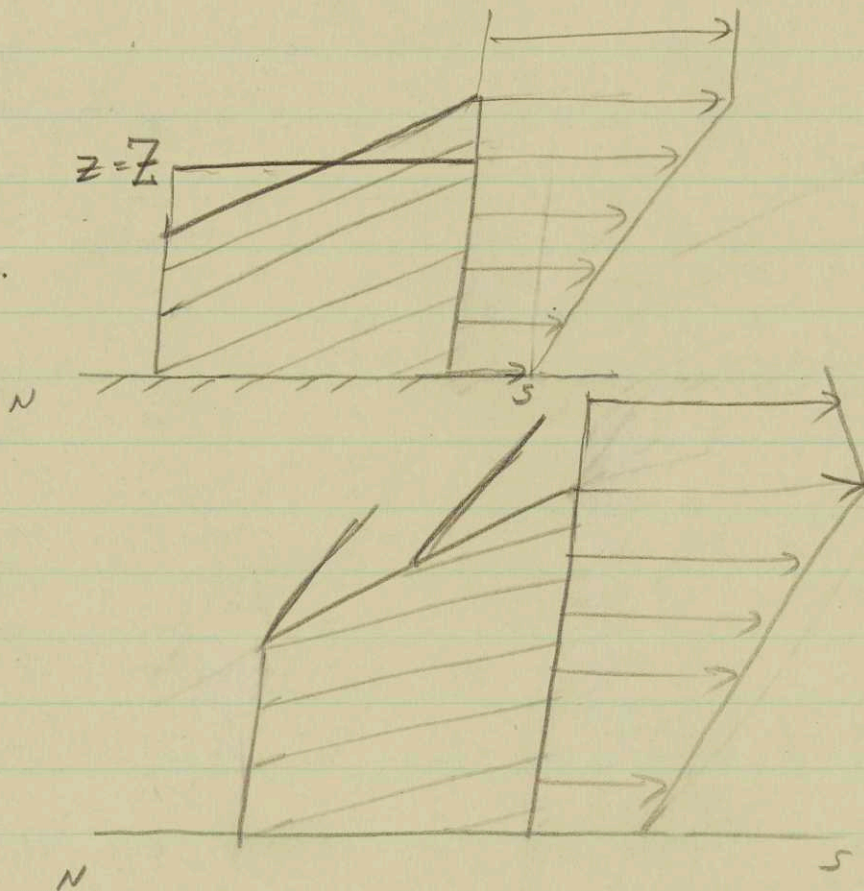
$$\bar{u} - c - u_c = \frac{f^2 c}{\mu^2 g H} \quad \text{R-H formula}$$

$$\int_{\infty}^0 (\bar{u} - c - u_c) V d\bar{p} = \frac{f^2 c}{\mu^2} \bar{p}_0 V_0 \quad \text{generalization}$$

Boundary conditions

$$w=0 \text{ at } z=0$$

$$\textcircled{1} \quad \left(\frac{V_z}{V} \right)_{z=0} = \frac{g \rho_0 c + \bar{\sigma}_0^2 \bar{u}_z}{\bar{\sigma}_0^2 (\bar{u}_0 - c)}$$



$$\textcircled{2} \quad \Delta U = \Delta V = \Delta W = 0 \text{ at } z=Z$$

$$\textcircled{3} \quad \frac{\Delta V_z}{V} = \frac{\Delta \bar{u}_z}{\bar{u}} \text{ at } z=Z$$

$$\textcircled{4} \quad \lim_{z \rightarrow \infty} pU, pV, pW = 0$$

IV Equation for V

$$(3) \quad \frac{d^2 V}{dz^2} - \frac{1}{H} \frac{dV}{dz} - a^2 \left(\frac{\bar{u} - c - \bar{u}_c}{\bar{u} - c} \right) V = 0$$

$$a^2 = \frac{\mu^2}{f^2} \frac{R(\gamma_d - \gamma)}{H}, \quad \bar{u}_c = u_c + \frac{\bar{u}_z}{a^2}$$

VI The secular equation

$$V_1 = A_1 V_1 + A_2 V_2$$

$$V = B_1 V_1 + B_2 V_2$$

The four equations are linear and homogeneous. The determinant of their coefficients must = 0. This is secular eq.

VII Simplified system

$$(3) + (1) + (4)$$

$$\text{VII} \quad \text{if } \bar{u}_z = 0$$

$$\bar{u} - c - u_c = \frac{f^2 c}{\mu^2 g H}$$

VIII Solution

$$\text{Let } v = e^{\left(\frac{1}{2H} - \bar{a}\right)z} \eta$$

$$\bar{a}^2 = a^2 + \frac{1}{4H^2}$$

$$\xi = \frac{2\bar{a}}{L} (\bar{u} - c)$$

$$\xi \eta'' - \xi \eta' + k \eta = 0$$

$$k = \frac{\bar{a}}{2L} \left(\frac{g^2}{\bar{a}^2} u_c + \frac{L}{\bar{a}^2 H} \right)$$

$$V_1 = \frac{\sin \pi a}{\pi} \left\{ a \xi M(a+1, 2, \xi) \left[\log \xi + \frac{\Gamma(a)}{\Gamma(a)} + \frac{\Gamma'(a)}{\Gamma(a)} \right] \right. \\ \left. + 1 + \sum_{n=1}^{\infty} \frac{B_n a(a+1) \dots (a+n-1)}{(n-1)! n!} \xi^n \right\}$$

$$\text{where } a = -k \text{ and } B_n = \sum_{\nu=0}^{n-1} \left(\frac{1}{a+\nu} - \frac{2}{1+\nu} \right) + \frac{1}{n}$$

Search out asymptotic expansions.

$$\left\{ \begin{array}{l} \left(\frac{\eta'}{\eta} \right)_{\xi=\xi_0} = \alpha + \frac{\beta}{\xi} \\ \alpha = \frac{1}{2} + \Delta\alpha, \quad \beta = \frac{1}{2} + \Delta\beta \\ \Delta\alpha = -\frac{1}{2\bar{a}} \left(\frac{g^2}{\bar{a}^2} + \frac{1}{2H} \right), \quad \Delta\beta = \frac{g^2 \bar{u}_0}{L \bar{a}^2} \end{array} \right.$$

$$f(L \bar{u}_0, L, \theta, \gamma, c) = 0$$

Conclusions

1. if $\Lambda > 0$, $\bar{u} - c_0 > 0$
2. if $\Lambda < 0$, $\bar{u} - c_0 \leq 0$

in westernlies $c < \bar{u}_0$, $\Lambda > 0$

in easterlies $c > \bar{u}_0$, $\Lambda < 0$

in westerly $\Lambda \geq 0$

graphs



Level of non-divergence

call this small

$$f \left(m - \frac{\bar{u}_z}{g} \right) V + \frac{\bar{u}}{g} V_z = 0$$

$$\cancel{f} \quad 2 \times 10^{-4} (\bar{u} - c - u_c) - \frac{1 \times 10^{-4}}{g} = 0$$

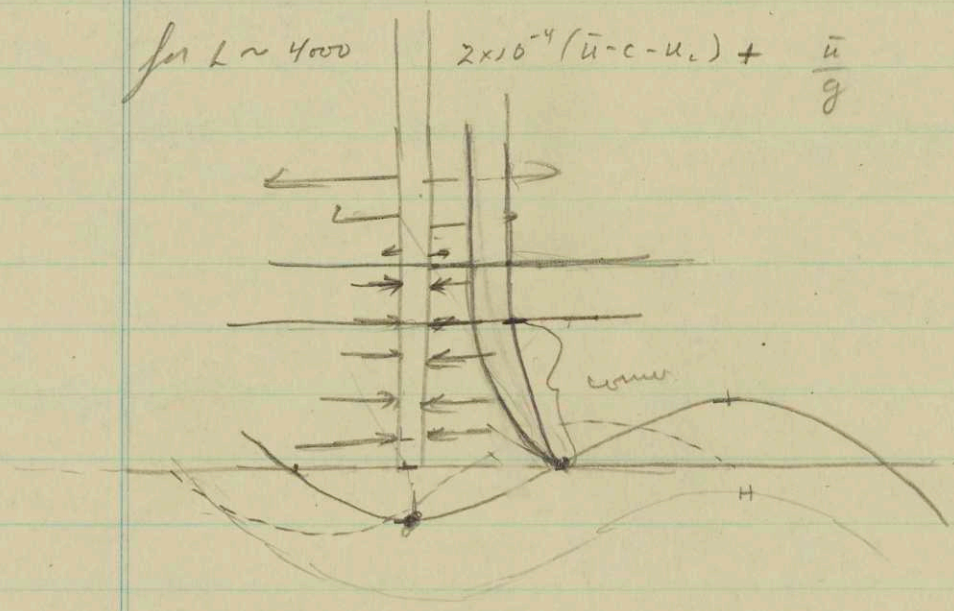
$$\bar{u} - c - u_c = \frac{1}{2} = 0$$

$$\star \quad \frac{\mu^2}{f^2} (\bar{u} - c - u_c) + \frac{\bar{u}}{g} \frac{V_z}{V}$$

$$" \quad + \quad \frac{\bar{u}}{g} \left[\frac{1}{2H} - \bar{a} + 2\bar{a} \frac{y'}{y} \right]$$

for $L \sim 4000$

$$2 \times 10^{-4} (\bar{u} - c - u_c) + \frac{\bar{u}}{g}$$



$$\bar{u} - c < u_c$$

$$\bar{u} - c > u_c$$

Seminar - Jan. 21

1. Show graphs of $W-\Lambda$ curves for different U_0 .
2. Compare exact soln. with inexact soln.
3. Show how $\frac{U_0 - c}{\Lambda} > 0$ agrees with already existing theory for stable waves.

4.

Variations from the B-H Theory

1. Not true that easterly currents are unstable only if $\Lambda < 0$
if \bar{u} is neg and c is neg. then $\bar{u} - c - u_c$ may be small (not likely)

$\frac{U_0 - c}{\Lambda} > 0$ means if $\Lambda > 0$ and \bar{u}_0 is neg. then c is neg

and $|c| > |u_0|$

if $\Lambda > 0$ $U_0 - c > 0$

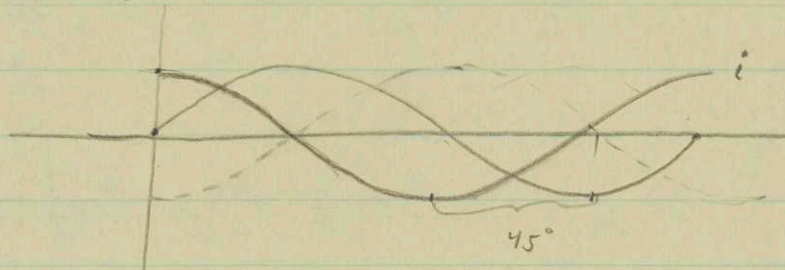
means that

consider atmosphere as absolute vortex

Show that in still water wave isotherms not indep. of height.

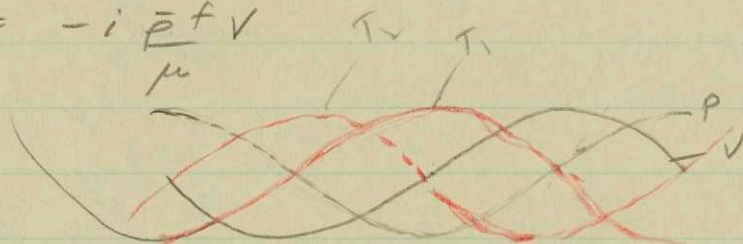
Field of motion
 $i\mu P = \bar{p}fV$

$$ie^{i\mu x} = e^{i(\mu x + \frac{\pi}{2})}$$



i means lag of 90°
 $-i$ means gain of 90°
 $-$ means lag or gain of 180°

$$P = -i \frac{\bar{p}fV}{\mu}$$



$$p = - \frac{P_z}{g} = \left(\frac{\bar{p}_z f V}{\mu g} + \frac{\bar{p} f V_z}{\mu g} \right) i$$

$$= -A\ddot{V} + iB\dot{V}$$

$$\frac{V_z}{g} = - \left(\bar{a} - \frac{1}{2H} \right) \ddot{V} + \frac{2\bar{a}\eta'(s_0)}{g} \dot{V}$$

$$= - \left(\bar{a} - \frac{1}{2H} \right) \ddot{V} + \left[2\bar{a} \frac{\eta'(s_0)}{g} + 2\bar{a} \frac{\eta'(s_0)}{g} \right] \dot{V}$$

$$= - \left(\bar{a} - \frac{1}{2H} \right) \ddot{V} + 2\bar{a} \frac{\eta'(s_0)}{g} \dot{V}$$

$\frac{P_z}{g}$
 $i \ddot{V}$

$$\frac{V_z}{V} = 2\bar{a} \left[\left(\frac{\eta'}{\eta} (\xi_{10}) - \frac{1}{2} + \frac{1}{2\bar{a}H} \right) + i \xi_i \frac{\eta'}{\eta} (\xi_{10}) \right]$$

in numerator x is pos. at ground, but decreases rapidly until it becomes neg.

$$\rho = -\frac{P_z}{g} = \frac{f\bar{P}V}{\mu g} \left(\Delta V + \frac{V_z}{V} \right) i$$

$$\Delta V \approx \frac{1}{H}$$

$$\rho = \frac{2\bar{a}f\bar{P}V}{\mu g} \left[\frac{\eta'}{\eta} - \frac{1}{2} - \frac{1}{2\bar{a}H} + i \xi_i \frac{\eta'}{\eta} (\xi_{10}) \right]$$

Level of mean discharge

$$\frac{\bar{u}f}{g\mu} \left(\frac{\bar{u}_z}{\bar{u}} + \frac{V_z}{V} \right) = \frac{(\bar{u}-c-u_c)}{\bar{u}}$$

$$\bar{u}-c-u_c = \frac{\bar{u}f^2}{g\mu} \left[\frac{\bar{u}_z}{\bar{u}} + 2\bar{a} \left(\frac{\eta'}{\eta} - \frac{1}{2} - \frac{1}{2\bar{a}H} \right) \right]$$

$$\bar{a} = a_1 + \frac{1}{4H}$$

$$a_2$$

Outline of last section.

I The stability criteria

- A. Soln. of secular equation for atmosphere with stratosphere
- B. Derivation of " " " " without "
 1. Stability criteria with this case.
 2. Comparison with general case.
- C. Qualitative description of the effects of A, U_0, L, f, δ .

II The stable baroclinic wave.

- A. eqn $\frac{u-c}{L} > 0$ discussion.
- A' $\bar{u}-c$ as function of f and L .
- B. velocity pattern.
- C. pressure "
- D. density pattern.
- B' Vert. vel. "
 1. Comparison with B & H results.
- E. divergence pattern
 1. $\bar{u}-c-u_c =$
 2. Level of non-divergence.

III The unstable baroclinic wave.

- A. Method of small C_i , Eissner
- B. Felt of streamline trough.
- C. pressure pattern.
- D. Temperature "
- E. Vert. vel. pattern.

General Outline

- I Introduction
- II Fundamental Equations
- III Steady state conditions.
- IV The perturbation equations
- V Reduction of the perturbation equations.
A. In particular. B. In particular. C. Equations.
- VI Formulation of problem.
A. Def Form of soln.
B. Definition of stability.
C. Theorem on form of soln.
- VII Reduction of the perturbation equations.
Boundary conditions.
- VIII Navier-Stokes Wave.
- IX The geostrophic approximation. Navier-Stokes Wave.
A. Models $a, b,$
B. The geostrophic approximation.
C. The geostrophic approximation.
D. Generalization of R-H form \rightarrow part in next section
E. Soln. of eqn.
F. Boundary cond.
Secular aspects.





San Francisco State University

1600 HOLLOWAY AVENUE • SAN FRANCISCO, CALIFORNIA 94132

Department of Biology

Dear Dr. Karney,

I thought you might be interested in this roster of
the 1942 meteorology class at UCLA.

Sincerely,

Arthur Nelson

Class I

Jim Edinger

Sgt Fran

Class II

Bob Arthur

Norm Dalbey

Frank Johnson

Gordon Shields - Dana Point

S. J. Capistrano

12

Sheldon Levi

Dalbey

5 4315

6291-D BH

45-4-0435

May 18, 1978

Here, at long last, is the promised roster of the 1942 meteorology class at UCLA! More about the roster at the end of this letter but first, a little background information for those of you who did not know about the reunions that have been held.

Our first commemorated the 20th anniversary of our graduation. It was held 10 November 1962 at the Biltmore Hotel in downtown Los Angeles. Bob Allan was the committee chairman, assisted by the Erxlebens, Hedricks, Johnstons, Mapes and Tavellis. Professors Kaplan, Bjercknes, Holmboe, and Neiburger were our honored guests. Including the guests and the organizing committee, we had a total of 44 persons in attendance. Some of the group prolonged the party into the wee small hours at the Hedrick's new home in Pasadena and a few survivors of that long, wet evening even made it to the UCLA-Air Force Academy football game the next day. Anybody remember the score?

We have to credit Aleene Zacher Hedrick for lighting the spark that set our second reunion plans in motion. Using fifteen-year-old lists of class members who were locatable in 1962 as a starting point, we were eventually able to contact 44 of our 112 Air Force, CAA, Navy, Weather Bureau, and private student classmates. Twenty, in most cases accompanied by spouses, were able to attend the celebration of our 35th anniversary.

Friday, October 21, 1977 was the big night and the home of John and Aleene Hedrick was the place. Our guests for the affair were Professors Holmboe, Neiburger, and Edinger, contacted at UCLA through the good offices of Ted Doty. We are sure there were many silent toasts to the memory of J. Bjercknes who passed away a year or so ago, and to Joe Kaplan who was reported to be in ill health at the time.

Festivities were resumed the following afternoon at the Frank and Betty Swift's home in Glendale. Many of the class had made other social commitments for Saturday; so we didn't have as large a turn-out. Never-the-less, it was also a smashing success.

As might be expected, California residents were most heavily represented at the reunion but we did have some notable exceptions. Ed Everts made it all the way from Charlotte, Vermont, the Walt Mitchells from Bloomington, Minnesota, the Al Tavellis from Dallas, the Phil Williams' from Salt Lake City, and the John Fairs from Eugene, Oregon.

The organizing committee (Hedricks, Erxlebens, Swifts, and Johnstons) felt pretty good about locating nearly half of the original group through numerous enquiries, announcements in the press and the "trade papers", etc. Our diligence, however, was hardly comparable to the effort recently put forth by Art Nelson. Since the reunion, his untiring phoning and letter writing have turned up the whereabouts of all but one of the lost sheep! A truly momentous achievement.

Now that the lines of communication are open, so to speak, it may not be too early to start thinking of our next reunion. We don't have to wait for another year-anniversary divisible by 5 or 10, nor do we have to hold it within shouting distance of UCLA. The class as a whole would welcome an initiative by the Bay Area-Central California contingent or by any classmate, anywhere, who gets the "call".

Bob Johnston

(For further information concerning the roster, please see the last page of the roster.)

Roster of the November 1942 Meteorology Class at UCLA

Air Force Officers

Hawkins, Kenneth C. deceased?
Jameson, Dorance C. 711 Wimbleton Lane, Livermore CA 94550

Air Force Cadets

Allan, Robert M. 2980 Cormorant Rd., Pebble Beach CA 93953
Ament, Richard P. 2437 Trenton Ct., Ann Arbor, Michigan 48105
Ball, Francis X. deceased
Barker, Lawrence 1145 Barrolihet Ave, Hillsborough CA 94010
Beckwith, Stephen L. 1901 NW 12th Rd., Gainesville, Florida 32601
Bishop, Floyd E. deceased
Blair, Neil M. 710 Flagstaff, Apt. 203, Richmond, Virginia 23228
Blunk, Paul M. deceased
Bonnot, Carlos D. 2233 Nw 8th Ave, Gainesville, Florida 32603
Bordon, Martin deceased
Bragg, Jefferson Davis 101 East Ave B, Killeen, Texas 76541
Bundgaard, Robert C. 1405 Eagle View Dr., Colorado Springs, Colo. 80909
Burson, Ralph 2764 Spruce St., Union, New Jersey 07083
Carter, Eugene A. 3127 McDow Ave., Huntsville, Alabama 35805
Clark, Joseph J. 6913 Andover Dr., Alexandria, Virginia 22307
Coony, John J. P.O.Box 351 Pittsburg, CA 94565
Cope, Stephen J. 1303 Yacht Basin Dr., Colonial Heights, Virginia 23834
Corbin, Austin 5126 Meadowcrest Dr., Dallas, Texas 75229
Crook, Walter B. 840 North Oak Ave., Ruleville, Mississippi 38771
Davis, Donald C. 1502 Jersey Ridge Rd., Davenport, Iowa 52803
Dee, John B. 112 Manhattan Dr., Boulder, Colorado 80302
Dereskevich (Dere), Albert S. deceased?
Doty, Edward A. 4143 W. 173d Pl., Torrance CA 90504
Duncan, George H. 241 Valley View Dr., Paradise CA 95969
Erxleben, Lloyd W. 1565 E. Mendocino St., Altadena CA 91001
Everts, Edward A. R.D.1, Roscoe Rd., Charlotte, Vermont 05445
Exner, Lawrence J. 415 Wyndon Road, Ambler, Penn. 19002
Fenton, John W. 1258 Aalapapa Drive, Kailua, Hawaii 96734
Fickenscher, Edgar H. 28019 Deep Creek Dr., Saugus CA 91351
Finley, William L. 811 Wavecrest Lane, Houston, Texas 77062
Forsythe, George E. deceased
Foster, John A. 7524 Gates Dr., Sebastopol CA 95472
Godfrey, Stephen M. 6305 East 110 Terrace, Kansas City, Missouri 64134
Gray, Benjamin G. Fullerton College, 321 E. Chapman, Fullerton CA 92634
Greeson, Leonard E. 342 Celeste Ave., River Ridge, Louisiana 70123
Griffing, George W. 1709 SuJohn Rd., Raleigh, North Carolina 27607
Gysbers, Jack C. 5051 Arundel Dr., Woodland Hills CA 91364
Harshman, John B. 1525 Devon St., Ypsilanti, Michigan 48197
Hartz, Wilford L. Rt.1, Box 1312, Morenci, Arizona 85540
Hedrick, John H. 3345 Villa Mesa Rd., Pasadena CA 91107
Henley, Victor R. 1812 Richmand St., Sacramento CA 95825
Hintz, Philip C. 21 Carlin St., Norwalk, Connecticut 06851
Horak, Henry G. 122 Azure Dr., Los Alamos, New Mexico 87544
Hunn, Herbert J. Rt.1 Box 423, Clarksburg CA 95612
Johnston, Robert D. 1193 N.Palm Ave., Upland CA 91786
Jones, Earl L. 7601 Richmand Dr., Omaha, Nebraska 68134
Keyfauver, Donald S. 3139 Mt. Carol Drive, San Diego CA 92111
Kibbee, Joel 408 E. Rustic Road, Santa Monica CA 90402

Landgren, George L. 810 Ingleside Place, Evanston, Illinois 60201
 Lumpkin, Henry E. 4904 St. Andrew, Baytown, Texas 77521
 Luxenberg, Harold 20 Sunland Dr., Chico CA 95926
 Mapes, George S. 3180 Lombardy Rd., Pasadena CA 91107
 Matson, William W. 6641 SE Pine, Portland, Oregon 97215
 McHorse, Stephan A. 2301 Coggin Ave., Brownwood, Texas 76801
 Miller, Charles S. 3924 Nottaway Rd., Durham, North Carolina 27707
 Mitchell, Walter R. 10487 DuPont Rd., Bloomington, Minn. 55431
 Mordy, Wendell A. 111 East Kellogg Blvd., Apt.2308, St. Paul, Minn. 55101
 Morgan, Charles T. 3636 Ocean View, Los Angeles CA 90066
 Neill, James C. 1303 Winding Lane, Champaign, Illinois 61820
 Nelson, Arthur H. 1549 Alturas Dr., Burlingame CA 94010
 Nichols, Kenneth P. 5642 N. Flora, Fresno CA 93705
 Norris, William G. 2632 Keogh Rd., Visalia CA 93277
 Oliver, Robert K. 60 Field Circle, Chambersburg, Pennsylvania 17201
 Phillips, Silas B. 4711 N. Lindhurst, Dallas, Texas 75229
 Piacentini, Benjamin 2535 Warren Ave., Fresno CA 93705
 Poage, William C. 9052 Christine Drive, Huntington Beach CA 92647
 Poer, Ben P. 2255 Pamela Drive, Indianapolis, Indiana 46220
 Pribble, Lynn H. 259 N. 61st Way, Mesa, Arizona 85205
 Rippe, Dayle D. deceased
 Rosenburg, Robert F. 4545 Wornall Rd., Kansas City, Missouri 64111
 Russell, John W. deceased
 Setterberg, James M. 2822 N.E. 34th Ave., Portland, Oregon 97212
 Sloan, Young T. 3602 77th St., Lubbock, Texas 79423
 Smythe, William M. 3312½ Descanso Drive, Los Angeles CA 90026
 Stallard, Thomas B. 325 E. Rosewood Ct., Ontario CA 91764
 Swift, Frank C. 915 Kenneth Rd., Glendale CA 91202
 Sykes, John P. 8324 Skyline Dr., Los Angeles CA 90046
 Tavelli, Joseph A. 7120 Spring Valley Rd., Dallas, Texas 75240
 Timm, Loel C. 422 56th St., Des Moines, Iowa 50312
 Vaughn, Joseph J. 5371 Fox Hills Dr., Buena Park CA 90621
 Waddell, Mathews C. 104 Fleetwood Terrace, Silver Spring, Maryland 20910
 Wheless, Chester L. 4934 Greenbriar Drive, Corpus Christi, Texas 78413
 Wheless, Nicholas H. 4058 Richmond, Shreveport, Louisiana 71106
 Wilson, Fuller Hugh 1675 Royal Blvd., Glendale, CA 91207
 Winger, Carsten M. deceased
 Worthman, Paul E. 3737 N. Vermont St., Arlington, Virginia 22207
 Zenor, John deceased

Navy

Ablow, Clarence M. 193 Portola Rd., Portola Valley CA 94025
 Hagins, Thomas C. 474 Connecticut, San Francisco CA 94107
 Rutowski, Richard W. 8116 Cabernet Court, San Jose CA 95135
 White, Robert L.
 Williams, Robert M. 750 Enchanted Way, Pacific Palisades CA 90272

C.A.A.

Alleman, Victor C. 2401 N. Rosewood, Santa Ana CA 92706
 Fair, John D. 5335 Saratoga St., Eugene, Oregon 97405
 Gilbert, Leon M. 67 Clifford Terrace, San Francisco CA 94117
 McKown, Robert E. 7529 Tudor Road, Colorado Springs, Colorado 80919
 Stocks, Donald B. deceased

Weather Bureau

Schmalz, William M. Rt. 1 Box 163 Warden, Washington 98857
 Williams, Philip 2941 Filmore St., Salt Lake City, Utah 84106

Private Students

Alzofon, Frederick P.O.Box 2991 Seal Beach CA 90740
 Bell, Gordon B. 145 Magnolia Ave., Millbrae CA 94030
 Cohen, Samuel T. 13241 Riviera Ranch Rd., Los Angeles CA 90049
 Culbertson, Margaret 4728 Natalie Dr., San Diego CA 92115
 Davila Cuevas, Rafael Av. Javier Prado 179, Lima 17, Peru
 Forrest, Jack P. 4300 Lynhurst Circle, Santa Maria CA 93454
 Levin, Sheldon M. 750 El Camino del Mar, San Francisco CA 94121
 Mowry, E. Christopher P.O.Box 500, Valley Center CA 92082
 Smith, J. William 1104 Shalimar Drive, Tallahassee, Florida 32312
 Wilkins Alleman, Josephine 2401 N. Rosewood, Santa Ana CA 92706
 Zagorin, Harold 390 Central Ave., Apt.2, Lewiston, Maine 04240

Professors

Bjerknes, Jakob deceased
 Holmboe, Jorgen 449 Levering Ave., Los Angeles CA 90024
 Kaplan, Joseph 1565 Kelton Ave., Los Angeles CA 90024
 Neiburger, Morris 1220 N. Kester Ave., Los Angeles CA 90049

Instructors

Charney, Jule Professor of meteorology, Massachusetts Institute of
 Technology
 Dalkey, Norman Rand Corp., Santa Monica CA
 Edinger, James 1433 Tigertail Road, Los Angeles CA 90049
 Gustafson, Arthur 1093 Eastwood Ct., Los Altos CA 94022
 Gustin, William Dept. of Math., Indiana Univ., Bloomington, Ind. 47401
 Kellogg, William National Center of Atmospheric Resources, Boulder, CO 80302
 Shields, Gordon 805 Presidio, San Clemente CA 92672
 Shniad, Harold current address unknown
 Street, Kenneth current address unknown
 Zacher Hedrick, Aleene 3345 Villa Mesa Rd., Pasadena CA 91107

We have not been able to locate Robert L. White. We sent letters through the UCLA Alumni Association and the Naval Reserves. In neither case did we get a reply or our letters returned; so we are not sure that the letters were forwarded to him. If you have any clues to his whereabouts, please give us a shout. Also, we would appreciate information about instructors Harold Shniad and Kenneth Street.

In the roster three of the deceased persons have a question mark after their names because there is a possibility that our information is incorrect.

If there are any corrections or address changes (now or in the future), please send them to Art Nelson.

- (3) The unstable waves are similar in all important respects to the nascent cyclones. In particular, the thermal asymmetry characteristic of unstable waves is shown to exist, together with the resulting westward tilt of the wave pattern with height. The velocity of propagation of the wave is generally towards the east and is approximately equal to the speed of the surfaces zonal current.
- (4) The neutral wave is thermally symmetric and has no tilt with height. Its velocity of propagation increases with shear and decreases with wave length. In the special case of no shear the formula for the velocity specializes to the already known formula of Rossby.
- (5) In both the neutral wave and the unstable wave, the amplitude decreases to zero with increasing height.

While the results are derived for wave motion in the extra-tropical westerlies, it is shown how they may be applied to an explanation of cyclogenesis in the tropical easterlies.



V I T A

- 1917—Born in San Francisco, California
 1938—A.B. in Mathematics and Physics, University of California, Los Angeles
 1938-1940—Teaching Assistant in Mathematics, University of California, Los Angeles
 1940—University Fellow in Mathematics, University of California, Los Angeles
 1941—M.A. in Mathematics, University of California, Los Angeles
 1941-1942—Teaching Assistant in Physics-Meteorology, University of California, Los Angeles
 1942-1943—Instructor in Meteorology, University of California, Los Angeles
 1943-1946—Lecturer in Meteorology, University of California, Los Angeles
 1946—Appointed National Research Fellow in Meteorology

UNIVERSITY OF CALIFORNIA
 GRADUATE DIVISION, SOUTHERN SECTION

ANNOUNCEMENT OF THE FINAL EXAMINATION FOR
 THE DEGREE OF DOCTOR OF PHILOSOPHY

of

JULE GREGORY CHARNEY

A.B., 1938; M.A., 1940, University of California, Los Angeles

THURSDAY, MAY 16, 1946 AT 1:00 P.M. IN ROOM 300

LIBRARY BUILDING, LOS ANGELES CAMPUS

COMMITTEE IN CHARGE:

PROFESSOR JORGEN HOLMBOE, *Chairman*
 PROFESSOR JACOB BJERKNES
 PROFESSOR HARALD U. SVERDRUP
 PROFESSOR MORRIS NEIBURGER
 PROFESSOR JOSEPH W. ELLIS
 PROFESSOR GEORGE E. F. SHERWOOD

Mr. J. Holmboe
 Physics
 Campus

FIELDS OF STUDY

Major Field: Dynamic Meteorology

Dynamic Meteorology

PROFESSOR JORGEN HOLMBOE

Synoptic Meteorology

PROFESSOR JACOB BJERKNES

PROFESSOR MORRIS NEIBURGER

DR. ROBERT D. FLETCHER

Oceanography

PROFESSOR HARALD U. SVERDRUP

Physics of the Atmosphere

PROFESSOR JOSEPH KAPLAN

ABSTRACT OF THE DISSERTATION

The Dynamics of Long Waves in a Baroclinic Westerly Current

The large scale weather phenomena in the extra-tropical zones of the earth are associated with great migratory vortices (cyclones) traveling in the belt of prevailing westerly winds. The theory now generally accepted by theoretical meteorologists is that the vortices originate as wave-like perturbations in the westerly flow. The prediction of the formation and development of these perturbations is the fundamental problem of weather forecasting. A corresponding fundamental problem of theoretical meteorology is the construction of a mathematical theory of the atmospheric perturbations.

The existing solutions to this problem are based on mathematical models which fail to take into account the continuous vertical shear in the westerly current, and are consequently incapable of explaining many of the characteristics of the observed wave patterns. The present treatment supplies this missing element and thereby leads to a solution more nearly in accord with the actual behavior of the atmosphere.

The problem is solved in the following manner: The hydrodynamical and thermodynamical equations governing motion in a rotating atmosphere are linearized by the method of small perturbations. A wave solution, involving an unknown amplitude and an unknown wave velocity is assumed to hold. A method is then devised for eliminating from consideration the meteorologically insignificant pure elastic and pure gravitational waves. This procedure permits the reduction of the perturbation equations to a single linear second order differential equation of the confluent hypergeometric type. The boundary conditions are fulfilled when the wave velocity satisfies an equation involving the physical parameters characterizing the steady state flow. Real values of the velocity correspond to neutral waves and complex values to unstable waves.

The solutions are obtained by contour integration and are evaluated by means of infinite series and asymptotic expansions. The following results are derived:

- (1) The westerlies in middle latitudes are dynamically unstable.
- (2) The instability of the wave increases with shear and decreases with wave length.

Meteorology Students
1941

Army Officers.

1. Chavasse, Nicholas, 2nd Lt.
2. McCartan, Arthur A., 2nd Lt.
3. Marling, William E., 2nd Lt.
4. Mauldin, Whiteford C., Capt.
5. Shawn, Franklin C., 2nd Lt.

Army Air Corps Cadets

1. Gardner, J. M.
2. Goldsmith, L. J.
3. Girardo, R. D.
4. Hill, George H.
5. Hughes, G. D.
6. Hudson, George R.
7. Johnson, Francis S.
8. Jones, John J.
9. Kellogg, W. W.
10. Kirk, R. W.
11. Moore, R. L.
12. Newren, A. L.
13. Redding, V. I.
14. Shields, Gordon
15. Shniad, Harold
16. Warner, C. R.

C. A. A. Students

1. Allen, W. E.
2. Carter, Robert
3. Carsten, Marion R.
4. Conner, Clyde
5. Dorney, Margaret
6. Gross, Bernard
7. Kinzebach, Robert
8. Lauppe, Robert C. *Didn't come*
9. Lorgan, Robert Horton " "
10. Nealy, Darwin " "
11. Rathvon, Peter
12. Scarbrough, John
13. Scofield, James
14. Zimmerman, George

Private Students

1. Arthur, Robert S.
2. Balkey, Norman C.
3. ~~Conner, Charles H.~~
4. Gustin, William S.
5. ~~Haleson, George~~
6. Russell, Floyd H. *Didn't come*
7. Sherman, Leon
8. Mark, David

Weather Bureau

1. Brown, Jean A.
2. Williams, M. R.

Teaching Assistants

1. Charney, Jules
2. Panofsky, Hans

- Kalstrom, George W.
- Rice, Kenneth A.
- Templeton, George S.
- Lewis
- Conner, Charles H.
- Zacher, Albene
- Meeker, Ralph

Class 3

Meteorology Students

(University of California at Los Angeles)

1. Allan, R. M. Jr.	26. Exner, Lawrence J.	Landgren, George L.	Stallard, Thomas B.
2. Ament, Richard P.	27. Fenton, John W.	Lumpkin, Henry E.	Swift, Frank
3. Ball, Francis P.	28. Finley, William L.	Luxenburg, Harold	Sykes, John P.
4. Barker, Lawrence	29. Fichenscher, E. H.	Mapes, George S.	Tavelli, Joseph A.
5. Beckwith, Stephen L.	30. Forsythe, George E.	Matson, William W.	Timm, Loel C.
6. Bishop, Floyd E.	31. Foster, John A.	McHorse, Stephen A.	Vaughn, Joseph J.
7. Blair, Neil	32. Godfrey, Stephen M.	Miller, C. S.	Waddell, Mathews C.
8. Blunk, Paul M.	33. Gray, Benjamin G.	Mitchell, Walter R.	Wheless, Chester L.
9. Bonnot, Carlos D.	34. Gresson, L. E.	Mordy, Wendell A.	Wheless, W. H., Jr.,
10. Bragg, Jefferson D.	35. Griffing, S. W.	Morgan, Charles T.	Wilson, Fuller H.
11. Bundgaard, Robert C.	36. Gysbers, Jack C.	Neill, James Clemens	Winger, Carsten M.
12. Burson, Ralph	37. Harshman, John B.	Nelson, A. H.	Worthman, Paul
13. Carter, Eugene A.	38. Hartz, Wilford L.	Nichols, Kenneth P.	Zenor, John W.
14. Clark, Joseph John	39. Hawkins, Kenneth C.	Norris, William G.	Bordon, Martin
15. Crook, Walter P. Jr.	40. Hedrick, John H.	Oliver, Robert K.	<i>Ginsberg, Joel</i>
16. Conny, John J.	41. Henley, Victor R.	Phillips, S. E. Jr.,	
17. Cope, Stephen J.	42. Hetherington, George J.	Piacentini, Ben	
18. Corbin, Austin Jr.	43. Hintz, Philip C.	Poage, Wm. C. Jr.,	
19. Davis, Donald C.	44. Horak, Henry O.	Foer, Ben P.	
20. Dee, John B.	45. Hunn, Herbert J. 1st.	Pribble, Lynn H.	
21. Dereskevich, Algert	46. Jameson, Dorance C.	Rippe, Dayle D.	
22. Doty, Edward A.	47. Johnston, Robert D.	Rosenburg, Robt. F.	
23. Duncan, George H.	48. Jones, Carl D.	Russell, John W.	
24. Erxleben, Lloyd W.	49. Keyfauber, Donald F.	Setterberg, James M.	
25. Evans, Edward A.			

CLASS ONE
Required Courses Only
Regular Session 1940-1941

COURSE NAME	Dynamics	Dynamics	Synoptics	Synoptics	Upper Atmos.	Lab.	Lab.
SEMESTER	1	2	1	2	1	1	2

ARMY CADETS

Clark, Roderick D.
Dole, Charles H.
Edinger, James G.
Fawcett, Donald W.
Gustafson, Arthur F.
Slack, Joseph J.
Street, Kenneth E.
Wilking, Jan. V.T.

PRIVATE STUDENTS

~~Ashburn, Edward V.~~
Corwin, Harold G.
Darling, Donald
Frank, Sidney R.
Kalstrom, George W.
Kleinbach, Hugo
Lewis, William (Weather Bureau)
Lotzkar, Harry
Moore, John G. (Weather Bureau)
Paull, James (formerly Goldberg)
Sanders, John R.
Witzig, Robert
Woffinden, Charles M. (Weather Bureau)
Wylie, Willard G. (Weather Bureau)

COURSE NAME

SEMESTER

C.A.A.

Cox, Melvin E.
Dixon, Jean Walter
Douglas, William J., Jr.
Hadfield, Rex G.
House, Donald C.
Jack, Max C.
Lindley, William B.
McQuarrie, John G.
Mallory, Lester P.
Menchuk, Walter M.
Mull, Macie, W.
Skarie, Allan M.
Stettler, Elmer, E.

COURSE NAME	Dynamics	Dynamics	Synoptics	Synoptics	Upper Atmos.
SEMESTER	1	2	1	2	1
Cox, Melvin E.	C	C	C	C	C
Dixon, Jean Walter	C	B	C	C	C
Douglas, William J., Jr.	C	D	C	C	C
Hadfield, Rex G.	B	C	C	C	B
House, Donald C.	C	C	C	C	C
Jack, Max C.	D	D	D	C	C
Lindley, William B.	C	F	C	C	C
McQuarrie, John G.	A	A	C	B	C
Mallory, Lester P.	C	C	C	C	C
Menchuk, Walter M.	C	D	C	C	C
Mull, Macie, W.	C	C	C	C	B
Skarie, Allan M.	D	D	C	C	C
Stettler, Elmer, E.	C	C	C	B	C

	Entered	Gains	Losses	Incomplete	Graduated
Cadets	8			1	7
Cor	13				13
W.B.	4	1		1	2
Private	9	8			1
	<u>34</u>	<u>9</u>		<u>2</u>	<u>23</u>