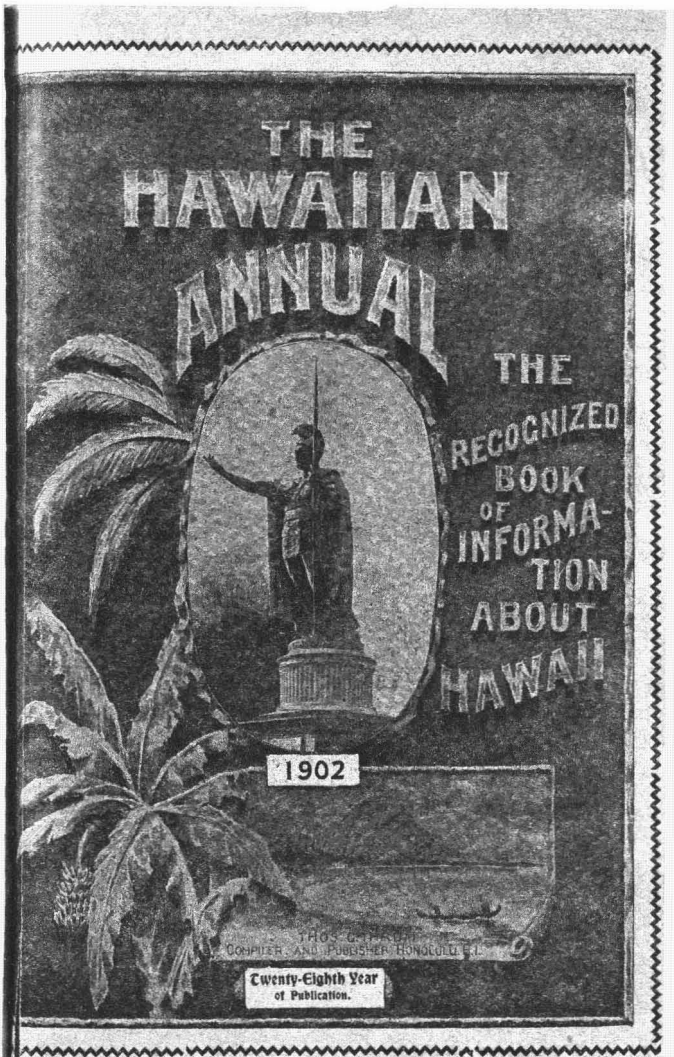
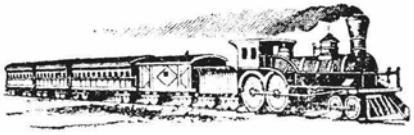

THE
HAWAIIAN
ANNUAL
THE
RECOGNIZED
BOOK
OF
INFORMA-
TION
ABOUT
HAWAII
1902
THOS. G. THRUM,
COMPILER AND PUBLISHER, HONOLULU, H.I.
Twenty-Eighth Year
of Publication.

OAHU
RAILWAY AND LAND CO.



THIS COMPANY is now running to KAHUKU, 71 miles from Honolulu. The equipment of the road is first-class in every particular. EXCURSION RATES are maintained from Saturday morning till Monday of each week. A delightful ride through varied and unsurpassed Scenery make excursions on the OAHU RAILWAY one of the most attractive features of the Islands, not only to the Tourists, but residents of Honolulu as well. The opportunity to visit a large Sugar Estate should not be missed by those visiting these Islands, and among others on the line of the Railway is the Ewa Plantation, the largest in the islands, its crop yielding 32,840 tons of sugar in 1901.

PEARL CITY

Located at the famous PEARL HARBOR, the proposed coaling and naval station of the United States, has been laid out in streets and provided with an excellent system of water works. Over $100,000 in lots have been sold to 140 different purchasers, and a number of residences already erected; a few very desirable lots may yet be had on VERY EASY TERMS.

HALEIWA HOTEL

At WAIALUA is a beautiful new Hotel, of the most modern construction and equipment, in which guests will find all possible comfort and entertainment, combined with elegance of furnishing, tropical surroundings and healthful atmosphere. The view from the Hotel embraces Sea, Mountain and Valley in a combination not to be enjoyed elsewhere.

B. F. DILLINGHAM, General Manager.

G. P. DENNISON, Superintendent.

F. C. SMITH, Gen'l Passenger and Ticket Agt.

HAWAIIAN

Almanac and Annual

FOR

1902

THE REFERENCE BOOK OF INFORMATION AND STATISTICS

RELATING TO THE HAWAIIAN ISLANDS, OF VALUE TO MERCHANTS, TOURISTS AND OTHERS.

THOS. G. THRUM,
Compiler and Publisher.

Twenty-Eighth Year of Publication

HONOLULU:
1901.

...1902...

Counting House Calendar.

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	..	..	..	1	2	3	4
JAN.	5	6	7	8	9	10	11
	12	13	14	15	16	17	18
	19	20	21	22	23	24	25
	26	27	28	29	30	31	..
	..	..	..	..	..	..	1
	2	3	4	5	6	7	8
FEB.	9	10	11	12	13	14	15
	16	17	18	19	20	21	22
	23	24	25	26	27	28	..
	..	..	..	..	..	..	1
	2	3	4	5	6	7	8
MAR.	9	10	11	12	13	14	15
	16	17	18	19	20	21	22
	23	24	25	26	27	28	29
	30	31	..	..	..	..	..
	..	..	1	2	3	4	5
APRIL	6	7	8	9	10	11	12
	13	14	15	16	17	18	19
	20	21	22	23	24	25	26
	27	28	29	30	..	..	..
	..	..	..	..	1	2	3
MAY	4	5	6	7	8	9	10
	11	12	13	14	15	16	17
	18	19	20	21	22	23	24
	25	26	27	28	29	30	31
	..	..	..	..	..	..	..
JUNE	1	2	3	4	5	6	7
	8	9	10	11	12	13	14
	15	16	17	18	19	20	21
	22	23	24	25	26	27	28
	29	30	..	..	..	..	..

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	..	..	1	2	3	4	5
JULY	6	7	8	9	10	11	12
	13	14	15	16	17	18	19
	20	21	22	23	24	25	26
	27	28	29	30	31	..	..
	..	..	..	..	..	1	2
AUG.	3	4	5	6	7	8	9
	10	11	12	13	14	15	16
	17	18	19	20	21	22	23
	24	25	26	27	28	29	30
	31	..	..	..	..	..	..
	..	1	2	3	4	5	6
SEPT.	7	8	9	10	11	12	13
	14	15	16	17	18	19	20
	21	22	23	24	25	26	27
	28	29	30	..	..	..	..
	..	..	..	1	2	3	4
OCT.	5	6	7	8	9	10	11
	12	13	14	15	16	17	18
	19	20	21	22	23	24	25
	26	27	28	29	30	31	..
	..	..	..	..	..	..	1
NOV.	2	3	4	5	6	7	8
	9	10	11	12	13	14	15
	16	17	18	19	20	21	22
	23	24	25	26	27	28	29
	30	..	..	..	..	..	..
DEC.	..	1	2	3	4	5	6
	7	8	9	10	11	12	13
	14	15	16	17	18	19	20
	21	22	23	24	25	26	27
	28	29	30	31	..	..	..

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HAWAIIAN ANNUAL CALENDAR FOR 1902.

Second half of the fourth year and first half of the fifth year since annexation of Hawaii with the United States.

Ninth year since the downfall of the Hawaiian Monarchy.

The 124th year since the discovery of the Hawaiian Islands by Captain Cook.

HOLIDAYS OBSERVED AT THE HAWAIIAN ISLANDS.

*New Year	Jan. 1	American Anniversary	July 4
Chinese New Year	Feb. 7	Flag Raising Anniversary	Aug. 12
Washington's Birthday	Feb. 22	Labor Day	Sept. 1
Kamehameha III. Birthday	Mar 17	*Regatta Day (Third Saturday)	Sept. 20
Good Friday	Mar. 28	*Recognition of Hawaiian Independence	Nov. 28
Decoration Day	May 30	Thanksgiving Day	Nov. 27
*Kamehameha Day	June 11	*Christmas	Dec. 25
*Birthday Hawaiian Republic	July 4		

Those distinguished by an Asterisk have been established as National holidays.

CHRONOLOGICAL CYCLES.

Dominical Letter	E	Solar Cycle	7
Epact	21	Roman Indiction	15
Golden Number	3	Julian Period	6615

CHURCH DAYS.

Epiphany	Jan. 6	Ascension Day	May 8
Ash Wednesday	Feb. 12	Whit Sunday	May 18
First Sunday in Lent	Feb. 16	Trinity Sunday	May 25
Palm Sunday	March 23	Corpus Christi	May 29
Good Friday	March 28	Advent Sunday	Nov. 30
Easter Sunday	March 30	Christmas	Dec. 25

ECLIPSES IN 1902.

In the year 1902 there will be three eclipses of the sun and two of the moon.

I.—April 8th.—Partial eclipse of the sun, not visible at these Islands.

II.—Total eclipse of the moon April 22nd, invisible here.

III.—Partial eclipse of the sun, May 7th, visible in New Zealand and portions of the South Pacific.

IV.—Total eclipse of the moon, Oct. 16th, visible at these islands, beginning at 4:47.1 p. m., Honolulu time, rising eclipsed and ending at 10:20 p. m.

V.—Partial eclipse of the sun, Oct. 30th, not visible in the Pacific.

FIRST QUARTER, 1902.

JANUARY.

D.		H.M.	
1	Last Quarter.	5.37	8 A.M.
9	New Moon.	10.44	6 A.M.
16	First Quarter.	8.08	4 P.M.
23	Full Moon.	1.36	2 P.M.
31	Last Quarter.	2.38	6 A.M.

Day of Mon.	Day of Wk.	Sun Rises. H.	M.	Sun Sets. H.	M.
1	Wed	6	37	5	29
2	Thurs	6	38	5	30
3	Fri	6	38	5	30
4	Sat	6	38	5	31
5	SUN	6	38	5	32
6	Mon	6	39	5	32
7	Tues	6	39	5	33
8	Wed	6	39	5	34
9	Thurs	6	39	5	34
10	Fri	6	39	5	35
11	Sat	6	40	5	36
12	SUN	6	40	5	36
13	Mon	6	40	5	37
14	Tues	6	40	5	38
15	Wed	6	40	5	38
16	Thurs	6	40	5	39
17	Fri	6	40	5	40
18	Sat	6	40	5	40
19	SUN	6	40	5	41
20	Mon	6	40	5	42
21	Tues	6	40	5	42
22	Wed	6	40	5	43
23	Thurs	6	39	5	44
24	Fri	6	39	5	44
25	Sat	6	39	5	45
26	SUN	6	39	5	46
27	Mon	6	39	5	46
28	Tues	6	39	5	47
29	Wed	6	38	5	48
30	Thurs	6	38	5	48
31	Fri	6	38	5	49

FEBRUARY.

D.		H.M.	
8	New Moon	2.51	5 A.M.
15	First Quarter	4.26	6 A.M.
22	Full Moon	2.33	4 A.M.

Day of Mon.	Day of Wk.	Sun Rises. H.	M.	Sun Sets. H.	M.
1	Sat	6	37	5	50
2	SUN	6	37	5	50
3	Mon	6	37	5	51
4	Tues	6	36	5	51
5	Wed	6	36	5	52
6	Thurs	6	35	5	53
7	Fri	6	35	5	53
8	Sat	6	34	5	54
9	SUN	6	34	5	54
10	Mon	6	33	5	55
11	Tues	6	33	5	55
12	Wed	6	32	5	56
13	Thurs	6	32	5	56
14	Fri	6	31	5	57
15	Sat	6	31	5	57
16	SUN	6	30	5	58
17	Mon	6	29	5	58
18	Tues	6	29	5	59
19	Wed	6	28	5	59
20	Thurs	6	27	6	00
21	Fri	6	27	6	00
22	Sat	6	26	6	01
23	SUN	6	25	6	01
24	Mon	6	25	6	02
25	Tues	6	24	6	02
26	Wed	6	23	5	03
27	Thurs	6	22	6	03
28	Fri	6	21	6	03

MARCH.

D.		H.M.	
2	Last Quarter.	2.09	4 A.M.
9	New Moon	4.20	2 P.M.
16	First Quarter.	11.42	8 A.M.
23	Full Moon	4.51	3 P.M.
31	Last Quarter.	7.54	0 P.M.

Day of Mon.	Day of Wk.	Sun Rises. H.	M.	Sun Sets. H.	M.
1	Sat	6	21	6	04
2	SUN	6	20	6	04
3	Mon	6	19	6	05
4	Tues	6	18	6	05
5	Wed	6	17	6	05
6	Thurs	6	17	6	06
7	Fri	6	16	6	06
8	Sat	6	15	6	06
9	SUN	6	14	6	07
10	Mon	6	13	6	07
11	Tues	6	12	6	08
12	Wed	6	11	6	08
13	Thurs	6	11	6	08
14	Fri	6	10	6	09
15	Sat	6	09	6	09
16	SUN	6	08	6	09
17	Mon	6	07	6	10
18	Tues	6	06	6	10
19	Wed	6	05	6	10
20	Thurs	6	04	7	10
21	Fri	6	03	8	11
22	Sat	6	02	9	11
23	SUN	6	02	0	11
24	Mon	6	01	1	12
25	Tues	6	00	2	12
26	Wed	5	59	2	12
27	Thurs	5	58	3	13
28	Fri	5	57	4	13
29	Sat	5	56	4	13
30	SUN	5	55	5	14
31	Mon	5	54	6	14

THE once fertile little valley of Waimea, some six miles beyond Waialua on the northern coast of the island of Oahu, suffered irreparable injury from the storms of the fall of 1900. Its coffee, banana, and fine orange trees, as also its famed patches of choicest pink taro, were all practically ruined, especially the taro land, the area under cultivation being covered several feet deep with rocks and boulders brought down by the heavy freshets.

SECOND QUARTER, 1902.

APRIL.

D.		H.M.	
8	New Moon	3.20	1 A.M.
14	First Quarter	6.55	7 P.M.
22	Full Moon	8.19	6 A.M.
30	Last Quarter	0.28	0 P.M.

Day of Mon.	Day of Wk.	Sun Rises... H.	M.	Sun Sets..... H.	M.
1	Tues	5	53	7 6	14 7
2	Wed	5	52	8 6	15 0
3	Thurs	5	51	9 6	15 3
4	Fri	5	51	0 6	15 6
5	Sat	5	50	1 6	15 9
6	SUN	5	49	3 6	16 3
7	Mon	5	48	4 6	16 6
8	Tues	5	47	5 6	16 9
9	Wed	5	46	6 6	17 2
10	Thurs	5	45	7 6	17 5
11	Fri	5	44	8 6	17 8
12	Sat	5	44	0 6	18 1
13	SUN	5	43	2 6	18 4
14	Mon	5	42	4 6	18 7
15	Tues	5	41	5 6	19 0
16	Wed	5	40	7 6	19 4
17	Thurs	5	39	9 6	19 7
18	Fri	5	39	1 6	20 1
19	Sat	5	38	3 6	20 4
20	SUN	5	37	4 6	20 8
21	Mon	5	36	6 6	21 1
22	Tues	5	35	8 6	21 5
23	Wed	5	35	1 6	21 8
24	Thurs	5	34	3 6	22 2
25	Fri	5	33	6 6	22 6
26	Sat	5	32	9 6	22 9
27	SUN	5	32	2 6	23 3
28	Mon	5	31	5 6	23 7
29	Tues	5	30	8 6	24 1
30	Wed	5	30	1 6	24 4

MAY.

D.		H.M.	
7	New Moon	0.15	2 P.M.
13	First Quarter	3.09	7 A.M.
22	Full Moon	6.16	1 A.M.
30	Last Quarter	1.30	4 A.M.

Day of Mon.	Day of Wk.	Sun Rises... H.	M.	Sun Sets..... H.	M.
1	Thurs	5	29	5 6	24 8
2	Fri	5	28	9 6	25 2
3	Sat	5	28	2 6	25 6
4	SUN	5	27	6 6	26 0
5	Mon	5	27	0 6	26 4
6	Tues	5	26	4 6	26 8
7	Wed	5	25	8 6	27 2
8	Thurs	5	25	3 6	27 6
9	Fri	5	24	7 6	28 0
10	Sat	5	24	3 6	28 5
11	SUN	5	23	8 6	28 9
12	Mon	5	23	3 6	29 3
13	Tues	5	22	9 6	29 7
14	Wed	5	22	5 6	30 2
15	Thurs	5	22	0 6	30 6
16	Fri	5	21	6 6	31 0
17	Sat	5	21	2 6	31 4
18	SUN	5	20	9 6	31 9
19	Mon	5	20	5 6	32 3
20	Tues	5	20	2 6	32 7
21	Wed	5	19	9 6	33 1
22	Thurs	5	19	5 6	33 5
23	Fri	5	19	2 6	34 0
24	Sat	5	18	9 6	34 4
25	SUN	5	18	6 6	34 9
26	Mon	5	18	3 6	35 3
27	Tues	5	18	1 6	35 8
28	Wed	5	17	9 6	36 2
29	Thurs	5	17	7 6	36 6
30	Fri	5	17	6 6	37 0
31	Sat	5	17	4 6	37 4

JUNE.

D.		H.M.	
5	New Moon	7.40	9 P.M.
12	First Quarter	1.23	8 P.M.
20	Full Moon	3.46	7 P.M.
28	Last Quarter	11.21	8 A.M

Day of Mon.	Day of Wk.	Sun Rises... H.	M.	Sun Sets..... H.	M.
1	SUN	5	17	3 6	37 8
2	Mon	5	17	2 6	38 2
3	Tues	5	17	1 6	38
4	Wed	5	17	1 6	39 0
5	Thurs	5	17	0 6	39 4
6	Fri	5	17	0 6	39 7
7	Sat	5	17	0 6	40 1
8	SUN	5	17	0 6	40 5
9	Mon	5	17	0 6	40 9
10	Tues	5	17	0 6	41 2
11	Wed	5	17	1 6	41 5
12	Thurs	5	17	1 6	41 9
13	Fri	5	17	2 6	42 2
14	Sat	5	17	3 6	42 5
15	SUN	5	17	4 6	42 8
16	Mon	5	17	6 6	43 1
17	Tues	5	17	7 6	43 4
18	Wed	5	17	9 6	43 6
19	Thurs	5	18	0 6	43 9
20	Fri	5	18	2 6	44 1
21	Sat	5	18	4 6	44 4
22	SUN	5	18	6 6	44 6
23	Mon	5	18	8 6	44 8
24	Tues	5	19	0 6	44 9
25	Wed	5	19	3 6	45 1
26	Thurs	5	19	6 6	45 2
27	Fri	5	19	9 6	44 4
28	Sat	5	20	2 6	44 5
29	SUN	5	20	5 6	44 6
30	Mon	5	20	8 6	44 7

WAIALUA district, Oahu, is said by natives to take its name from a loi (taro patch) situate near the former Halstead residence, and not from its twin streams as is generally supposed; the natural definition of the name being two waters. It was an ancient saying of the people that if one visited and traveled through the district and did not see this identical loi, he had not seen Waialua.

THIRD QUARTER, 1902.

JULY.

D.		H.	M.	
5	New Moon	2.	29	2 A.M
12	First Quarter	2.	16	6 A.M.
20	Full Moon	6.	15	2 A.M
27	Last Quarter	6.	44	6 P.M.

Day of Mon.	Day of Wk.	Sun Rises		Sun Sets	
		H.	M.	H.	M.
1	Tues	5	21	6	44
2	Wed	5	21	6	45
3	Thurs	5	21	6	45
4	Fri	5	22	6	45
5	Sat.	5	22	6	45
6	SUN	5	22	6	45
7	Mon	5	23	6	45
8	Tues	5	23	6	45
9	Wed	5	23	6	45
10	Thurs	5	24	6	45
11	Fri	5	24	6	45
12	Sat	5	24	6	45
13	SUN	5	25	6	45
14	Mon	5	25	6	45
15	Tues	5	26	6	45
16	Wed	5	26	6	44
17	Thurs	5	26	6	44
18	Fri	5	27	6	44
19	Sat	5	27	6	44
20	SUN	5	28	6	43
21	Mon	5	28	5	6 43
22	Tues	5	28	9	6 43
23	Wed	5	29	3	6 42
24	Thurs	5	29	7	6 42
25	Fri	5	30	1	6 42
26	Sat	5	30	5	6 41
27	SUN	5	30	9	6 41
28	Mon	5	31	3	6 40
29	Tues	5	31	7	6 40
30	Wed	5	32	1	6 40
31	Thurs	5	32	5	6 39

AUGUST.

D.		H.	M.	
3	New Moon	9.	47	2 A.M.
10	First Quarter	5.	54	2 P M
18	Full Moon	7	33	3 P.M.
26	Last Quarter	0.	34	5 A.M.

Day of Mon.	Day of Wk.	Sun Rises		Sun Sets	
		H.	M.	H.	M.
1	Fri	5	32	6	39
2	Sat	5	33	6	38
3	SUN	5	33	6	38
4	Mon	5	34	0	6 37
5	Tues	5	34	4	6 36
6	Wed	5	34	8	6 36
7	Thurs	5	35	2	6 35
8	Fri	5	35	5	6 35
9	Sat	5	35	9	6 34
10	SUN	5	36	3	6 33
11	Mon	5	36	6	6 33
12	Tues	5	37	0	6 32
13	Wed	5	37	3	6 31
14	Thurs	5	37	7	6 31
15	Fri	5	38	0	6 30
16	Sat	5	38	3	6 29
17	SUN	5	38	7	6 29
18	Mon	5	39	0	6 28
19	Tues	5	39	3	6 27
20	Wed	5	39	6	6 26
21	Thurs	5	39	9	6 25
22	Fri	5	40	2	6 25
23	Sat	5	40	5	6 24
24	SUN	5	40	8	6 23
25	Mon	5	41	1	6 22
26	Tues	5	41	4	6 21
27	Wed	5	41	7	6 20
28	Thurs	5	42	0	6 20
29	Fri	5	42	3	6 19
30	Sat	5	42	6	6 18
31	SUN	5	42	9	6 17

SEPTEMBER.

D.		H.	M.	
1	New Moon	6.	49	4 P.M.
9	First Quarter	11.	44	9 A.M
17	Full Moon	7.	53	4 P.M.
24	Last Quarter	6.	01	5 A M.

Day of Mon.	Day of Wk.	Sun Rises		Sun Sets	
		H.	M.	H.	M.
1	Mon	5	43	2	6 16
2	Tues	5	43	4	6 15
3	Wed	5	43	7	6 14
4	Thurs	5	43	9	6 13
5	Fri	5	44	2	6 13
6	Sat	5	44	4	6 12
7	SUN	5	44	7	6 11
8	Mon	5	45	0	6 10
9	Tues	5	45	2	6 09
10	Wed	5	45	5	6 08
11	Thurs	5	45	8	6 07
12	Fri	5	46	0	6 06
13	Sat	5	46	3	6 05
14	SUN	5	46	5	6 04
15	Mon	5	46	8	6 03
16	Tues	5	47	0	6 02
17	Wed	5	47	3	6 01
18	Thurs	5	47	5	6 00
19	Fri	5	47	8	5 59
20	Sat	5	48	0	5 58
21	SUN	5	48	3	5 57
22	Mon	5	48	5	5 56
23	Tues	5	48	8	5 55
24	Wed	5	49	0	5 54
25	Thurs	5	49	3	5 54
26	Fri	5	49	5	5 53
27	Sat	5	49	8	5 52
28	SUN	5	50	1	5 51
29	Mon	5	50	4	5 50
30	Tues	5	50	7	5 49

THE road to Waialua, Oahu, was completed about 1850, but a local paper of August, 1852, records the fact "that a lady performed the trip recently from Honolulu to Waialua in a wagon in one day. This is the first time, we believe, a wagon has ever passed over this 30 miles of road."

FOURTH QUARTER, 1902.

OCTOBER.

D.		H.M.	
1	New Moon	6 39	1 A.M.
9	First Quarter	6.51	1 A.M.
16	Full Moon	7.31	1 P.M.
23	Last Quarter	0.08	1 P.M.
30	New Moon	9.43	6 P.M.

Day of Mon.	Day of Wk.	Sun Rises		Sun Sets	
		H.	M.	H.	M.
1	Wed	5	51 0	5	48 3
2	Thurs	5	51 3	5	47 4
3	Fri	5	51 6	5	46 5
4	Sat	5	51 9	5	45 6
5	SUN	5	52 1	5	44 7
6	Mon	5	52 4	5	43 8
7	Tues	5	52 7	5	42 9
8	Wed	5	53 1	5	42 0
9	Thurs	5	53 4	5	41 0
10	Fri	5	53 7	5	40 3
11	Sat	5	54 1	5	39 4
12	SUN	5	54 4	5	38 6
13	Mon	5	54 8	5	37 8
14	Tues	5	55 1	5	36 9
15	Wed	5	55 5	5	36 1
16	Thurs	5	55 8	5	35 3
17	Fri	5	56 2	5	34 5
18	Sat	5	56 6	5	33 8
19	SUN	5	56 9	5	33 0
20	Mon	5	57 3	5	32 2
21	Tues	5	57 7	5	31 5
22	Wed	5	58 2	5	30 7
23	Thurs	5	58 6	5	30 0
24	Fri	5	59 0	5	29 3
25	Sat	5	59 5	5	28 6
26	SUN	5	59 9	5	28 0
27	Mon	6	00 4	5	27 4
28	Tues	6	00 9	5	26 7
29	Wed	6	01 4	5	26 1
30	Thurs	6	01 6	5	25 5
31	Fri	6	02 3	5	24 9

NOVEMBER.

D.		H.M.	
8	First Quarter	2.00	5 A.M.
15	Full Moon	6 36	5 A.M.
21	Last Quarter	9.16	9 P.M.
29	New Moon	3.34	4 P.M.

Day of Mon.	Day of Wk.	Sun Rises		Sun Sets	
		H.	M.	H.	M.
1	Sat	6	02 8	5	24 4
2	SUN	6	03 3	5	23 9
3	Mon	6	03 8	5	23 3
4	Tues	6	04 3	5	22 8
5	Wed	6	04 9	5	22 3
6	Thurs	6	05 4	5	21 9
7	Fri	6	05 9	5	21 4
8	Sat	6	06 5	5	21 0
9	SUN	6	07 1	5	20 6
10	Mon	6	07 7	5	20 2
11	Tues	6	08 2	5	19 9
12	Wed	6	08 8	5	19 5
13	Thurs	6	09 4	5	19 2
14	Fri	6	10 1	5	18 9
15	Sat	6	10 7	5	18 5
16	SUN	6	11 3	5	18 3
17	Mon	6	11 9	5	18 0
18	Tues	6	12 5	5	17 8
19	Wed	6	13 1	5	17 6
20	Thurs	6	13 8	5	17 4
21	Fri	6	14 4	5	17 2
22	Sat	6	15 0	5	17 1
23	SUN	6	15 7	5	17 0
24	Mon	6	16 3	5	17 0
25	Tues	6	17 0	5	17 0
26	Wed	6	17 6	5	17 0
27	Thurs	6	18 2	5	17 0
28	Fri	6	18 9	5	17 0
29	Sat	6	19 5	5	17 0
30	SUN	6	20 2	5	17 1

DECEMBER.

D.		H.	M.	
7	First Quarter	7.56	5	P.M.
14	Full Moon	5.17	4	P.M.
21	Last Quarter	9.30	2	A.M.
29	New Moon	10.54	8	A.M.

Day of Mon.	Day of Wk.	Sun Rises		Sun Sets	
		H.	M.	H.	M.
1	Mon	6	20 9	5	17 2
2	Tues	6	21 5	5	17 3
3	Wed	6	22 2	5	17 4
4	Thurs	6	22 8	5	17 5
5	Fri	6	23 5	5	17 7
6	Sat	6	24 1	5	17 9
7	SUN	6	24 8	5	18 1
8	Mon	6	25 4	5	18 3
9	Tues	6	26 0	5	18 6
10	Wed	6	26 6	5	18 9
11	Thurs	6	27 3	5	19 2
12	Fri	6	27 9	5	19 6
13	Sat	6	28 5	5	19 9
14	SUN	6	29 1	5	20 3
15	Mon	6	29 7	5	20 7
16	Tues	6	30 3	5	21 0
17	Wed	6	30 8	5	21 4
18	Thurs	6	31 4	5	21 9
19	Fri	6	31 9	5	22 3
20	Sat	6	32 4	5	22 8
21	SUN	6	32 9	5	23 2
22	Mon	6	33 5	5	23 7
23	Tues	6	34 0	5	24 3
24	Wed	6	34 5	5	24 8
25	Thurs	6	35 0	5	25 3
26	Fri	6	35 5	5	25 9
27	Sat	6	35 9	5	26 4
28	SUN	6	36 4	5	27 0
29	Mon	6	36 7	5	27 6
30	Tues	6	37 0	5	28 2
31	Wed	6	37 3	5	28 8

AMONG the variety of trees being set out to beautify the grounds of Honolulu homes it is pleasing to see the attempt toward propagating the koa, kukui and ohia; trees indigenous to the islands. They prefer the cool moisture of valley, or higher elevation, but with special care may be induced to aid the kou and milo in protesting against all glory of our tropic foliage being assigned to the increasing introduced trees.

INTER-ISLAND DISTANCES BY SEA IN SEA MILES.

Revised for the Annual by C. J. Lyons.

AROUND OAHU FROM HONOLULU—ESPLANADE WHARF—TO

	Miles.		Miles
Bell Buoy	1¼	Pearl River Bar	6
Diamond Head	5	Barber's Point	15
Koko Head	12	Waianae Anchorage	26
Makapuu Point	16	Kaena Point, N.W. of Oahu	36
Mokapu	27	Waialua Anchorage	46
Kahuku North Point	48	Kahuku N. Pt., Oahu, via Kaena	58

HONOLULU TO

Lae o ka Laau, S.W. Pa. Molokai	35	Kawaihae, Hawaii	144
Kalaupaka, Leper Settlement	52	Kealakekua, " (direct)	157
West point of Lanai	50	" " (via Kawaihae)	186
Lahaina, Maui,	72	S.W. pt. Hawaii " "	233
Kahului, "	90	Punaluu, "	250
Hana, "	128	Hilo, " (direct)	192
Maalaea, "	86	" " (windward)	206
Makena, "	96	" " (via Kawaihae)	230
Mahukona, Hawaii	134		

HONOLULU TO

Nawiliwili, Kauai	98	Hanalei, Kauai	125
Koloa, "	102	Niihau	144
Waimea, "	120		

LAHAINA, MAUI, TO

Kaluaaha, Molokai	17	Maalaea, Maui	12
Lanai	9	Makena, Maui	18

KAWAIHAE, HAWAII, TO

Mahukona, Hawaii	10	Hilo, Hawaii	85
Waipio, Hawaii	37	Lae o ka Mano, Hawaii	20
Honokaa, Hawaii	45	Kailua, Hawaii	34
Laupahoehoe, Hawaii	62	Kealakekua, Hawaii	44

HILO, HAWAII, TO

East point of Hawaii	20	Punaluu, Hawaii	70
Keauhou, Kau, Hawaii	50	Kaalualu, Hawaii	80
North point of Hawaii	62	South point of Hawaii	85

WIDTH OF CHANNELS.

EXTREME POINT TO POINT.

Oahu and Molokai	23	Maui and Lanai	7
Diamond Head to S.W. point of Molokai	30	Maui and Kahoolawe	6
Molokai and Lanai	7	Hawaii and Maui	26
Molokai and Maui	8	Kauai and Oahu	63
		Niihau and Kauai	18

OCEAN DISTANCES.

HONOLULU TO

San Francisco	2100	Auckland	3810
San Diego	2260	Sydney	4410
Portland, Or.	2360	Hongkong	4920
Brito, Nicaragua	4200	Yokohama	3400
Panama	4720	Guam	3300
Tahiti	2440	Manila, via N.E. Cape	4890
Samoa	2290	Victoria, B. C.	2460
Fiji	2700	Midway Islands	1200

OVERLAND DISTANCES.

Revised for the Annual by C. J. Lyons, in accordance with latest Government Survey measurements. The outer column of figures indicates the distance between points.

ISLAND OF OAHU.

HONOLULU POST-OFFICE TO

	Miles		Miles.	Inter.
Bishop's corner (Waikiki)	3.2	Kahana	26.4	4.5
Waikiki Villa	3.6	Punaluu	28.4	2.0
Race Course	4.5	Hauula	31.4	3.0
Diamond Head	5.9	Laie	34.4	3.0
Kaalawai	6.0	Kahuku Mill	37.2	2.8
	Miles. Inter.	Kahuku Ranch	40.0	2.8
Thomas Square	1.0			
Pawaa corners	2.0 1.0	Moanalua	3.4	
Kamoiliili	3.3 1.3	Kalauao	7.4	4.0
Telegraph Hill	5.0 1.7	Ewa Church	10.2	2.8
Waialeale	6.2 1.2	Kipapa	13.6	3.4
Niu	8.8 2.6	Kaukonahua	20.0	6.4
Koko Head	11.8 3.0	Leilehua	20.0	
Makapuu	14.8 3.0	Waialua	28.0	8.0
Waimanalo	20.8 6.0	Waimea	32.4	4.4
Waimanalo, via Pali	12.0	Kahuku Ranch	39.4	7.0
Nuuanu Bridge	1.1	Ewa Church	10.2	
Mausoleum	1.5 0.4	Waipio (Brown's)	11.2	1.0
Electric Reservoir	2.7 1.2	Hoaeae (Robinson's)	13.5	2.3
Honolulu Dairy	2.9 0.2	Barber's Point L. H.	21.5	8.0
Luakaha	4.3 1.4	Nanakuli	23.5	2.0
Pali*	6.2 1.9	Waianae Plantation	29.9	6.4
Kaneohe (new road)	11.9 5.7	Kahanahaiki	36.9	7.0
Waiahole	18.9 7.0	Kaena Point	42.0	5.1
Kualoa	21.9 3.0	Waialua to Kaena Pt.	12.0	

OAHU RAILWAY: DISTANCES FROM HONOLULU DEPOT TO

	Miles		Miles
Moanalua	2.76	Waipio	13.58
Puuloa	6.23	Waikele	14.57
Halawa	8.14	Hoaeae	15.23
Aiea	9.37	Ewa Plantation Mill	18.25
Kalauao	10.20	Waianae Station	33.30
Waiau	10.93	Kaena Point	44.50
Pearl City	11.76	Waialua Station	55.80
Waiawa	12.52	Kahuku Plantation	69.50

ISLAND OF KAUAI.

NAWILIWILI TO

	Miles.	Inter.		Miles.	Inter.
Koloa	11.0		Wailua River	7.7	4.4
Lawai	13.8	2.8	Kealia	11.9	4.2
Hanapepe	20.0	6.2	Anahola	15.7	3.8
Waimea	27.1	7.1	Kilauea	23.6	7.9
Waiawa	31.5	4.4	Kalihiwai	26.6	3.0
Nualolo	44.8	13.3	Hanalei	31.8	5.2
			Waiuiha	34.8	3.0
Hanamaulu	3.3		Nualolo (no road)	47.0	12.2

*Pali distance is by the old road, new measurements not yet available.

ISLAND OF MAUI.

KAHULUI TO

	Miles.	Inter.
Spreckelsville	3.5	
Paia	5.5	2.0
Hamakuapoko Mill	8.6	3.1
Haiku	10.2	1.6
Halehaku	16.0	5.8
Huelo	19.5	3.5
Keanae	27.2	7.7
Nahiku	32.7	5.5
Ulaino	36.3	3.6
Hana	42.3	6.0
Hamoa Mill	45.3	3.0
Wailua	48.9	3.6
Kipahulu Mill	52.2	3.3
Mokulau	56.6	4.4
Nuu	62.1	5.5
Wailuku	3.1	
Waikapu	5.5	5.4
Maalaea	9.9	4.4
Kalepolepo	14.6	4.7
Mana	22.3	7.7
Ulupalakua	25.6	3.3
Kanaio	28.9	3.3
Pico's	35.5	6.6
Nuu	41.0	5.5

	Miles.	Inter.
Paia	5.5	
Makawao Court House	10.5	5.0
Olinda	16.7	6.2
Haleakala, edge Crater	22.5	5.8
Haleakala Summit	24.7	2.2
Maalaea	9.9	
End of Mountain Road	15.4	5.5
Olowalu	19.6	4.2
Lahaina Court House	25.5	5.9
Waiehu	3.3	
Waihee	4.8	1.5
Kahakuloa	10.1	5.3
Honokohau	14.5	4.4
Honolua	17.4	2.9
Napili	20.0	2.6
Konokawai	23.8	3.8
Lahaina Court House	29.3	5.5

MAKENA TO

Ulupalakua	3.3	
Kamaole	7.1	3.8
Waiakoa	12.1	5.0
Foot of Puu Pane	15.8	3.7
Makawao Court House	21.8	6.9

ISLAND OF HAWAII.

WAIMEA COURT HOUSE TO

	Miles.	Inter.
Hamakua boundary	4.5	
Kukuihaele Mill	11.0	6.5
Mana	7.7	
Hanaipoe	15.0	7.3
Keanakolu	24.0	9.0
Puakala	34.0	10.0
Laumaia	36.5	2.5
Humuula Sheep Station, via Laumaia	47.5	11.0
Auwaiakekua	12.5	
Humuula Sheep Station	29.0	16.5

	Miles.	Inter.
Hilo, via Humuula St'n	54.0	25.0
Keamuku Sheep St'n	14.0	
Napuu	22.0	8.0
Keawewai	8.0	
Waika	11.0	3.0
Kahuwa	13.0	2.0
Puuhue	17.0	4.0
Kohala Court House	22.0	5.0
Mahukona	22.0	
Puako	12.0	

NORTH KOHALA.—FOREIGN CHURCH, KOHALA, TO

	Miles.
Edge of Pololu Gulch	4.00
Niulii Mill	2.80
Dr. Wight's Store, Halawa	1.15
Halawa Mill	1.15
Hapuu Landing	2.56
Dramatic Hall, Kaiopihi	.40
Kohala Mill	.50
Kohala Mill Landing	1.50

	Miles.
Native Church	1.00
Union Mill	2.25
Union Mill R. R. Station	3.25
Honomakau	2.55
Hind's, Hawi	3.25
Hawi R. R. Station	4.25
Honoipu	7.20
Mahukona	10.50
Puuhue Ranch	7.25

NORTH KOHALA.—ON MAIN ROAD, MAHUKONA, TO

	Miles.	Inter.		Miles.	Inter.
Hind's Mill	7.0		Dr. Wight's Corner	11.5	1.1
Union Mill Corner	8.0	1.0	Niulii Corner	12.8	1.3
Court House	9.2	1.2	Pololu, Edge of Gulch	14.5	1.7
Bond's Corner	9.7	0.5	Puu Hue	5.0	
Kohala Mill Corner	10.4	0.7			

SOUTH KOHALA.—KAWAIHAE TO

	Miles.	Inter.		Miles.
Puu Ainako	4.4		Mana, Parker's	19.5
Puuiki, Spencer's	7.7	3.3	Keawewai	6.0
Waiaka, Catholic Church	9.5	1.8	Puuhue Ranch	10.0
Puuopelu, Parker's	10.8	1.3	Kohala Court House	15.0
Waimea Court House	11.8	1.0	Mahukona	11.0
Waimea Church	12.2	0.4	Napuu	20.0
Kukuihaele Church	22.1	9.9	Puako	5.0

KONA.—KEALAKEKUA TO

Keauhou	6.0		Kawaihae	42.0	4.6
Holualoa	9.6	3.6	Honaunau	4.0	
Kailua	12.0	2.4	Hookena	7.7	3.7
Kaloko	16.0	4.0	Olelomoana	15.2	7.5
Makalawena	19.6	3.6	Hoopuloa	21.6	6.4
Kiholo	27.6	8.0	Boundary of Kau	24.8	3.2
Ke Ahu a Lono bound'y.	31.6	4.0	Flow of '87	32.0	7.2
Puako	37.4	5.8	Kahuku Ranch	36.5	4.5

KAU.—VOLCANO HOUSE TO

Half-way House	13.0		Honuapo	32.6	5.0
Kapapala	18.0	5.0	Naalehu	35.6	3.0
Pahala	23.0	5.0	Waiohinu	37.1	1.5
Punaluu	27.6	4.6	Kahuku Ranch	43.1	6.0

PUNA.—HILO COURT HOUSE TO
(By new road.)

	Miles.		Miles.
Keaau, Forks of Road	9.0	Kaimu	32.0
Pahoa	20.0	Kalapana	33.0
Pohoiki (Rycroft's)	28.0	Keauhou	50.0
Kapoho (Lyman's)	32.0	Panau	40.0
Opihikao	31.0	Volcano House via Panau	56.0
Kamaili	26.0	Sand Hills, Naawale, old road	18.5
Kamaili Beach	29.0	Kapoho, old road	22.0

TO VOLCANO.—HILO TO

Shipman's	1.7	Mountain View	16.8
Edge of Woods	4.1	Mason's	17.5
Cocoanut Grove	8.0	Hitchcock's	23.5
Branch Road to Puna	9.0	Cattle Pen	24.7
Furneaux's	13.2	Volcano House	31.0

THROUGH HILO DISTRICT TO

Honolii Bridge	2.5	Honohina Church	17.8
Papaikou Office	4.7	Waikaumalo Bridge	18.8
Onomea Church	6.9	Pohakupuka Bridge	21.0
Kaupakuea Cross Road	10.7	Maulua Gulch	22.0
Kolekole Bridge	14.3	Kaiwilahilahi Bridge	24.0
Hakalau, east edge gulch	15.0	Lydgate's House	26.1
Umauma Bridge	16.0	Laupahoehoe Church	26.7

THROUGH HAMAKUA.—LAUPAHOEHOE CHURCH TO

	Miles. Inter.		Miles.
Bottom Kawalii Gulch	2.0	Kuaikalua Gulch	22.0
Ookala, Manager's House	4.0	Kapulena Church	23.9
Kealakaha Gulch	6.0	Waipanihua	24.3
Kaala Church	6.8	Stream at Kukuihaele	26.0
Kukaiau Gulch	8.0	Edge Waipio	26.5
Horner's	8.5	Bottom Waipio	27.0
Catholic Church, Kainehe	9.0	Waimanu (approximate)	32.5
Notley's, Paauilo	10.5	Kukuihaele to Waimea (approximate)	10.5
Kaumoali Bridge	12.5	Gov't Road to Hamakua Mill	1.5
Bottom Kalopa Gulch	14.0	Gov't Road to Paauhau Mill	1.0
Wm. Horner's, Paauhau	15.2	Gov't Road to Pacific Sugar Mill, Kukuihaele	0.7
Paauhau Church	16.3		
Holmes' Store, Honokaa	18.0		
Honokaia Church	20.5		

ISLAND OF MOLOKAI.

KAUNAKAKAI TO

Meyer's, Kalae	5.0	Pukoo	15.0
Kalaupapa	9.0	Halawa	25.0
Kamalo	9.0	Ka Lae o ka Laau	19.0
Kaluaaha	13.5		

TABLE OF ELEVATIONS OF PRINCIPAL LOCALITIES THROUGHOUT THE ISLANDS.

(From the Records of the Government Survey. Measurements are from mean Sea Level.)

OAHU PEAKS.

	Feet.		Feet.
Kaala, Waianae Range	4030	Telegraph Hill or Kaimuki	292
Palikea, Waianae Range	3111	Koko Head, higher crater	1206
Konahuanui Peak, S. of Pali	3106	Koko Head, lower crater	644
Lanihuli Peak, N. of Pali	2780	Makapuu, east point of island	665
Tantalus or Puu Ohia	2013	Mokapu, crater off Kaneohe	696
Olympus, above Manoa	2447	Olomana, sharp peak, Kailua	1643
Round Top or Ualakaa	1049	Maelieli, sharp peak, Heeia	713
Punchbowl Hill or Puowaina	498	Ohulehule, sh'p peak, Hakipuu	2263
Diamond Head or Leahi	762		

LOCALITIES NEAR HONOLULU.

Nuuanu Road, cor. School St.	40	Nuuanu Road, Queen Emma's	358
" " second bridge	77	" " cor. above Electric Light Works	429
" " cor. Judd St	137	Nuuanu Road, large bridge	735
" " Cemetery gate	162	" " Luakaha gate	848
" " Mau'sl'm gate	206	" " Pali, old station	1214
" " Schaefer's gate	238		

MAUI.

Haleakala	10,032	Puu Nianiau, Makawao	6850
West Maui, about	5820	Puu Kapuai, Hamakua	1150
Piiholo, Makawao	2256	Puu o Umi, Haiku	629
Puu Io, near Ulupalakua	2841	Puu Pane, Kula	2568
Ulupalakua, about	1800	Lahainaluna Seminary	600
Puu Olai, (Miller's Hill)	355	Kauiki, Hana	392
Grove Ranch, Makawao	981	"Sunnyside," Makawao	930
Puu Olai, near Makena	250	Paia Foreign Church, about	850
Mrs. C. H. Alexander's	2150		

HAWAII.

	Feet.		Feet.
Mauna Kea	13,825	Hiilawe Falls	1700
Mauna Loa	13,675	Parker's Mana	3505
Hualalai	8275	Honokaa Store	1100
Kohala Mountain	5505	Lower edge forest, Hamakua.	1700
Kilauea Vol. House by levelling	3971	Lower edge forest, Hilo	1200
Kulani, near Kilauea	5576	Laupahoehoe Pali	385
Kalaihea	6660	Maulua Pali	406
Aahuwela, near Laumaia	7750	Kauku Hill	1964
Hitchcock's, Puakala	6325	Puu Alala	762
Ahumo'a	7035	Halai Hill	347
Waimea Court House	2669	Puu o Nale, Kohala	1797
Waipio Pali, on N. side	1200	B. D. Bond's, Kohala	585
Waipio Pali, on S. (Road)	900	Anglican Church, Kainaliu	1578
Waipio Pali, in Mountain	3000	Puu Enuhe, Kau	2327
Waimanu, at sea	1600	Kapoho Hill, Puna	1065
Waimanu in mountain	4000	Kaliu Hill, Puna	1065
		Olaa Trig. Station	622

MOLOKAI, ETC.

Kamakou Peak	4958	Kaolewa Pali, overlooking Leper Settlement	2100
Olokui Peak	4600	Meyer's, Kalae	1485
Kaunuohua	4535	Mauna Loa, near Kaunakakai	1382
Kalapamoa	4004	Kualapuu Hill	1018
Puu Kolekole	3951	Kahoolawe (Moaula Hill)	1427
Kaulahuki	3749	Molokini	160
Kaapahu Station	3563	Lanai	3400

NOTE.—A large number of approximate elevations of stations where rain records are kept may be found in the Rain Tables in this Annual.

Standard and Local Time.

The Standard Time of the Hawaiian Islands is that of Longitude 157° 30′ W., 10 h. 30 m. slower than Greenwich Time. The time of sunrise and sunset given in the tables is of course local time; to correct this to standard time, add or subtract a correction corresponding with the differences between 157 ° 30′ and the longitude of the station.

The corrections would be for the following stations:

Niihau	+10:8 m	Wailuku, Maui	— 4:0 m
Mana, Kauai	+ 9:0 m	Haiku, Maui	— 4:8 m
Koloa, Kauai	+ 7:9 m	Hana, Maui	— 6:0 m
Kilauea, Kauai	+ 7:3 m	Kailua Hawaii	— 6:2 m
Waialua Oahu	+ 2:5 m	Kohala, Hawaii	— 7:0 m
Kahuku, Oahu	+ 2:0 m	Kukuihaele, Hawaii	— 8:0 m
Honolulu, Oahu	+ 1:5 m	Punaluu, Hawaii	— 8:0 m
Kalae, Molokai	— 2:0 m	Ookala, Hawaii	— 9:0 m
Lanai	— 2:5 m	Hilo, Hawaii	— 9:8 m
Lahaina, Maui	— 3:0 m		

DIMENSIONS OF KILAUEA, ISLAND OF HAWAII.

Corrected for Deflection of the Vertical.

Area, 4.14 square miles, or 2,650 acres.
Circumference, 41,500 feet, or 7.85 miles.
Extreme Width, 10,300 feet, or 1.95 miles.
Extreme Length, 15,500 feet, or 2.93 miles.
Elevation, Volcano House, 4,000 feet.

DIMENSIONS OF MOKUAWEOWEO.

(The Summit Crater of Mauna Loa, Island of Hawaii.)

Area, 3.70 square miles, or 2,370 acres.
Circumference, 50,000 feet, or 9.47 miles.
Length, 19,500 feet, or 3.7 miles.
Width, 9,200 feet, or 1.74 miles.
Elevation of summit, 13,675 feet.

DIMENSIONS OF HALEAKALA.

(The great Crater of Maui, the largest in the World.)

Area, 19 square miles, or 12,160 acres.
Circumference, 105,600 feet, or 20 miles.
Extreme Length, 39,500 feet, or 7.48 miles.
Extreme Width, 12,500 feet, or 2.37 miles.
Elevation of Summit, 10,032 feet.
Elevation of principal cones in crater, 8,032 and 7,572 feet.
Elevation of cave in floor of crater, 7,380 feet.

DIMENSIONS OF IAO VALLEY, MAUI.

Length (from Wailuku), about 5 miles.
Width of Valley, 2 miles.
Depth, near head, 4,000 feet.
Elevation of Puu Kukui, above head of Valley, 5,788 feet.
Elevation of Crater of Eke, above Waihee Valley, 4,500 feet.

AREA, ELEVATION AND POPULATION OF THE HAWAIIAN ISLANDS.

As revised by the Government Survey in 1899 from the latest maps.

Islands	Area in stat sq. miles.	Acres.	Height in feet.	Population in 1900.
Hawaii	4,015	2,570,000	13,825	46,843
Maui	728	466,000	10 032	24.794
Oahu	600	384,000	4,030	58,504
Kauai	544	348,000	4,800	20,562
Molokai	261	167,000	4,958	3,123
Lanai	135	86,000	3 400	
Niihau	97	62,000	800	172
Kahoolawe	69	44,000	1,427	.....

Total area of Hawaiian Islands, 6,449 square miles.

The outlying islets to the N.W. may amount to 6 square miles.

The previously-published areas were from the general map compiled from all sources then available, for the Philadelphia Centennial of 1876. It has not heretofore been deemed best to change any of the figures until an entire and permanent measurement of area could be made.

October 1, 1899. CURTIS J. LYONS.

VALUE OF DUTIABLE IMPORTS, JUNE 14, 1900 TO JUNE 30, 1901.

ARTICLES.	June—Dec. 1900	Jan.—June 1901	TOTAL 12½ Mos.
Animals	$ 1,657	$ 749	$ 2,406
Art	338	436	774
Books and Printed Matter	1,357	954	2,311
Bones	104	117	221
Brass, Copper, Metals	36,628	83,815	120,443
Breadstuffs	4,711	9,938	14,649
Brushes	1,152	667	1,819
Buttons	185	353	538
Cement, Portland, etc	69,447	41,906	111,353
Chemicals, Drugs and Dyes	151,719	72,747	224,466
Clay and Earth	411	160	571
Clothing, ready made	18,776	14,438	33,214
Coal	160,080	349,479	509,559
Cotton, manufactures of	37,726	52,654	90,380
Earthen, Stone and Chinaware	17,201	12,122	29,323
Eggs	276	110	386
Feathers and Furs	359	207	566
Fibre Vegetable and Textile grass	158,728	181,706	340,434
Fish	42,425	44,677	87,102
Fruits	6,295	8,630	14,925
Glass and Glassware, Glue	2,706	4,864	7.570
Hair, manufactures of	930	303	1,233
Iron, Steel and manufactures of	50,366	65,183	115.549
Jewelry, Clocks, etc	1,398	2,182	3,580
Leather and manufactures of	4,750	5,864	10,614
Matting	5,866	4,804	10,670
Malt Liquors	1,554	1,856	3,410
Musical Instruments	572	804	1,376
Paints and Oils	5,270	4,642	9,912
Paper and manufactures of	6,318	4,151	10,469
Perfumery, Articles Toilet	2,132	1,927	4,059
Pipes and Smokers' Articles	1,061	852	1,913
Plants, Shrubs	527	62	589
Provisions, Meats and Dairy Products	39,651	21,503	61.154
Rice, Rice Flour and Meal	26,297	83,972	110,269
Rubber, manufactures of	548	630	1,178
Salt, Spices, Sponges	244	99	343
Seeds	1,711	999	2,710
Silk	9.504	8,799	18.393
Soap	221	155	376
Spirits, distilled	47,471	48,760	96.231
Straw and manufactures of	8,880	10,567	19.447
Sugar and Confectionery	839	4,549	5 388
Tea	8,103	12,877	20,980
Tobacco	16,917	5,065	21,982
Toys	871	219	1,090
Vegetables	89,782	88,208	177,990
Wines	76,172	97,476	173,648
Wood and manufactures of	16,984	19,474	36,458
Wool, manufactures of	5,299	4,562	9,861
Other N. O. P. F	18,327	10,295	28,622

CUSTOM HOUSE TABLES, 1900-1901.

VALUE OF FREE IMPORTS, JUNE 14, 1900 TO JUNE 30, 1901.

ARTICLES.	JUNE–DEC. 1900	JAN–JUNE 1901	TOTAL 12½ MONTHS
Animals	$ 715 00	$ 370 00	$ 1,085 00
Art		602 00	602 00
Books and Stationery	1,674 00	2,369 00	4,043 00
Bones	23 00	10 00	33 00
Breadstuffs	1,078 00	522 00	1,600 00
Chemicals	638 00	185,155 00	185,793 00
Cotton Manufactures	8 00	51 00	59 00
Fertilizer	77,496 00	45,148 00	122,644 00
Fruits	159 00	5,707 00	5,866 00
Fibre, Hair, Silk	5 00	1 00	6 00
Household and Personal Effects	607 00	1,941 00	2,548 00
Iron, Steel and Manufactures of	44 00	64 00	108 00
Oils	13,247 00	17,442 00	30,689 00
Seeds	115 00	27 00	142 00
Spices	183 00	92 00	275 00
Wood	76 00	130 00	206 00
All Other	28,652 00	27,927 00	56,579 00
	$ 124,720 00	$ 287,558 00	$ 412,278 00

IMPORTS BY NATIONALITY AND PERCENTAGE. JUNE 14, 1900 TO JUNE 30, 1901.

			Total	per cent
Great Britain	Free	$ 1,770 00		
	Dutiable	318,490 50	320,260 50	.10802
Germany	Free	134.573 00		
	Dutiable	481,968 50	616,541 50	.20800
Australia	Free	2,295 00		
	Dutiable	485,492 56	487,787 56	.16453
China	Free	34,284 27		
	Dutiable	186,482 95	220,767 22	.07446
Japan	Free	54,003 50		
	Dutiable	670,446 00	724,449 50	.24435
Canada	Free	695 00		
	Dutiable	93,759 25	94,454 25	.03185
France	Free	3,513 00		
	Dutiable	19.358 89	22,871 89	.00772
Pacific Islands	Free	5,611 00		
	Dutiable	362 00	5,973 00	.00201
Philippines	Free			
	Dutiable	15,160 00	15,160 00	.00511
Holland	Free			
	Dutiable	11,296 39	11,296 39	.00381
Chile	Free	175,524 62	175,524 62	.05920
	Dutiable			
East India	Free			
	Dutiable	250,938 00	250,938 00	.08464
All Others	Free	8 00		
	Dutiable	18.661 00	18,669 00	.00630
		$2,964,693 43	$2 964,693 43	1 00000

CUSTOMS RECEIPTS JUNE 14, 1900 TO JUNE 30, 1901.

Import Duties	$1,222,121 92
Tonnage Dues	27,503 43
Official Fees	1,290 40
Fines, Penalties and Forfeiture	6,650 58
Storage, Labor and Drayage	3,956 25
Overtime of Officers	417 00
Immigrant Fund	2,628 00
Other Collections	295 20
	$1,264,862 78

Vessels employed in Foreign Carrying Trade, 1900-1901*

Nationality	Jan. 1–June 14 1900		June 14–Dec. 31 1900		Jan. 1 to Sept. 30 1901	
	No.	Tons	No.	Tons	No.	Tons
American	266	218,812	47	73,959	119	170,801
British	69	140,146	40	85 183	50	106,415
Hawaiian	21	24,277	.....	.....	.....	.....
German	5	4,779	4	5,916	6	6,970
Japanese	15	45,620	8	26,640	11	37,576
All others	6	8,131	6	9,447	8	8,026
Total	382	441,765	105	201.145	194	329,788

*Not inclusive, since June 14, 1900, of vessels from American ports.

Passenger Statistics, Hawaii to Foreign Countries, 1900-1901

Countries	June 14 to Dec. 31, 1901				Jan. 1 to Sept. 1901			
	Males	F'mls	Ch'ld'n	Total	Males	F'mls	Ch'ld'n	Total
Australia & N. Z.	37	27	6	70	100	46	7	153
China & Japan	2,418	337	472	3,227	2,824	537	559	3,920
Isles of Pacific	1	1	.....	2	1	1	2	4
Brit. Columbia	119	79	24	222	232	126	54	412
Total	2,575	444	502	3,521	3,157	710	622	4.489

The arrivals of passengers from all Foreign ports for the above periods, are as follows:—

195 males, 49 females and 19 children for the six and a half months of 1900, a total of 263; and for the nine months ending Sept. 1901, there were 259 males, 128 females and 65 children, a total of 452.

NATIONALITY OF VESSELS IN FOREIGN TRADE OF HAWAII, 1901

Nationality	Value of Cargoes
American	$ 830,618.01
British	1,117.154.67
German	526 220.00
Norwegian	45,686 00
Others mostly Japanese	445,014.75

VALUE OF IMPORTS FROM FOREIGN COUNTRIES JUNE 15, 1900 TO JUNE 30, 1901.

Free Goods	$ 412,277.39
Dutiable Goods	2,552,416.04

TABLE OF EXPORTS TO ALL COUNTRIES, SHOWING VALUE AND QUANTITY FROM JUNE 14, 1900 TO JUNE 30, 1901.

ARTICLES	Australia	China and Japan	Canada	Germany	United States	Total Quantity	Total Value
Sugar	$ 60 00	$	$	$	$ 27,094,095 00	lbs. 690,882,132	$ 27,094,155 00
Rice	41 00	.....	.....	.....	22,527 00	" 551,805	22,568 00
Coffee	48,889 00	4,296 00	5,205 00	14,422 00	239,313 00	" 2,630,149	312,125 00
Fruit	2 00	48 00	1,227 00	30 00	74,414 00	.....	75,721 00
Honey	540 00	.....	.....	1,650 00	7,580 00	.....	9,770 00
Beeswax	.....	.....	.....	.....	920 00	lbs. 3,680	920 00
Molasses	.....	.....	.....	.....	4,615 00	gals. 93 820	4,615 00
Wool, Raw	.....	.....	.....	.....	99,742 00	lbs. 725,744	99,742 00
Hides and Skins	.....	.....	.....	.....	76 995 00	" 1,364 100	76,995 00
Bones, Horns, etc.	.....	.....	.....	.....	854 00	.....	854 00
Timber etc.	.....	.....	.....	.....	1,252 00	.....	1,252 00
Vegetables	.....	.....	.....	.....	2,003 00	.....	2,003 00
Specie	9,516 00	57,780 00	.....	.....	1,254,004 00	.....	1,321,300 00
Sundries	16,851 00	18,611 00	2,860 00	3,607 00	278,748 00	.....	320,677 00
Totals	$ 75,899 00	$ 80,735 00	$ 9,292 00	$ 19,709 00	$ 29,157,062 00	.....	$ 29,342,697 00

COMPARATIVE TABLE OF QUANTITY AND VALUE OF DOMESTIC EXPORTS, 1897-1900.

ARTICLES	1897		1898		1899		5½ mos. to June 14, 1900	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Sugar lbs	520,158,232	$15,390,422 13	444.963,036	$16,614,622 53	545,370,537	$21,898,190 97	344,531,173	$13,919,400 21
Rice lbs	5,499.499	225,575 52	2,865.700	149.278 14	946,100	42,562 00	40,000	2,300 00
Coffee lbs	337,158	99,696 62	733,285	115,944 89	824,864	132,347 43	321,139	49,553 45
Bananas bchs	75,835	75,412 50	80,643	66,580 91	90 611	84,268 82	9,733	9,317 00
Wool lbs	249,200	21,308 84	3,731	265 00	307.551	26,678 98	.....	.....
Hides pcs	25.475	87.545 48	31,280	114,946 82	23,507	95,073 73	40.000	46,135 24
Goat Skins pcs	6,085	2,055 00	9,091	4,284 65	5,522	2,563 15	3,711	1,721 00
Sheep Skins pcs	9.907	2,711 95	7.519	2,357 91	15,282	4,849 75	*841	639 00
Tallow lbs	9.000	225 00	220,707	7,949 10	33,848	1,259 10	2,260	90 40
Molasses gals	33,770	2,892 72	14.537	919 18	11.455	358 55	.....	10 00
Betel Leaves bxs	145	509 00	120	512 00	112	505 25	.....	.....
Taro Flour sks	218	267 50	35	23 00	.....	252 00	.....	.....
Plants, Seeds pcs	40,754	1.740 65	968	2,921 40	682	3,919 50	pkgs. 7	20 00
Pineapples pcs	157,925	14,423 17	63,727	8,669 25	83,162	10,781 11	bxs. 712	3,423 19
Sundry Fruit pkgs	.....	572 00	760	472 65	.....	493 70	" 70	310 60
Canned Pines cs	115	347 90	3,151	5,816 35	1,064	3,848 50	.....	.....
Honey lbs	109,140	4,993 00	92,760	3,313 25	217,866	9,948 68	" 10	300 00
Awa	pkgs. 6	27 49	lbs. 5,376	409 47	lbs. 10,000	900 00	lbs. 37,130	1,642 00
Bones and Horns pcs	105,235	665 80	33,971	2,352 60	22,282	421 49	" 22,665	621 00
Sundries	.....	2,296 71	.....	3,903 45	.....	5,641 99	.....	8,681 50
Total Value	.....	$15,933,688 98	.....	$17,105,542 65	.....	$22,324,864 70	.....	$14,044,163 99

*Including 726 Deer skins, value $547.00

COMPARATIVE TABLE OF IMPORT VALUES FROM VARIOUS COUNTRIES 1895-1900.

Countries.		1895.	1896.	1897.	1898.	1899.	1900. to June 14th
United States	Dutiable	$ 619,160 78	$ 665,834 67	$ 725,862 90	$ 837,813 80	$ 1,371,619 79	$ 662,965 40
	Bonded	73,115 32	40,187 48	38,761 12	52,420 97	54,605 54	79,296 35
	Free by Tr'ty	3,018,755 42	3,225,649 80	4,318,944 30	5,720.170 92	9,578,205 88	7,065,501 85
	Free by Code	805,912 86	1,532,526 25	1,716 460 02	2 085,185 94	4,016.398 96	902,058 83
Great Britain	Dutiable	413,223 64	636,328 19	774,476 22	1,109,034 74	1,416 406 35	752,750 81
	Bonded	12,091 67	12.690 45	14.223 09	15,959 25	19,060 08	15,810 55
	Free by Code	45,807 67	106,782 70	77.081 94	162,732 68	339,189 09	134 465 50
Germany	Dutiable	64,318 76	103,058 59	149,526 30	314,190 50	185,712 27	68 811 46
	Bonded	6,950 10	8,406 70	8,799 44	4,208 46	3,347 20	841 21
	Free by Code	39,482 75	36,061 32	34,606 45	33,644 69	195,043 41	30,885 93
Brit. Col. and Canada	Dutiable	8,846 02	9,493 12	12,506 75	14,490 88	16,135 73	7 858 96
	Bonded	4,560 17	2,086 82	2,684 10	2,784 10	2,288 50	2,638 00
	Free by Code	17,325 02	41,402 05	43,484 07	266,108 42	95,056 40	89,211 07
Australia and N Zeal'd	Dutiable	66,470 36	24.175 54	19,001 99	23,090 22	62,730 45	55,753 85
	Bonded	2,865 05	1,534 30	209 26	3.918 10	734 93	434 54
	Free by Code	53,469 19	87,934 81	103,241 94	171,376 29	193,922 66	214,354 15
China	Dutiable	164,239 17	236,148 72	242,477 69	305,187 19	351,306 09	62 482 26
	Bonded	59,452 39	62,306 00	17,293 04	23,440 68	32,354 94	5,363 53
	Free by Code	10 00	616 25	646 67	224 00	860 97	150 00
Japan	Dutiable	183,487 51	264,849 34	267,819 84	309,673 74	630,053 47	273,564 16
	Bonded	18,124 46	3,330 83	4,513 64	1,964 24	13,649 36	14 905 35
	Free by Code	5 513 62	8,303 63	19,982 86	42,687 00	29,707 67	14,718 68
France	Dutiable	7,849 90	8,322 98	13,050 74	16.612 80	31,065 99	13,873 69
	Bonded	.....	5,794 08	5,122 48	6,209 06	11,609 74	3,468 45
	Free by Code	....	3,603 96	12,824 10	20,833 69	31,454 53	12,658 88
Pacific Isles	Dutiable	.....	.....	.....	271 53	159 28	11 15
	Free by Code	.....	.....	.....	7,020 59	876 20	53 50
All Other Countries	Dutiable	607 87	6,359 60	29,513 96	50,348 85	63,482 73	34,819 38
	Bonded	.....	2,998 10	47,668 80	45,957 15	79,074 97	17,623 79
	Free by Code	22,377 84	27,865 12	137,419 38	3,330 33	243,492 61	146,184 84
Total		$ 5,714,017 54	$ 7,164,561 40	$ 8,838,203 09	$11,650,890 81	$19,059,605 79	$10,683,516 12

COMPARATIVE VIEW OF COMMERCE OF HAWAIIAN ISLANDS FROM 1871, GIVING TOTALS FOR EACH YEAR.

Year	Total Imports	Total Exports	Domestic Produce Exported	Foreign Produce Exported	Total Custom House Receipts	Shipping				Spirits Gallons Cons'd	Haw. Reg. Vessels	
						Nat'l Ves No.	Mer. Vessels No.	Mer. Vessels Tons	Whol. No.		No	Tons
1871	$ 1,625,884	$ 2,892,069	$ 1,733,094	$ 1,158,975	$ 221,332	9	171	105,993	47	18,817	57	8,068
1872	1,746,178	1 607,522	1,402,685	204 837	218,375	7	146	98,647	47	18,843	54	6,407
1873	1 437,611	2,128,054	1,725,507	402,547	198,655	12	109	62,767	63	21,212	58	8,561
1874	1 310,827	1,839 620	1,622,455	217,165	183 857	13	120	71,266	43	18,466	54	8,101
1875	1 682,471	2 089,736	1,835,383	254,353	213,447	22	120	93,110	41	21,131	51	7,376
1876	1,811,770	2,241,041	2,055,133	185 908	199,036	14	141	108,706	37	19,707	45	6,753
1877	2 554 356	2,676 202	2,462,417	213,786	230,499	17	168	116,621	33	24,223	54	8 994
1878	3 046 37	3 548,472	3,333,979	214 492	284,426	11	232	163,640	27	36,360	55	7,949
1879	3,742 978	3,781,718	3,665,504	116,214	359,671	6	251	151,576	25	43,166	63	10,023
1880	3,673 268	4 968,445	4,889 194	79,251	402.182	15	239	141,916	16	44,289	63	10,149
1881	4.547 979	6,855,436	6,789.076	66,360	423,192	13	258	159,341	19	46,085	60	9,338
1882	4,974 510	8,299,017	8,165.931	133 085	505,391	6	258	172,619	32	50,064	60	9,351
1883	5,624 240	8,133,344	8,036,227	97 117	577 333	13	267	185,316	18	61,272	64	11,589
1884	4,637,514	8,856,610	8,067.649	788 961	551,737	11	241	187,826	23	70,160	53	9,826
1885	3.830 545	9,158,818	8,958.664	200,154	502,337	6	253	190,138	26	80,115	51	9,250
1886	4,877,738	10,565,886	10,340.375	225,510	580,444	6	310	222,372	20	100,703	58	13,529
1887	4 943 841	9,707,047	9,435,204	271,843	595,003	12	254	210,703	23	74,913	57	12,244
1888	4 540 887	11,707,599	11 631.435	76,164	546,143	18	246	221,148	17	68,247	61	15,406
1889	5,438,791	13,874.341	13,810,070	64,271	550 010	20	271	218,785	19	74,816	57	15,403
1890	6,962,201	13,142 829	13,023,304	119,525	695,957	13	295	230,120	21	88,884	55	14,222
1891	7,439,583	10,258,788	10 107,316	151,473	732,595	11	310	284,155	17	88,536	51	13,430
1892	4,028,295	8,060,087	7.959,938	100 149	494,385	10	262	238 622	20	86,441	50	13,851
1893	4,363,178	10,818,158	10,742 658	75,500	545,754	13	315	323,685	17	46,428	53	19.565
1894	5 104,481	9,140,795	9,053,310	87,485	522,855	15	350	343,844	19	41,136	51	21,495
1895	5,339,785	8,474,138	8 358,107	116,031	547,149	8	318	337,817	10	39,653	52	21,679
1896	6 036,652	15.515.230	15,436 037	79,193	56,896	14	386	477,997	5	44,168	59	29,024
1897	7,682 628	16,021,775	15,933,689	88 086	708,493	....	427	513,826	....	53,345	62	34,069
1898	10,368,815	17,346,745	17.105,543	241,202	896 976	....	481	569,632	....	63,253	64	33.551
1899	16,069,577	22 628,742	22,324,865	303 877	1,295 629	....	656	786,842	....	84,957	62	33,418
1900*	10,231,198	14,404,496	14,044,164	360,332	597.897	....	382	441,765	....	.....	62	33,468

*For five and a half months, ending June 14th. Where blanks occur figures are not given in customs tables.

COMPARATIVE TABLE OF PRINCIPAL EXPORTS, 1871 TO 1900.

Year	Sugar lbs.	Molass's gals	Rice lbs.	Paddy lbs.	Coffee lbs.	Hides pcs.	Tallow lbs.	Goat skins	Wool lbs.	Pulu lbs.	Fungus lbs.	Salt tons	Bunches Bananas	Total Value all Domestic Exp'ts
1871	21,760,773	271,291	417,011	867,452	46,926	19,384	185,240	58 900	471,706	292,720	37.475	711	3,876	$ 1,733,094 46
1872	16,995 402	192,105	455.121	894,582	39,276	27.066	493,978	53,598	288,526	421,227	32,161	522	4,520	1,402,685 38
1873	23,129,101	146,459	941 438	507.945	262,925	20,677	609,855	66,702	329,507	412,823	57,538	445	6,492	1,721,507 78
1874	24,566,611	90.060	1,187,986	439,157	75,496	22,620	125,596	71,955	399,926	418,320	50.955	730¼	6 494	1,622,455 37
1875	25,080,182	93,722	1,573,739	556,495	165,977	22,777	851,920	60,598	565,469	379,003	45,098	96	10,518	1,835,382 91
1876	26,072,429	139,073	2 259,324	1,542,603	153,667	11,105	327.291	45,265	405 542	314,432	35,893	5	14,982	2,055,133 55
1877	25,575,965	151,462	2,691,370	2 571,987	101,345	22,164	369,829	51.551	385,703	150,586	11,629	322	15,995	2,462,416 66
1878	38,431,458	93,136	2,767,768	2,784,861	127,963	25,309	239,941	64.525	522,757	212,740	22,364	180¼	13,431	3,333,979 49
1879	49,020,972	87,475	4.792,813	38,815	74,275	24,885	.....	24,940	464.308	137.001	2,571	50	12,369	3,665,503 76
1880	63,584,871	198,355	6 469,840	.....	99,508	22,945	19,169	31,013	381,316	44,846	14,801	14½	19,164	4,889,194 40
1881	93,789.483	263,587	7,682,700	102,370	18,912	21,972	118,031	21,308	528,489	53,415	4,282	302	20,776	6,789,076 38
1882	114,177.938	221,293	12,169,475	459,633	8,131	26,007	77,898	23 402	528,913	.....	2,111	.....	28,848	8,165,931 34
1883	114,107,155	193,997	11,619 000	1,368.705	16,050	38,955	32,252	24,798	318,271	.....	3,783	.....	44,902	8,036,227 11
1884	142 654,923	110,530	9,493,000	46,224	4,231	21,026	2,864	20,125	407,623	465	2,247	.....	58,040	8,067,648 87
1885	171,350,314	57,941	7,367,253	.....	1,675	19,045	.....	19,782	474,121	Shp skins	1,137	.....	60,046	8,958,663 82
1886	216,223.615	113,137	7 338,615	.....	5,931	31,207	21,305	21,173	418,784	9,255		.....	45,862	10,540,375 18
1887	212,763,647	71,222	13,684,200	400	5,300	28,639	56,713	16,233	75,911	6,871		.....	58,936	9,435,204 12
1888	235 888,346	47,965	12,878,600		7,130	24,494	204,743	17,589	562,289	5,629	Pine Apples pcs.		71,335	11,631,434 88
1889	242,165,835	54,612	9,669,896	Awa, lbs	43,673	27,158	97,125	11,715	241,925	6,188		Guano tons	105,630	13,810,070 54
1890	259,798.462	74.926	10,579,000	.. . ..	88,593	28,196	33.876	8,661	374,724	7,565			97,204	13,023 304 16
1891	274,983,580	55,845	4,900,450	.....	3,051	26,427	27,225	7,316	97,119	7,100	5,368	1,217	116,660	10,107 315 67
1892	263,656,715	47,988	11,516 328	8,179	13,568	21,622	792	3.449	288,969	5,358	40,171	61	105,375	7.959,938 05
1893	330,822,879	67,282	7,821,004	16,725	49,311	19,826	13,250	5,911	391 592	6,785	19,042	Cs. C'n'd Pines	108,239	10.742,658 50
1894	306,684,993	72,979	7,803,972	320	180,150	21,603	.....	6,759	261,337	6,472	44,903		123,004	9,053,309 87
1895	294,784,819	44.970	3,768,762	12,600	118,755	19,180	.....	6,466	227,987	6,564	65,213	972	105,055	8.358,106 79
1896	443.569,289	15 885	5,025,491	14,120	255 655	25,079	.....	12.647	462,819	7,886	147,451	569	126,413	15,436 037 23
1897	520.158,232	33,770	5,499,499	60	337.158	25.475	9,000	6,085	249,000	9,907	151,715	115	75,835	16,021,775 19
1898	444 963,030	14,537	2,865,700	5.376	733 285	31,280	220,707	8,262	3.731	7,519	63,727	3,077	80,643	17,094 542 55
1899	545,370,537	11,455	946,100	10,000	824,864	23,377	33,848	5,522	203,147	15,282	64,675	1,064	88,416	22,427,646 94
*1900	344,531,173	120	40,000	37,139	321,139	40,000	2,260	3,711	.....	115	16,376	.....	9,733	14,044,163 99

*Five and one-half months, closing June 14th.

TABLE OF ANNUAL LICENSE RATES.

TERRITORY OF HAWAII.

	FEE AND STAMP
ALCOHOL	$ 51 00
AWA—upset price at auction:	
District of Honolulu, $1000	
" Hilo, or Wailuku... 500	
" Lahaina... 250	
Each other District... 100	
And Stamps	
AUCTION—District of Honolulu (Bond $3000)	613 50
Each other Dis. (Bond $500)	17 50
AGENT TO TAKE ACKNOWLEDGEMENTS	
Honolulu	10 50
Each other District or Judicial Circuit	5 50
BANKING	765 00
BILLIARD—$25.00 each table, and Stamp.	
BOWLING ALLEY—$25.00 each alley, Stamp.	
BEEF BUTCHER—"Slaughter and Sell," Honolulu	103 50
Each other District (Bond $500).	22 00
BEEF BUTCHER—"Sell," each District	10 50
BOAT—Harbor of Honolulu, Lahaina, Hilo or Kahului	
With 4 or more oars	8 50
With less than 4 oars	4 50
BOATMAN—Harbor of Honolulu	1 50
BREWERY	153 00
DRAY, CART, WAGON, etc.... District of Honolulu, Lahaina, Wailuku or Hilo.	3 00
DRIVER	1 50
(On Certif. as to Competency)	
FIRE-ARM—HUNTING	5 50
HOTEL, BOARDING-HOUSE OR RESTAURANT	51 00
On Certif. of Agent Board of Health.	
HACK AND PASSENGER VEHICLE—$1.00 for each person for which the vehicle has a carrying capacity, and stamp.	
On certif. of Inspection and capacity.	
KEROSENE OIL FOR FUEL [1] (Bond $1000.)	12 00
LIVERY STABLE—	
District of Honolulu	51 00
" Wailuku or Hilo	26 00
LODGING OR TENEMENT HOUSE	2 50
On Certif. Agent Board of Health.	
MALT LIQUORS (Bond $1000)	256 50
MILK	3 00
NOTARY PUBLIC—Honolulu	10 50
Each other Jud. Circuit	5 50
PAWN BROKER	153 00
PHYSICIAN	10 50
On recommendation by Board of Health.	
PEDDLING CAKE	26 00
On recommendation of Marshal or Sheriff.	
POISONOUS DRUGS	51 00
PORK BUTCHER—"Slaughter and Sell," Honolulu	41 00
Each other District	20 50
PORK BUTCHER—"Sell"	10 50
PUBLIC SHOW—$5.00 for each Performance, and Stamp.	
SALMON	10 50
STEAM LAUNDRY	51 00
STOCK AND SHARE BUSINESS	102 00
SPIRIT—Dealers	511 50
Retail	1,021 50
Wholesale (Bond, $1000)	511 50
TOBACCO, CIGARS AND CIGARETTES	10 50
WINE, ALE AND BEER (Bond $500).	205 50

1 Outside the limits of Honolulu only.

TABLE OF RECEIPTS, EXPENDITURES AND PUBLIC DEBT OF HAWAII, FOR BIENNIAL PERIODS UP TO 1894, THEN ANNUALLY

Compiled from Finance and Auditor's Report, carefully revised.

Periods ending Mar. up to 1894, hen Dec. 31.	Revenue	Expenditures	Cash Balance in Treasury	Public Debt
1856	$ 419,288 16	$ 424,778 25	$ 28,096 84	$ 22 000 00
1858.....	537,223 86	599,879 61	349 24	60,679 15
1860.....	571,041 71	612,410 55	13,127 52	128,777 32
1862	528,039 92	606,893 33	507 40	188,671 86
1864.....	538,445 34	511,511 10	22,583 29	166,649 09
1866.....	721,104 30	566,241 02	169,059 34	182,974 60
1868.....	825,498 98	786,617 55	163,576 84	120,815 23
1870	834,112 65	930,550 29	61,580 20	126,568 68
1872.....	912,130 74	969,784 14	56,752 41	177,971 29
1874	1,136,523 95	1,192,511 79	746 57	355,050 76
1876.....	1,008,956 42	919,356 93	89,599 49	459,187 59
1878.....	1,151,713 45	1,110,471 90	130,841 04	444,800 00
1880.....	1,703,736 88	1,495,697 48	338,880 44	388,900 00
1882	2,070,259 94	2,282,599 33	126,541 05	299,200 00
1884.....	3,092,085 42	3,216,406 05	2,220 42	898,800 00
1886.....	3,010,654 61	3,003,700 18	9,174 85	1,065,600 00
1888.....	4,812,575 96	4,712,285 20	109,465 60	1,936,500 00
1890.....	3,632,196 85	50,510 35	491,152 10	2,599,502 94
1892.. ...	3,916,880 72	4,095,891 44	312,141 38	3,217,161 13
1894.....	3,587,204 98	3,715,232 83	184,113 53	3,417,459 87
1894....	1,972,135 43	1,854,053 08	302,676 27	3,574,030 16
1895....	2,050,729 41	2,284,179 92	69,225 76	3,764,335 03
1896....	2,383,070 78	2,137,103 38	315,193 16	3,914,608 35
1897....	2,659,434 16	2,617,822 89	456,804 43	4,390,146 65
1898....	2,709,489 12	2,299,937 57	740,280 21	4,457,605 85
1899....	3,854,231 50	3,038,638 38	1,531,784 29	4,890,351 49
1900 ..	2,772,871 87	3,727,926 28	624 471 25	4,226,374 61

BONDED DEBT, TERRITORY OF HAWAII. JULY 1, 1901.

Loan Act, 1886 @ 6%, balance.....	$ 990,800
" " 1888 @ 6%, "	2,000
" " 1890 @ 5 & 6%, "	4,000
" " 1892 @ 6% "	13,800
" " 1893 @ 6%, "	6,000
" " 1896 @ 6%, "	936,000
Total.....	$ 1,952,600

INTERNAL TAXES FOR BIENNIAL PERIODS, 1878-1894; SINCE, ANNUAL.

(Complied from Finance and Board of Education Reports)

Periods	Real Estate	Personal Property	Poll	Horses	Mules	Dogs	Carriages	Seamen	Roads and Carts	School	Totals
1878.....	94,584	94,378	28,722	47,564	3,053	16,465	4,865	2,114	39,418	54,106	385,269
1880.....	143,716	155,944	35,484	43,399	———	15,173	5,780	815	64,940	67,472	532,723
1882.....	187,929	208,096	45,998	42 819	Insurance	13,965	7,125	642	90,041	87,322	683,937
1884.....	223,100	254,286	52,964	21,975	1,941	13,924	8 750	402	103,054	100,278	780,674
1886.....	227 195	262,307	61,745	†.....	3,303	13,315	10.635	114	118,256	115,298	812 167
1888.....	252,362	299,974	63,115	.....	6.279	11,985	11,835	.....	120,872	119.565	885,987
1890.....	339,390	329,908	69,116	.....	3,063	14,100	13,940	———	132,286	131.160	1,032,963
1892.....	358,745	341,205	78,964	.....	4,156	13,660	14.628	Penalty and Costs	152,137	151,906	1,115,401
1894.....	338,894	213,126	78,990	.....	3,867	11,744	11,980	5,476	152,268	152,247	1 068,592
1894 9 mos ..	167,083	151,580	39,050	.....	1,850	4,698	4,427	3,922	74,891	75,082	522,583
1895.....	196,608	164,272	43,663	.....	1,803	5,971	5,425	7.297	84,183	83,470	592,692
1896.....	240,971	210.194	46,655	.....	1,837	6,302	5,889	7,255	90,297	89,443	698,844
1897.....	246,828	242,719	47,973	.....	974	7,313	5,849	10,375	101,858	95.814	759,703
1898.....	268,203	266,621	49.580	.....	2,185	6,248	5,717	8,476	105,814	98,974	811,818
1899.....	384,594	377.076	54,828	.....	2,882	6,141	6,253	10,155	116.374	109,814	1,068,117
1900.....	440,265	487,079	67,119	.....	3,224	5,377	7,241	9,279	141 342	134.232	1,295,158

†Included in Personal Property.

Annual Internal Taxes from 1878.

1878	Taxes Collected..	$245,387.	Tax per capita*	$4.23	1890	Taxes Collected..	$560,757.	Tax per capita*	$6.23
1879	" "	290,380.	" "	4.58	1891	" "	555,428.	" "	5.85
1880	" "	317,872.	" "	4.76	1892	" "	529,180.	" "	5.50
1881	" "	367,004.	" "	5.18	1893	" "	539,412.	" "	5.37
1882	" "	379,071.	" "	5.29	1894	" "	522,583.	" "	5.14
1883	" "	417,794.	" "	5.16	1895	" "	592,692.	" "	5.62
1884	" "	409,000.	" "	5.07	1896	" "	698,844.	" "	6.32
1885	" "	432,656.	" "	5.09	1897	" "	759,704.	" "	6.54
1886	" "	467,719.	" "	5.41	1898	" "	811 818.	" "	6.45
1887	" "	417,103.	" "	4.67	1899	" "	1,068,117.	" "	7.91
1888	" "	482,938.	" "	5.71	1900	" "	1,295,158.	" "	8.41
1889	" "	537,494.	" "	6.19					

*Omitting fractions.

Table of Assessed Real Estate and Property Value, each Island and Total, for the past Ten Years, prepared by J. W. Pratt, Assessor.

Year	Island of Oahu. Real Estate	Per. Prop'ty	Total Value	Island of Maui. Real Estate	Per. Prop'ty	Total Value	Island of Hawaii. Real Estate	Per. Prop'ty	Total Value
1892	$ 9,418,172	$ 5,762,203	$ 15,180,375	$ 2,818 577	$ 2,547,026	$ 5,365,603	$ 3,958,675	$ 4,318,312	$ 8,276,987
1893	10,497,889	7,532,616	18,030,505	2,683,178	2,435,799	5,118,977	4.008,978	4,407,060	8,416,038
1894	10,705,045	7.676,881	18,381.926	2,617,974	2,101,612	4,719,586	3,918,250	4,394,905	8 313,155
1895	11,262,882	9,809,725	18,948,404	2,779,441	2,031.247	4,810,688	4,276,127	4,904,648	9,180.775
1896	11,678,474	9,809.725	21,488,199	2,496,577	2.490,824	4,987,401	5,885,034	7,178,951	13,063,985
1897	12,140,697	11,012,450	23,153.147	4,060,485	1,951,479	6,001,964	6,596,687	7,945,976	14,542,663
1898	13,197,192	14,717,105	27,914,297	4,846,049	1,904,541	6,750.590	6,677.557	7,941,126	14,618,683
1899	18,812,091	20,382,007	39,194,098	7,662,499	2,645,417	10,307 916	8,488,878	10,568,147	19,057,025
1900	21,837,233	28,425,722	50,262,955	9,282,018	4,306,652	13,588.670	9,719,900	12,973,762	22.693,662
1901	31,606,490	32 851 799	64,458,289	10,243,211	5,010,552	15,253,763	11,355,972	16,098,569	27.454,541

Year	Island of Molokai. Real Estate	Per. Prop'ty	Total Value	Island of Lanai. Real Estate	Per. Prop'ty	Total Value	Island of Kauai. Real Estate	Per. Prop'ty	Total Value
1892	$ 195 387	$ 91,673	$ 287,060	$ 30,365	$ 32,375	$ 62,740	$ 1,875,814	$ 2,082,127	$ 3,957,941
1893	192,351	109,722	302,073	29,900	32,195	62,095	1,950,518	2,136,760	4,087,278
1894	190,519	94,732	285,251	27,475	32 390	59,865	1,971,840	1,946,444	3,918,284
1895	172,200	90,567	262,767	27,325	33,215	60,540	2,177,177	2,226,216	4,403,393
1896	169,450	71,963	241,413	27,725	33,305	61,030	2,763,319	3,167,968	5,931,287
1897	169,945	81,855	251,800	28,950	31,345	60,295	2,724,332	3,394,197	6,118,529
1898	392,370	29,435	421,805	26,725	31,030	57,755	2,682,676	3,728,416	6,411.092
1899	654 690	20,200	674 890	40,800	35,310	76,110	3,768,154	5,809,584	9,577,738
1900	455,700	234.715	690 415	65,725	105,625	171,350	5,195,668	8,473,333	12,814,888
1901	333 975	91,005	424 980	42,900	76,900	119,800	4.912,842	8,473,333	13,386,175

Assessed Value of Property—*Continued.*

ISLAND OF NIIHAU.

Year	Real Estate	Personal Property	Total Value
1892	$ 76,655	$ 26,938	$ 103,593
1893	76,525	26 603	103,128
1894	51,550	28,842	80.392
1895	51,600	29,582	81,182
1896	51,500	32,117	83 617
1897	51,500	29,445	80,945
1898	51,500	28,720	80,220
1899	51,500	24 026	75,520
1900	51,500	24,020	75,520
1901	52,500	22,880	75,380

TOTAL ALL ISLANDS

Year	Real Estate	Personal Property	Total Value
1892	$18,373,645	$14,860,654	$ 32,234,299
1893	19,439,339	16,680,755	36,120,094
1894	19,482,653	16,275,806	35,758,459
1895	20,746,752	17 000,997	37,747,749
1896	23,072,079	22,784,853	45,856,932
1897	25,772,596	24,446,747	50,219,343
1898	27,874,069	28,380,373	56,254,442
1899	39,478,612	39,484,685	78,963,297
1900	46,607,744	53,689,716	100,297,460
1901	58,547,890	62,625,038	121,172,928

Hawaii's Annual Trade Balance, Etc., 1879 to 1901.

Revised and Compared with official tables.

Year.	Imports.	Exports.	Excess Export Values	Custom House Receipts
1880	$ 3,673,268 41	$ 4,968,444 87	$ 1,295,176 46	$ 402,181 63
1881	4,547,978 64	6,885,436 56	2,337,457 92	523,192 01
1882	4,974,510 01	8,299,016 70	3,324,506 69	505,390 98
1883	5,624,240 09	8,133,343 88	2,509,103 79	577,332 87
1884	4,637,514 22	8,856,610 30	4,219,096 08	551,736 59
1885	3,830,544 58	9,158,818 01	5,328,273 43	502,337 38
1886	4,877,738 73	10,565,885 58	5,688,146 85	580,444 04
1887	4,943,840 72	9,707,047 33	4,763,206 61	595,002 64
1888	4,540,887 46	17,707,598 76	7,166,711 30	546,142 63
1889	5,438,790 63	13,874,341 40	8,435,560 77	550,010 16
1890	6,962,201 13	13,142,829 48	6,180,628 35	695,956 91
1891	7,439,482 65	10,258,788 27	2 819,305 62	732,594 93
1892	4,028,295 31	8,060,087 21	4,031,791 90	494,385 10
1893	4,363,177 58	10,818,158 09	6,454,980 51	545,754 16
1894	5,104,481 43	9,140,794 56	4,036.313 13	522,855 41
1895	5,339,785 04	8,474,138 15	3,134,353 11	547,149 04
1896	6,063,652 41	15,515.230 13	9,451,577 72	656,895 82
1897	7,682,628 09	16,021,775 19	8,339,147 10	708,493 05
1898	10,368,815 09	17,346,744 79	6,977,929 70	896,975 70
1899	16,069,576 96	22,628,741 82	6,559,164 86	1,295,628 95
1900[1]	10,231,197 58	14,404,496 16	4,173.298 58	597,897 14
1901[2]	[3] 2,964.693 43	29,342,697 00	. . . . .	1,219,338 79

1 Five and one-half months to June 14th. 2 Twelve and one-half months t une 30, 1901. 3 From foreign countries o ly; imports from U. S. ports not available

LATEST CENSUS—HAWAIIAN ISLANDS.

[From Census Bulletin, Washington, D. C., 1900]

Total Population by Districts and Islands—Comparative 1900 & 1896

HAWAII.	1900	1896
Hilo	19,785	12,878
Puna	5,128	1,748
Kau	3,854	2,908
North Kona	3,819	3,061
South Kona	2,372	2,327
North Kohala	4,366	4,125
South Kohala	600	558
Hamakua	6,919	5,680
	46,843	33,285
MAUI.		
Lahaina	4,332	2,398
Wailuku	7,953	6,072
Hana	5,276	3,792
Makawao	7,236	5,464
	24,797	17,726
Molokai and Lanai.	3,123	2,412

OAHU.	1900	1896
Honolulu	39,306	29,920
Ewa	9,689	3,067
Waianae	1,008	1,281
Waialua	3,285	1,349
Koolauloa	2,372	1,835
Koolaupoko	2,844	2,753
	58,504	40,205
KAUAI.		
Waimea	5,714	4,431
Niihau	172	164
Koloa	4,564	1,835
Kawaihau	3,220	2,762
Hanalei	2,630	2,775
Lihue	4,434	3,425
	20,734	15,392
Total whole group.	154,001	109,020

Total Population by Islands.

Showing number and percentage of increase, 1896 to 1900, also 1890 to 1900.

ISLANDS.	1900 No.	1896 No.	No. Incr'se	Pr Cent 4 Years	1900 No.	1890 No.	No. Incr'se	Pr Cent 10 Yrs.
Hawaii	46,843	33,285	13,558	40.7	46 843	26,754	20,089	75.0
Maui	24,797	17,726	7,071	39.9	24,797	17,357	7,440	46.4
Oahu	58,504	40,205	18,299	45.5	58 504	31,194	27,310	87.5
Kauai and Niihau	20,734	15,392	5,342	39.8	20,734	11.859	8,875	74.8
Molokai & Lanai..	3,123	2,412	711	29.5	3,123	2,826	297	10.5
Whole Group	154,001	109,020	44,981	41.2	154,001	89,990	64,011	71.1
Honolulu	39,306	29,920	9,386	31.3	39,306	22,907	16,399	71 5

Table of General Nativity by Sex, School Age, Etc.

Selected from Census Bulletin, as of June 1, 1900.

General Nativity	Aggregate	By Sex		School Age 5 to 20		Voting Age
		Males	Females	Males	Females	
Native Born	63,221	33,478	29,743	13,112	12,173	13,064
Foreign Born	90,780	72,891	17,889	5,916	2,573	66,543
Total White	66,890	36,407	30,483	12,246	11,581	19,576
Native White	54,141	28,613	25,528	11,207	10,652	12,876
Nat. wh. Nat. par.	37,918	20,193	17,725	6,591	6,207	11,314
Nat. wh. forgn. par.	16.223	8,420	7,803	4,616	4,445	1,562
Foreign white	12,749	7,794	4,955	1,039	929	6,700
Chinese	25.767	22,296	3,471	6,782	3,165	60,031
Japanese	61,111	47,508	13,603			
Negro	233	158	75	50	29	93

The designation "native white-native parents" comprehends native persons having either both parents native born, one parent native born and one parent unknown, or both parents unknown; while the designation "native white-foreign parents" comprehends all white persons having either one or both parents foreign born.

HAWAIIAN, FOREIGN BORN WHITE AND COLORED POPULATION, BY SEX AND ISLANDS, TERRITORY OF HAWAII, CENSUS OF 1900.

(Compiled from Bulletins of Twelfth, U. S. Census).

Divisions and Sex	Hawaii	Oahu	Maui and Lanai	Molokai	Kauai	Niihau	Total
Native born, males	9,218	14,595	5,225	1,120	3,239	81	33,478
Native born, females	8,391	12,555	5,000	855	2,854	88	29.743
Foreign born, males	23,532	24,823	12,408	412	11,714	2	72,891
Foreign born, females	5,702	6,531	2,783	117	2,755	1	17,889
Total.	46,843	58,504	25,416	2 504	20.562	172	154,001
Hawaiians, males.	5,436	8,573	3,572	1,003	1,529	80	20,193
Hawaiians, females	4,829	7,376	3,324	774	1,335	87	17,725
Part Hawaiian, males	2,446	3,798	1,145	94	936	1	8,420
Part Hawaiians, females	2,334	3.412	1,178	68	810	1	7,803
Foreign white, males	2,287	3,563	1,014	52	877	1	7,794
Foreign white, females	1,418	2,218	718	17	583	1	4,955
Total colored, males1	22,581	23,484	11,902	383	11,611	1	69,962
Total colored, females1	5,512	6,080	2,563	113	2,881		17,149
Total	46.843	58,504	25,416	2,504	20,562	172	154,001

1 Persons of Negro descent, Chinese, Japanese and Indians.

SCHOOL STATISTICS, TERRITORY OF HAWAII.

(From Reports of the Superintendent Public Instruction)

COMPARATIVE TABLE OF SCHOOL POPULATION, 1899-1900

Islands	No. Schools 1900	In School 1900			No. Schools 1899	In School 1899		
		Boys	Girls	Total		Boys	Girls	Total
Hawaii	68	2,436	1,987	4,423	65	2,278	1,935	4,213
Maui & Lanai	36	1,253	1,230	2,483	34	1 296	1,167	2,466
Molokai	10	202	121	323	11	213	147	360
Oahu	62	3,746	2,869	6,615	61	3,937	2,858	6,895
Kauai & Niihau	19	935	756	1,691	18	927	732	1,659
Totals	195	8,574	6,963	15,537	189	8,651	6,839	15,490

NUMBER OF SCHOOLS, CLASS, ETC., 1900

Islands	Public Schools					Private School		
	No. of Schools	No. of Teachers	No. of Pupils Boys	No. of Pupils Girls	Total No. of Pupils	No. of Schools	No. of Teachers	No. of Pupils
Hawaii	55	113	2,004	1.620	3,624	13	39	801
Oahu	33	126	2,270	1'820	4,090	29	134	2,525
Maui and Lanai	28	64	1,061	918	1,979	8	22	504
Kauai and Niihau	15	40	846	683	1,529	4	9	162
Molokai	6	9	158	121	279	1	3	44
Totals	140	352	6,339	5,162	11.501	55	207	4,036

NATIONALITY OF PUPILS 1897, 1899, 1900.

	1897	1899	1900		1897	1899	1900
Hawaiians	5,330	5,043	4,997	Norwegians	106	84	114
Part Hawaiians	2,479	2,721	2,631	Chinese	1,078	1,314	1,289
Americans	484	601	698	South Sea Islanders	10	30	28
English	280	213	232	Japanese	560	1,141	1,352
Germans	302	337	320	French	2	....	..
Portuguese	3,815	3,882	3,809	Other Foreigners	76	124	87
Total 1897....14,522.				Total 1899 ...15,490.			Total 1900....15,537

The nationality of teachers in all schools of the islands, 1900, was as follows: Hawaiian 64, Part Hawaiian 58, American 299, British 59, German 11, French 8, Scandinavian 11, Portuguese 5, Chinese 12, Japanese 3, other Foreigners 9, total 559.

TABLE OF RAINFALL, PRINCIPAL STATIONS.

From Government Survey Weather Service Records.

Station	Observer	1900					
		July	Aug.	Sept.	Oct	Nov.	Dec
HAWAII							
Waiakea	R. Kennedy.	8.73	14.87	6.92	19.37	15.44	5.65
Hilo (town)	L. C. Lyman	8.31	14.46	5.69	18.04	19.50	5.06
Kaumana	G. H. Williams	8.76	23.22	8 61	24.00	15.80	3.79
Pepeekeo	W. H. Rogers	7.82	12.02	7.76	17.54	14.04	2.89
Hakalau	George Ross	8.88	13.55	6.40	19.76	15.47	2.30
Laupahoehoe	E. W. Barnard	4.94	11.22	5.62	15.98	21.99	5.55
Ookala	W. G. Walker.	3.62	7.46	2.13	9.62	14.87	2.73
Kukaisu	E. Madden.	2.01	4.29	1.21	8.05	13.75	3.97
Paauhau	A. Moore	1.32	2.64	0.70	5.01	7.38	3.71
Honokaa	J. M. Muir	1.80	3 74	0.77	5.17	7.13	7.61
Waimea	E. W. Lyons	1.98	1.81	0.87	4.23	7.72	4.57
Kohala	B. D. Bond.	3.11	3.26	1.07	6.33	5.00	0.81
Kailua	W. S. Yowell.	13.73	3.88	8.60	8.06	5.15	1.32
Kealakakua	S. H. Davis.	11.28	9.49	11.17	10.23	5.71	0.84
Naalehu	G. C. Hewitt.	2.25	5.63	0.48	6.90	6.69	1.31
Pahala	T. C. Wills.	2.31	3 53	0.66	5.02	9.15	7.59
Volcano House	F. Waldron.	3.63	10.01	2.85	12.07	13.77	1.75
Olaa	N. Russel.	12.59	22.00	8.06	21.75	16.87	4.59
Kapoho	D. B. Lyman.	5.96	10.64	6.98	15.38	7.45	2.13
Pohoiki	R. Rycroft	8.27	9.48	6.27	14.63	8.33	2.86
MAUI							
Haleakala Ranch	D. Morton	3.64	3.76	1.53	1.59	13.40	4.04
Puuomalei	A. McKibbon.	4.82	2.05	1.64	10.55	14.06	5 22
Paia	D. C. Lindsay.	2.89	1.01	0.76	4.31	18.71	1.83
Kula	D. Von Tempsky	2.25	4.91	1.34	2.52	15.11	0.00
Hamoa	Plantation	7.19	4.60	3.02	8.01	11.07	2.24
Kipahulu	A. Duisenberg.	10.58	6.98	1.86	9.29	11.24	2.17
Mokulau	Joseph Garnett.	9.10	7.83	4.98	8.98	12.44	2.78
Nahiku	H. Anderson.	14.99	13.26	7.28	11.64	13.28	4.90
OAHU							
Punahou	C. J. Lyons	2.59	2.00	1.55	6.88	11.30	1.67
Kulaokahua	W. R. Castle	1.65	1.40	1.17	7.07	12.69	1.06
Kapiolani Park	H. McCallum	0.56	0.25	0.06	2.12	11.37	0.55
Pauoa	S. E. Bishop.	3.27	3.02	2.74	9.02	13.36	1.46
Nuuanu Avenue	W. W. Hall.	3.00	2.77	2.82	9.00	13.45	1.31
" Valley	Electric Station	8.10	5.92	4.49	13.99	4.36	2.94
Luakaha	Water Works.	12.60	11.40	8.25	21.21	16.01	9.19
Waimanalo	A. Irvine.	2.35	1.33	0.68	5.27	19.56	2 42
Maunawili	George Gibb.	5.32	8 85	2.40	9.68	19.60	5.56
Kaneohe	J. P. Mendonca	4.61	6.38	2.28	9.14	20.02	4.25
Ahuimanu	H. Macfarlane.	7.99	6.42	6.62	17.12	27.00	5.36
Kahuku	W. A. Baldwin	1.97	4.23	1.22	4.45	13.66	1.86
Ewa Plantation	Geo. H. Renton.	1.29	0.25	0.00	1.20	9.26	1 08
Oahu Sugar Co	Aug. Ahrens.	0.00	0.06	0.00	3 55	9.64	0.82
KAUAI							
Lihue	G. N. Wilcox	2.58	2.17	2.19	4.51	8.47	1.99
Kealia	G. H. Fairchild	1.17	1.11	1.44	3.17	6.64	1.53
Kilauea	H. R. Anahu.	3.97	5.35	4.70	9.74	12.12	4.00
Hanalei	W. H. Deverill.	8.26	8.74	5 03	14.51	15.12	5.06

THROUGHOUT THE HAWAIIAN ISLANDS, 1900-1901.

By C. J. Lyons. Continued from last ANNUAL.

Locality	Feet El'v'n	1901						
		Jan.	Feb.	Mar.	April	May	June	Total
HAWAII.								
Waiakea	50	9.53	7.32	26.88	12.85	3.53	3.45	134.54
Hilo	100	7.92	7.03	28.40	12.28	3 14	2.30	132.13
Kaumana	1250	10.66	7.35	33.07	17.31	5.21	3.76	161.54
Pepeekeo	100	7.09	7.04	26.34	8.94	2.16	2.85	116 49
Hakalau	200	8.45	8.76	27.45	6.48	1.51	2.99	122.00
Laupahoehoe	500	9 76	8.20	31.15	6.16	1.01	0.95	122.53
Ookala	400	4.72	6.99	17.53	4.13	0 55	0.57	74.92
Kukaiau	260	3.94	8.08	18.12	2.88	0.29	0.53	67.12
Paauhau	300	5.48	9 89	12.05	3.62	0.76	0.10	52.66
Honokaa	425	4.10	10.63	13.78	2.78	0 47	0.41	58.39
Waimea	2720	3.32	8.16	4.91	3.82	1.41	0.51	43.31
Kohala	521	2.04	12.67	6.92	3 59	0 44	1.03	46.27
Kailua	950	1.64	13.82	4.67	10.23	6 54	8.49	86.13
Kealakekua	1580	1.73	15.93	8.00	8 86	12 67	6.10	102.01
Naalehu	650	1 79	10.93	5.93	3.23	4.79	1.21	51.14
Pahala	850	1.51	11.89	3.20	3.73	3.64	1 01	53.24
Kilauea Volcano House	4000	5.83	17.38	15.31	6.78	3.78	1.70	94.86
Olaa	1700	.....	.....	.....	.....	.....	.....	.....
Kapoho	110	9.60	11.26	8.45	6.12	3.41	3.59	90.97
Pohoiki	10	7.87	9.81	.....	.....	.....	.....	.....
MAUI.								
Haleakala Ranch	2000	8.25	19.30	13.48	1.10	1.09	0.82	72.00
Puuomalei	1400	9 28	18.55	11.71	2.51	0.78	1.35	82.52
Paia	180	3.28	20 96	2.80	0.76	0.74	1.19	59.24
Kula	4000	1.88	33.98	3.86	1 24	3.10	3.11	73.30
Hamoa	60	.....	17.44	6.22	2.22	1.98	2.81	.....
Kipahulu	300	7.16	18.00	8.90	14.21	4 93	4.09	99.41
Kaupo	300	6.47	17.21	6.63	8.34	8.79	5.12	98.67
Nahiku	60	6.96	14.95	11.77	6.68	2.85	5.00	113.56
OAHU.								
Punahou	50	3.10	7 96	4.12	3.11	3.23	1.42	48.93
Kulaokahua	50	2.44	7.70	3.40	2 15	2.45	0.98	44 16
Kapiolani Park	10	1.76	8.28	1 60	0.95	2.02	0.63	30.15
School Street	50	3.95	7.60	4.45	3.28	3.25	1.79	57.19
Nuuanu Avenue	50	3.58	6.53	4.09	3.29	2 95	1.74	54.53
Nuuanu Valley	405	5.76	10.15	4.00	5.37	5.51	4.81	75 40
Luakaha	850	14.10	10 45	13.28	11.40	13.57	8.59	150.05
Waimanalo	25	4.91	15.87	5.17	2.41	5.30	1.57	66.84
Maunawili	300	5.70	17.13	8.52	8.99	11.59	2 59	105 93
Kaneohe	100	.....	9.42	.....	3.49	10.01	2.48	.....
Ahuimanu	350	5.26	17.35	7.77	10.23	16.29	4.95	132.36
Kahuku	25	1 59	11.31	2 53	3.89	3.64	1.40	51.75
Honouliuli	60	1.22	8.48	0.75	2.82	2.36	0.29	29 00
Waipahu	200	1.05	5.03	1.06	0.71	3.08	0.42	25.42
KAUAI.								
Lihue	200	3.08	9.37	7.51	3.13	8.56	3.19	56.75
Kealia	15	.....	7.85	.....	2 41	7.80	2.15	.....
Kilauea	325	3.79	14.44	9.76	9.04	7.84	4.23	88 98
Hanalei	10	5.86	23.41	17 43	4.74	6 50	4.85	119.51

SUMMARY OF METEOLOGICAL OBSERVATIONS AT HONOLULU, 1900-1901.

(Complied from records of Weather Bureau, by C. J. Lyons.)

Barometer corrected to gravity of Lat. 45° (con.=.06)

	Month	Barometer		Rainfall	Rel. Humid.		Temperature						Humidity Absolute		
		9 a.m.	3 p.m.		9 a.m.	9 p.m.	Min.	Max.	6 a.m.	2 p.m.	9 p.m.	Aver.	Gr. to Cu. ft.	Cloud Amt.	Wind Force
1900	July	29.985	29.925	2.59	66.2	73.8	73.0	85.3	74.9	83.5	76 8	78.5	7.21	3.7	2.8
1900	August	29.984	29.922	2.00	66 5	72.0	74.6	85.0	76.2	83.0	77.9	79.0	7.47	5 4	3.1
1900	September	29.989	29.917	1.55	62.6	71.6	73.7	85.3	74.9	83.3	76.9	78.4	7.20	3 8	2.6
1900	October	29.998	29.922	6.88	68.7	72.0	71.8	82.4	74.0	80.5	76 2	76 9	7.22	5.2	2.7
1900	November	29.973	29.885	11.30	75.7	79.3	69.9	78.8	71.9	77.2	73.3	74.1	7.16	5.7	2.2
1900	December	30 011	29.919	1.67	71.5	76.3	66.4	77.0	67.8	76.1	71.0	71.6	6.47	4.2	1.7
1901	January	30.047	29.950	3.10	69.0	74.7	65.7	77.2	67.6	75.9	70.3	71.3	6.14	3.6	2.4
1901	February	29.882	29.795	7.96	73.7	80.0	62.7	75 0	65.0	73.2	67.7	68.7	6.07	5.3	2.2
1901	March	30.066	29.980	4.12	72.2	71.7	67.7	77.5	69.4	76.3	71.7	72.5	6.52	5.2	3.0
1901	April	30.038	29.960	3.11	67.1	76.6	67.8	79.5	69.7	77.7	72.0	73.0	6.45	5.4	2.3
1901	May	30.004	29.947	3.23	69.8	83.3	68.8	82.3	71.1	80.3	73.2	74.8	7.38	4.0	1.7
1901	June	30.005	29.948	1.42	68.2	75.6	71.9	83.7	74.5	81.9	75.5	77.4	7.35	4.2	2.4
	Year	29.998	29.222	48.93	69.3	75.6	69.5	80.7	71.4	79.1	73.5	74.7	6.89	4.7	2.4

HONOLULU REGISTERED VESSELS.

Corrected to Sept. 30, 1901.

COASTERS—STEAMERS.

Reg. No.	Class.	Name	Tons	Registered Owners
17	Stmr.	Claudine	609	Wilder Steamship Co
18	Stmr.	Kinau	773	Wilder Steamship Co
19	Stmr.	Helene	392	Wilder Steamship Co
20	Stmr.	Lehua	129	Wilder Steamship Co
21	Stmr.	Maui	393	Wilder Steamship Co
22	Stmr.	Mokolii	49	Wilder Steamship Co
25	Stmr.	Hawaii	227	Wilder Steamship Co
38	Stmr.	Kaiulani	243	Wilder Steamship Co
4	Stmr.	Noeau	221	Inter-Island S. N. Co
8	Stmr.	W. G. Hall	380	Inter-Island S. N. Co
11	Stmr.	Niihau	201	Inter-Island S. N. Co
11	Stmr.	Kauai	265	Inter-Island S. N. Co
26	Stmr.	James Makee	137	Inter-Island S. N. Co
33	Stmr.	Mikahala	354	Inter-Island S. N. Co
34	Stmr.	Iwalani	239	Inter-Island S. N. Co
46	Stmr.	Mauna Loa	536	Inter-Island S. N. Co
47	Stmr.	Waialeale	176	Inter-Island S. N. Co
50	Stmr.	Ke Au Hou	192	Inter-Island S. N. Co
65	S.mr.	Hanalei	502	Inter-Island S. N. Co
68	Stmr.	Kaena	24	Inter-Island S. N. Co
55	Stmr.	Eclipse	163	Hawn. Navigation Co
29	Stmr.	J. A. Cummins	75	Waimanalo Sugar Co
45	S. sch.	Malolo	24	H. R. Macfarlane
94	Stmr.	Leslie Baldwin	23	Alexr. & Baldwin Ltd
4	Stmr.	Mohea	15	H. Hackfeld & Co. Ltd

COASTERS—SAILING VESSELS.

Reg. No.	Class	Name.	Tons	Registered Owners
1	Bark	Mauna Ala	820	Estate J. S. Walker
9	Schr.	Moi Wahine	95	S. C. Allen
10	Schr.	Kauikeaouli	140	S. C. Allen
12	Bark	Diamond Head	952	S. C. Allen
13	Schr.	Ka Moi	108	S. C. Allen
14	Schr.	Luka	122	S. C. Allen
36	Schr.	Concord	71	S. C. Allen
48	Schr.	Lady	20	H. R. Macfarlane
81	Schr.	Twilight	184	H. R. Macfarlane
3	Schr.	Mille Morris	13	H. R. Macfarlane
11	Schr.	Ada	27	H. P. Roth
12	Schr.	Waialua	25	H. P. Roth
32	Schr.	Fannie Adele	222	Inter-Island S. N. Co.
62	Schr.	Kawailani	24	L. Apana
95	Schr.	Blanche & Ella	27	Jules Dudoit
5	Schr	Rob Roy.	17	John A. Wilson

Comparative Table of Population, Hawaiian Islands—1853-1900.

ISLANDS.	Census 1853	Census 1860	Census 1866	Census 1872	Census 1878	Census 1884	Census 1890	Census 1896	Census 1900
Hawaii	24,450	21,481	19,808	16,001	17,034	24,991	26,754	33 285	46 843
Maui	17,574	16,400	14,035	12,334	12,109	15,970	17,357	17,726	24,797
Oahu	19,126	21,275	19,799	20,671	20,236	28,068	31,194	40,205	58,504
Kauai.....	6,991	6,487	6,299	4,961	5,634	*8,935	11,643	15,228	20,562
Molokai...	3,607	2,864	2,299	2,349	2,581	2614	2,652	2,307	2,504
Lanai.....	600	646	394	348	214		174	105	619
Niihau....	790	647	325	233	177	.....	216	164	172
Kahoolawe	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total..	73,138	69,800	62,959	56,897	57,985	80,578	89,990	109,020	154,001
All Foreig's	2,119	2,716	4,194	5,366	10,477	36,346	49,368	69,516	90,780
Hawaiians..	71,019	67,084	58.765	51,531	47,508	44 232	40,622	39.504	.....

*Including Niihau.

Comparative Table of Nationality of Population of Hawaiian Islands at Various Census Periods since 1853.

NATIONALITY	1853	1866	1872	1878	1884	1890	1896
Natives	70,036	57,125	49,944	44,088	40,014	34,436	31,019
Part Hawaiians.....	983	1,640	1,487	3,420	4,218	6,186	8 485
Chinese.....	364	1,206	1,938	5,916	17,937	15,301	19,382
Americans.	692		889	1,276	2,066	1,928	2,266
Haw'n-born Foreigners..	309		849	947	2,040	7,495	13,733
British.....	435		619	883	1,282	1,344	1,538
Portuguese.....	86		395	436	9,377	8 602	8,232
German.....	81	2,988	224	272	1,600	1,434	912
French	60		88	81	192	70	75
Japanese.....	.....		.....	.....	116	12,360	22,329
Norwegian.....	8		..	.....	362	227	216
Other Foreigners.....	80		364	666	416	419	424
Polynesian	4		.....	.. ..	965	588	409
Totals	73,138	62,959	56.897	57,985	80,578	89,990	109,020

There was no complete division of nationalities noted in the census of 1866.

Seating Capacity of Principal Churches, Halls and Places of Amusement—Honolulu.

Kawaiahao Church (native), King street.....	1,000
Roman Catholic Cathedral, Fort street	1,500
Central Union Church, Beretania street....	850
St. Andrews' Cathedral (Episcopal) Emma street.....	800
Y. M. C. Association Hall, Hotel street	250
Progress Hall, corner Fort and Beretania streets.....	500
Hawaiian Opera House, King street.....	1,000
The Orpheum, Fort street.....	945

HAWAIIAN SUGAR PLANTATION STATISTICS.

From January, 1875, to June, 1901, inclusive.

YEAR	SUGAR		MOLASSES		TOTAL EXPORT VALUE
	POUNDS	VALUE	GALLONS	VALUE	
1875	25,080,182	$ 1,216,388 82	93,722	$ 12,183 86	$ 1,228,572 68
1876	26,072,429	1,272,334 53	130,073	19,510 95	1,291,845 48
1877	25,575,965	1,777,529 57	151,462	22,719 30	1,800,248 87
1878	38,431,458	2,701,731 50	93,136	12,107 68	2,713,839 18
1879	49,020,972	3,109,563 66	87,475	9,622 52	3,119,185 91
1880	63,584,871	4,322,711 48	198,355	29,753 52	4,352,464 73
1881	93,789,483	5,395,399 54	263,587	31,630 44	5,427,020 98
1882	114,177,938	6,320,890 65	221,293	33,193 95	6,354,084 60
1883	114,107,155	7,112,981 12	193,997	34,819 46	7,147,800 58
1884	142,654,923	7,328,896 67	110,530	16,579 50	7,345,476 17
1885	171,350,314	8,356,061 94	57,941	7,050 00	8,363,111 94
1886	216,223,615	9,775,132 12	113,137	14,501 76	9,789,633 88
1887	212,763,647	8,694,964 07	71,222	10,522 76	8,705,486 83
1888	235,888,346	10,818,883 09	47,965	5,900 40	10,824,783 49
1889	242,165,835	13,089,302 10	54,612	6,185 10	13,095,487 20
1890	259,789,462	12,159,585 01	74,926	7,603 29	12,167,188 30
1891	274,983,580	9,550,537 80	55,845	4,721 40	6,555,258 20
1892	263,636,715	7,276,549 24	47,988	5,061 07	7,281,610 34
1893	330,822,879	10,200,958 37	67,282	5,928 96	10,206,887 33
1894	306,684,993	8,473,009 10	72,979	6,050 11	8,479,059 21
1895	294,784,819	7,975,590 41	44,970	3,037 83	7,978,628 24
1896	443,569,282	14,932,172 82	15,885	1,209 72	14,933,382 54
1897	520,158,232	15,390 422 13	33,770	2,892 72	15,393,314 85
1898	444,963,036	16,614,622 53	14,537	919 18	16,615,541 71
1899	545,370,537	21,898,190 97	11,455	358 55	21,898,549 52
1900[1]	344,531,173	13,919,400 21	120	10 00	13,919.410 21
1901[2]	690,882,132	27,094,155 00	93,820	4,615 00	27,098,770 00

1 5½ months to June 14. 2 June 14, 1900 to June 30, 1901.

PLANTATION LABOR STATISTICS.

Number and nationality of sugar plantation laborers.

Summarized from table compiled by Secretary H. E. Cooper, June, 1901.

Islands.	Haw'n.	Portuguese.	Japs.	Chinese.	Porto Ricans.	S. S Isl'nds.	All Others.	Total.
Hawaii	499	1,009	10.198	1,505	850	6	334	14,401
Maui	460	516	5,050	1,095	496	27	426	8,070
Oahu	301	356	6,364	1,313	352	.....	103	8,789
Kauai	210	536	5,925	1,063	397	13	183	8,327
Total 1901	1,460	2,417	27,531	4,976	2,095	46	1,046	39,587
" 1899	1,326	2,153	25,644	5,979	.....	79	806	35,987
" 1898	1,482	2,064	16,786	7,200	.....	68	979	28,579
" 1897	1,497	2,218	12,068	8,114	.....	81	675	24.653

LIST OF SUGAR PLANTATIONS, MILLS AND CANE GROWERS THROUGHOUT THE ISLANDS.

Those marked with an asterisk (*) are planters only; Those marked with a dagger (†) are mills only; All others are plantations complete, owning their own mills.

NAME.	LOCATION.	MANAGER.	AGENTS.
Beecroft Plantation,*	Kohala, Hawaii,	H. R. Bryant,	Davies & Co
Ewa Plantation,	Ewa, Oahu,	G. F. Renton,	Castle & Cooke
Gay & Robinson,*	Makaweli, Kauai,	Charles Gay,	Waterhouse & Co
Grove Farm,*	Nawiliwili, Kauai,	A. H. Smith,	Hackfeld & Co
Haiku Sugar Co.,	Haiku, Maui,	H. A. Baldwin,	Alex'r&Baldwin
Hakalau Plant'n Co.,	Hilo, Hawaii,	George Ross,	Irwin & Co
Halawa Sugar Co.,	Kohala, Hawaii,	T. S. Kay,	Waterhouse & Co
Hamakua Mill Co.,	Hamakua, Hawaii,	A. Lidgate,	Davies & Co
Hamoa Plantation,	Hana, Maui,	J. Meyers,	Brewer & Co
Hana Plantation Co.,	Hana, Maui,	K. S. Gjerdrum,	Grinbaum & Co
Hawi Mill & Plantation,	Kohala, Hawaii,	J. Hind,	Hind, Rolf & Co
Haw'n Agricultural Co.,	Kau, Hawaii,	C. M. Walton,	Brewer & Co
Haw'n Com'l & Sug. Co.,	Spreckelsv'le, Maui	W. J. Lowrie,	Alex'r&Baldwin
Hawaiian Sugar Co.,	Makaweli, Kauai,	W. A. Baldwin	Alex'r&Baldwin
Heeia Agr'l Co., Ltd.,	Heeia, Oahu,	W. McGowan,	C. Bolte
Hilo Sugar Co.,	Hilo, Hawaii,	John A. Scott,	Irwin & Co
Hilo Port. Sug. Mill Co.,	Hilo, Hawaii,	W. von Grav'm'r	Hackfeld & Co
Honolulu Plant'n Co.,	Halawa, Oahu,	Jas. A. Low,	Irwin & Co
Honokaa Sugar Co.,	Hamakua, Hawaii,	John Watt,	Schaefer & Co
Honomu Sugar Co.,	Hilo, Hawaii,	Wm. Pullar,	Brewer & Co
Hutchinson Sugar Co.,	Kau, Hawaii,	G. C. Hewett,	Irwin & Co
Kahuku Plantation,	Kahuku, Oahu,	Andrew Adams	Grinbaum & Co
Kekaha Sugar Co.,	Kekaha, Kauai,	E. K. Bull,	Hackfeld & Co
Kilauea Sugar Co.,	Kilauea, Kauai,	G. R. Ewart,	Irwin & Co
Kipahulu Sugar Co.,	Kipahulu, Maui,	A. Gross,	Hackfeld & Co
Kihei Plantation,*	Kihei, Maui,	W. F. Pogue,	Alex'r&Baldwin
Kohala Plantation,	Kohala, Hawaii,	E. E. Olding,	Castle & Cooke
Koloa Sugar Co.,	Koloa, Kauai,	P. McLane,	Hackfeld & Co
Kona Sugar Co.,	Kona, Hawaii,	James Cowan,	M'Chesney&Sons
Kukaiau Mill Co.,†	Hamakua, Hawaii,	E. Madden,	Davies & Co
Kukaiau Plant'n Co.,*	Hamakua, Hawaii,	J. M. Horner,	Hackfeld & Co
Laie Plantation,	Laie, Oahu,	S. E. Wooley,	Waterhouse & Co
Laupahoehoe Sug. Co.,	Laupahoehoe, Haw	C. McLennan,	Davies & Co
Lihue & Hanamaulu M'l.	Lihue, Kauai,	F. Weber,	Hackfeld & Co
Makee Sugar Co.,	Kealia, Kauai,	G. H. Fairchild,	Brewer & Co
Maui Sugar Co.,	Huelo, Maui,	W. S. Akana,	Wong Kwai
McBryde Sugar Co.,	Wahiawa, Kauai,	Wm. Stodart,	Davies & Co
Niulii Mill & Plant'n,	Kohala, Hawaii,	Robert Hall,	Davies & Co
Oahu Sugar Co.,	Waipahu, Oahu,	A. Ahrens,	Hackfeld & Co
Olaa Sugar Co.,	Olaa, Hawaii,	F. B. McStocker	Dillingham Co
Olowalu Sugar Co,	Olowalu, Maui,	E. Kruse,	Irwin & Co
Onomea Sugar Co.,	Hilo, Hawaii,	John T. Moir,	Brewer & Co
Ookala Sugar Co.,	Ookala, Hawaii,	W. G. Walker,	Irwin & Co
Paauhau Sug. Pl't'n Co.	Hamakua, Hawaii,	Jas. Gibbs,	Irwin & Co
Pacific Sugar Mill,	Hamakua, Hawaii,	D. Forbes,	Schaefer & Co
Paia Plantation,	Paia, Maui,	D. C. Lindsay,	Alex'r&Baldwin

LIST OF SUGAR PLANTATIONS, MILLS AND CANE GROWERS—CONTINUED.

NAME.	LOCATION.	MANAGER.	AGENTS.
Pepeekeo Sugar Co.,	Hilo, Hawaii,	H. Deacon,	Davies & Co
Pioneer Mill Co., Ltd.,	Lahaina, Maui,	L. Barkhausen,	Hackfeld & Co
Puakea Plant'n Co.,*	Kohala, Hawaii,	H. R. Bryant,	Davies & Co
Puako Plantation,	S. Kohala, Hawaii,	W. Vredenberg	Hind,Ro f&Co
Puna Sugar Co.,	Puna, Hawaii,	W. H. Campbell	Dillingham Co
Union Mill Co.,	Kohala, Hawaii,	J. Renton,	Davies & Co
Waiakea Mill Co.,	Hilo, Hawaii,	C. C. Kennedy,	Davies & Co
Waialua Agricult'l Co.,	Waialua, Oahu,	W. W. Goodaie,	Castle & Cooke
Waianae Plantation,	Waianae, Oahu,	Fred Meyer,	J. M. Dowsett
Wailuku Sugar Co.,	Wailuku, Maui,	C. B. Wells,	Brewer & Co
Waimanalo Sugar Co.,	Waimanalo, Oahu,	Geo. Chalmers,	Irwin & Co
Waimea Sugar Mill Co.,	Waimea, Kauai,	John Fassoth,	Castle & Cooke

ESTIMATED EXPENDITURE AND REVENUE 1901-2, TERRITORY OF HAWAII.

Unpaid warrants, July 1	$ 176,495 45
Salaries under Act No. 3	2,149,813 50
Current expenses under Act No. 4	3,523,530 52
Unpaid bills	76 453 67
Balances from last period. Expenses of the Legislature	24,223 28
Contracts	28,373 95
Fire Claims Commission	14,750 93
Emergency road fund	22,729 58
Expenses, Buffalo exhibit	1,662 67
Appropriation, fire claim warrants	1,500,000 00
Total	$7,518,033 55
Estimated Internal Revenue.	
Taxes	$2,700,000 00
Licenses	200,000 00
Revenue Stamps	200,000 00
Conveyance Bureau	39,000 00
Fines and costs	141,000 00
Water rates, Honolulu	170,000 00
Water rates, outside of Honolulu	12,000 00
Honolulu Market	25,000 00
Public works office	135,000 00
Wharfage and pilotage, Honolulu	220,000 00
Wharfage and pilotage, Hilo	5,000 00
Commissioner of public lands	200,000 00
Kerosene and powder storage	14,000 00
Public Instruction	8,000 00
Government realizations	50,000 00
Return of interest from the United States	150,000 00
Total	$4,269,000 00
Cash on hand, July 1, 1901	75,994 97
Grand total revenues	$4,344,994 97

LIST OF PRINCIPAL STOCK AND SHEEP RANCHES THROUGHOUT THE ISLANDS.

Ranch Name.	Character.	Manager.	Location.	Agent.
Erehwon Station	Cattle	D. von Tempsky	Makawao, Maui	J. M. Dowsett.
Gay & Robinson	Sheep	Gay & Robinson	Niihau	Waterhouse & Co.
Greenwell's	Cattle and Sheep	W. H. Greenwell	S. Kona, Hawaii	
Haleakala	Stock	L. von Tempsky	Makawao, Maui	Brewer & Co.
Honouliuli	Stock	L. Warren	Ewa, Oahu	H. von Holt.
Honolua	Stock	R. C. Searle	Honolua, Maui	Alexander & Baldwin.
Huehue	Stock	John Maguire	N. Kona, Hawaii	Davies & Co.
Humuula	Sheep	R. W. Jones	Kohala, Hawaii	Metropolitan Meat Co.
Kahikinui	Stock	J. H. Raymond	Nuu, Maui	Waterhouse & Co.
Kahuku	Stock	Samuel Norris	Kau, Hawaii	J. F. Morgan.
Kahuku	Stock	Wm. Campbell	Kahuku, Oahu	H. von Holt.
Kalawao	Stock	L. L. McCandless	Ewa, Oahu	C. Brown.
Kaneohe	Stock	George Campbell	Koolau, Oahu	C. Bolte.
Kapapala	Stock	J. Monsarrat	Kau, Hawaii	Brewer & Co.
Lanai Ranch	Sheep	A. C. Dowsett	Lanai	
Leilehua	Stock	W. A. Buick	Waianae, Oahu	Dillingham Co.
Makua	Stock	L. L. McCandless	Waianae, Oahu	C. Brown.
Mokuleia	Stock		Waialua, Oahu	H. Focke.
Molokai Ranch	Stock and Sheep	G. C. Monroe	Molokai	A. W. Carter.
Paris'	Stock	John D. Paris	S Kona, Hawaii	
Parkers'	Stock	F. W. Carter	Waimea, Hawaii	A. W. Carter.
Puuhue	Stock	Palmer Woods	Kohala, Hawaii	Davies & Co.
Puuloa	Sheep	F. Johnson	Waimea, Hawaii	Macfarlane & Co.
Puuohoku	Cattle and Sheep	J. F. Brown	East Molokai	J. F. Brown.
Puuwaawaa	Stock	Eben Low	Kona, Hawaii	Hind, Rolf & Co.
Rice's	Stock	W. H. Rice	Lihue, Kauai	
Rose Ranch	Stock	J. H. Raymond	Ulupalakua, Maui	Waterhouse & Co.
Umikoa	Stock	R. Horner	Hamakua, Hawaii	
Waimalu	Stock	L. L. McCandless	Ewa, Oahu	C. Brown.
Waiohinu Agricultural Co	Stock	S. Kauhane	Kau, Hawaii	Irwin & Co.

HISTORY OF THE HOUSE OF H. HACKFELD & CO.

SEPTEMBER 26, 1849, there arrived at Honolulu, from Hamburg, Germany, the Hawaiian brigantine *Wilhelmine*[1] of 156 tons (formerly the old ketch Basilisk), H. Shreiver, master, consigned to Makee, Anthon & Co., having as cargo a varied assortment of staple goods presumably selected for this market.

The event was not deemed worthy a local paragraph in the papers of the day and, ordinarily, such an occurrence would soon be lost sight of in the activities of any sea-port town, but it was destined to prove an important factor in the shipping and commercial interests of Hawaii, inasmuch as there arrived by this vessel Captain Henry Hackfeld with his young wife and her brother, J. Charles Pfluger, with this small cargo of assorted merchandise with which to establish business at this port.

The *Polynesian* of October 6, 1849, contains the modest advertisement of "Memorandum of Goods ex *Wilhelmine* for sale by H. Hackfeld, at the store occupied by C. S. Bartow," which consisted of Dry Goods, Hardware, Crockery, Stationery, etc. This announcement—which ran to the end of the year—is dated "Honolulu, Oct. 1, 1849," (which was Monday), furnishes the date of establishing in business. The store referred to, apparently occupied jointly between Captain Hackfeld and Mr. Bartow, was a small wooden building situated on Queen street on the site of H. Waterhouse & Co.'s late stand. Six weeks later C. S. Bartow is found "at the store under the residence of John G. Munn," thus leaving the recent arrival in sole possession.

It has been asserted that Captain Hackfeld came to establish business with a knowledge gained of its opportunities in these

[1]This vessel (with an interesting past) left Honolulu for Mazatlan, Mexico, Feb. 1, 1848, in command of Captain Rossum, sailing from thence to Guayaquil, en route to Germany.

Islands by previous service here as super-cargo in Makee & Anthon's vessels in the China and other trade with Hawaii. This is inaccurate, and the impression that his title was complimentary rather than an earned one, is an error. Careful inquiry on the subject elicits the statement that Captain Hackfeld had been a master mariner, having a vessel of his own in which he had been engaged in the China trade, and that he made a visit to these Islands prior to his arrival to establish in business. That he brought goods well adapted for this market is to his credit of judgment, whether the knowledge was gained from a brief visit to the field (which shipping lists of the port however fail to show), or whether it was obtained from Captain Rossum that took the *Wilhelmine* home, who, from an experience of several years in various vessels in and out of this port, was well qualified to advise on such matters.

The founder of this new commercial venture was accompanied by his brother-in-law, J. C. Pfluger, then but a lad of sixteen, who was his sole clerk for some time, but whose frugality,[2] aptitude for business and watchful regard for his employers' interests gained such substantial recognition that secured him an interest in the house within four years of its establishment.

The business card of the house first appeared January 4, 1850, and reads, "H. Hackfeld, Ship Chandler and General Agent." The success of this house from its start is the more remarkable when the conditions of Honolulu at the time are understood. In the first place the town was just recovering from the political excitement and disturbances occasioned by the French outrage when "Les braves Poursuivantes" seized and occupied the fort to enforce their peculiar demands on the government; and in the second place, quite an exodus of population was going on among foreigners and natives alike in consequence of the California "gold fever." And furthermore, the number of business houses of recognized standing existing at that time in Honolulu, made a formidable array of competitors, the more prominent of which

[2]It is said of "Charlie" Pfluger that for some time after establishing in business he slept in the store on an improvised cot that was hoisted out of the way during the day. With his violin he would pass the evening hours oftentimes alone while others were seeking excitement.

were: Makee, Anthon & Co., S. H. Williams & Co., Starkey & Co., Everett & Co., Crabb & Spalding, The Hudson Bay Company, Castle & Cooke, J. J. Caranave, F. R. Vida, A. B. Howe, J. G. Lewis and William S. Anner & Co., without mention of the retail concerns.[3]

The high prices which pervailed on the Coast for all staple goods during the gold excitement naturally had its effect on merchandise in this market and helped to make up for the diminution of buyers through the exodus referred to.

The new house was fortunate in securing the support of Dr. R. W. Wood, who turned over to H. Hackfeld the commercial agency of the Russian government, which at that time was very good business, and also the agency of his Koloa and East Maui plantations. This early identification with the sugar interest has enabled the concern to render material aid in the development of this most important industry of the Islands, and its agency of Koloa—the first systematic conducted sugar plantation established in the Islands—has been continued up to the present time.

Under the date of July 5, 1853, appeared this advertisement, signed by H. Hackfeld: "J. C. Pfluger has this day become a partner in my business, which will henceforth be carried on under the firm of H. Hackfeld & Co." On the 16th of the same month the business card of the house was changed to "H. Hackfeld & Co., General Commission Agents and Ship Chandlers," and the same issue of the *Polynesian* contained an advertisement by them of sundry goods "expected to arrive from Boston per *Matanzas,* thus indicating the beneficial influence of Dr. Woods' agencies to the business of the house through his connections in the eastern States.

It may not be amiss to mention in passing, that the *Matanzas,* on this trip, brought a large amount of important machinery to the Islands for the extension of the sugar industry, directly, including an outfit for the Koloa and Lihue plantations, and indirectly in outfitting D. M. Weston, founder of the Honolulu

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[3]Some idea of the business of the islands may be formed from the value of imports and exports for the year 1849, which is shown by Custom House tables to have been $729,739.44 for the former, and $89,743.74 for the latter.

Iron Works, with a complete furnace, turning lathe, steam engine, etc., etc.

During the year prior to the change of the firm name a branch store for the retail trade was opened on Fort street, under the charge of Mr. Nahum Mitchell, assisted later—and subsequently succeeded—by B. F. Ehlers, who became well known to the natives as "Painapa," while the store was the famed "Hale Kilika,"[4] or silk house. This was a two-story frame building, demolished only a short time ago, together with the later adjoining one-story coral store the business had moved into, to give place to the larger two-story structure it now occupies. In earlier years, as now, this store catered to the best trade of the Islands, and has been foremost on the introductions of novelties in their lines. In 1856, while still under the charge of Mr. Mitchell, the rear end of the store was fitted with large plate mirrors, nearly its whole width; an innovation that proved quite attractive to the shopping public.

Paul Emmert's views of Honolulu in 1853 show this Fort street store with the H. Hackfeld & Co. sign, but since Mr. B. F. Ehlers' time we recall nothing of publicity connecting the two stores, and though several managers have succeeded him, the B. F. Ehlers name adorns the new building, though he has been dead now several years.

Since early in H. Hackfeld's settling here in business, this house has been the Consulate for a number of the nations of Europe, represented by one or another of the firm up to the present writing. The date of the first appointment we are not advised (1852 or earlier), but on Captain Hackfeld's leaving for Germany in May, 1855, J. C. Pfluger was empowered to act for him by power of attorney during his absence, and to whom was assigned the duties of the Consulate of Sweden and Norway. These official duties he resumed on his return in March, 1857.

About the time of Captain Hackfeld's visit to Europe, plans were completed for the erection of a fine, two-story building on

[4]This is not to be confused with "Mauna Kilika," a building of early Honolulu renown that stood near the Fort, on the lower portion of Hackfeld & Co.'s present premises.

the Queen street property adjoining his store. This was erected by Dr. R. W. Wood for the needs of the firm's growing business, and was evidently designed with the view of extension on the Waikiki side should the adjacent lot be secured.

This building,[5] of pressed brick with granite trimmings and slate roof, was completed and moved into July 9, 1856, the firm celebrating the occasion by a public lunch, which was attended by many citizens who wished the firm continued success. The old store was succeeded to by John Hackfeld, a brother, who carried on general merchandising in friendly rivalry for a number of years, then retired to spend his remaining days in the home land.

Upon the return of H. Hackfeld to the Islands in 1857, he assumed a prominent position in the commercial activities of the port till retiring in 1861 to attend to the business interests of the firm in Bremen, subsequently establishing a home office.

The scope of business was materially enlarged in the two years absence of H. Hackfeld in Europe, not only in the personal selection of goods for the Island trade, but extending their agency list to include shipping, manufacturing and jobbing lines not only in Europe and England, but on the Pacific and Atlantic Coast of the United States. As early as 1855 we find this

[5]This is the same building now occupied as Wilder & Co.'s ship chandlery, modernized by its larger glass front and fixed awning.

house the representative of the Teekalet Mill for the sale of cargoes of lumber, and it is well known that it has held the agency for these Islands of the Pope & Talbot lumber mills of the Sound for the past thirty years or more.

The prominence of the whaling business in the Pacific all through the "fifties," and later, brought a number of German vessels hither, as also vessels engaged in the Russian trade on the northwest coast, which gave them much profitable business, and when the Island enterprise caught the "oil fever" and bought and fitted out vessels from this port, they shared in the agencies of Honolulu whalers, of which there were eighteen in 1858, outfitted at $395,000.

Owing to the meager paragraphs in the papers of those days, especially of a business or commercial character, and the rarity of advertisements of the house, it is a somewhat difficult task to record its development in regular sequence now that all those who were connected with its early period have "passed over the river." If memory serves us rightly, the establishment of Hackfeld & Co's line of Bremen and Honolulu packets was one of the results of the trip to Europe already referred to. With the exception of an occasional chartered ship, these vessels were all built for this line, and were put under the Hawaiian flag. They comprised the barks *G. F. Haendel, R. W. Wood, W. C. Talbot, A. J. Pope, R. C. Wyllie, Eagle, Wilhelm I, Ka Moi, Kale, C. R. Bishop,* and perhaps one or two others. Some of these after a time were assigned to the whaling and Russian trading service, all eventually being superseded by larger ships, viz., the *J. C. Glade, J. C. Pfluger, Marie Hackfeld, G. N. Wilcox* (lost on her maiden voyage), *H. Hackfeld* and *Paul Isenberg,* several of which are still fresh in the service. Occasionally one or another is diverted to load at Liverpool or New York, for this port. In earlier days these vessels loaded here with oil, wool, hides, etc., as return cargoes to Europe, or latterly loaded sugar for San Francisco and secured a wheat charter for home, thus having continuous earnings.

The shipping agency business of this house has ever been a prominent one. In 1875 H. Hackfeld & Co. were appointed agents for the Pacific Mail Steamship Company, at the time of their inaugurating the Australian mail service with the *Vasco de Gama,* in

October of that year, and in 1889, the agency of the O. & O. S. S. Co. was also assigned to them. In 1898 we find them the representatives of the Toyo-Kisen S. S. Co., and this past year the Hawaiian-American Steamship Line between New York and these Islands, via San Francisco and Seattle, has been added to their list. They have long held also the agency of one or more lines of packets between Honolulu and San Francisco, the Hawaiian Line of Williams, Dimond & Co., reaching back over twenty years.

Upon Captain Hackfeld's leaving the Islands, in 1861, the local management devolved on the junior partner, in which he was ably assisted by Mr. J. Bollman, an expert accountant who had come out for this service of the firm from Germany. It was during Bollman's administration that H. Hackfeld & Co. went into sugar estates on a large scale, and he was well blamed for this new departure, which has proved very lucrative.

From this time onward the concern made successful strides in building up a large and most prosperous business. For a number of years they maintained profitable trading stations on the northwest coast, vessels between Sitka and Petropaulski and this port being somewhat frequent along in the "fifties" and "sixties." In connection with this Russian trading service Mr. Bollman, and later J. Wm. Pfluger, visited the various stations, with residence for some time at their headquarters in Petropaulski.

In the development of the sugar industry of these Islands, which was materially extended in 1863-64, the firm became further identified therewith (as above stated), taking on new agen-

cies for Kauai and Maui enterprises, mainly; their interest in Hawaii concerns being much later, as also their agencies of Oahu projects. The stability given this leading industry upon the ratification of the treaty of reciprocity with the United States induced this firm (as it did others), to render financial aid to several new enterprises, some of the agencies of which they have carried continuously up to the present time.

On the retirement of J. Chas. Pfluger, in 1871, to reside at Bremen, where with H. Hackfeld they established a house of the same name to better enhance the interests of the firm in these Islands, the management then devolved upon J. C. Glade, who, with Mr. Ed Furstenau, were admitted to partnership in the business. J. Wm. Pfluger, a brother of J. C. Pfluger, for some time prior and subsequent to this period held an important position in the house, but we do not find him credited with an interest until gazetted as a special partner in 1881, some time after his return to Germany.

Mr. J. C. Pfluger twice revisited the scenes of his early commercial labors since the retirement above referred to, once in 1874, and again in 1880-81, but for short periods only, in the adjustment of the business interests of the firm. Returning to Germany he died two years thereafter, unexpectedly, in October of 1883, aged fifty years, and in the same month four years later, Captain Hackfeld, the founder of the house died, without having visited Honolulu since his departure in 1861.

During Mr. Pfluger's visit here in 1874, the courthouse, with its spacious premises at the corner of Queen and Fort streets, were purchased

of the government, and necessary alterations made to the building, conforming it to business purposes, and to which the business of the firm moved. This two-story structure, with cellar, has twice been enlarged, and warehouses one after another added on the grounds, with others still more spacious on the Esplanade have been erected to accommodate the heavier stocks carried to meet the demands of their steadily growing trade.

H. W. Schmidt, for several years the accountant of the firm, was admitted to an interest therein in 1878, about the same time that Mr. Furstenau retired, leaving shortly afterward for Europe. In 1881 the membership added to the concern consisted of Hon. Paul Isenberg, H. F. Glade and J. F. Hackfeld; H. Hackfeld, J. C. Pfluger and J. W. Pfluger being named as special partners. In 1886 Ed Muller was admitted as a partner, but in consequence of political partizanship and bias inimical to the interests of the firm he withdrew in 1890 and returned to the Fatherland. A short time prior to this event Mr. H. W. Schmidt left the concern to establish a house of his own in this city.

This period dates another enlarging sphere of commercial enterprise, when, with G. N. Wilcox and others, the prosecution was inaugurated of the guano business of Laysan Island, and the establishment in connection therewith of the Pacific Guano and Fertilizer Company, with extensive works at Kalihi under the management of Dr. W. Averdam.

Mention is also to be made of the material aid given by this firm in the effort a few years ago by many enthusiasts to establish the coffee industry on a broad basis as a close second in importance to that of sugar. Not only did they lend financial assistance, but established plants for pulping, hulling and grading the product at Hilo and Kailua, on Hawaii, and a more complete one on their premises in this city. In the opening up of the Olaa tract on Hawaii to settlers, and the consequent impetus to business which followed at Hilo, a branch store was established at that point in 1897, under the management of Mr. George Rodeik. At Kailua, the central point of the Kona coffee industry, another branch house was established a little later under the charge of Mr. C. Castendyk. Branch stores of Hackfeld & Co. are also

maintained at Lahaina, Maui; Koloa, Lihue, Kekaha and Mana, Kauai.

Toward the close of 1897 steps were instituted toward incorporating the concern, which was consummated December 24th, by filing the application for a charter of limited liability for fifty years, the capital stock being placed at $1,000,000, in shares of $100, par value. The incorporating stockholders were Paul Isenberg, J. F. Hackfeld, and J. C. Glade, of Honolulu; H. H. Pfluger, J. C. Pfluger, J. W. Pfluger, and H. F. Glade, of Germany; W. Wolters, E. Suhr, H. A. Isenberg, C. Bosse, F. Klamp, and J. F. Humberg, of Honolulu. January 20, 1899, the capital was increased to $2,000,000 by the issue in equal shares for the added amount to Paul Isenberg and J. F. Hackfeld.

On Monday, October 2, 1899, the corporation celebrated the fiftieth anniversary of the firm's establishment by a general reception to the many friends of the concern, which meant the public at large, and the occasion was duly honored. The Hilo and Kailua branches celebrated the event also. The event passed off with much eclat, and was made memorable by the generous gift of $1,000 each to the various benevolent societies, etc., of the city, viz: Strangers' Friend Society, German Benevolent Society, American Relief Fund, British Benevolent Society, Hawaiian Relief Society, Associated Charities, Free Kindergarten and Children's Aid Society, Ladies' Portuguese Charitable Association, Catholic Benevolent Union, Kapiolani Maternity Home, Chinese

Hospital, Japanese Benevolent Society, and the Charitable Society of Hawaii. Messrs. P. Isenberg and J. F. Hackfeld further donated $50,000 to establish and maintain a German Lutheran church in this city.[6] Various employes of the corporation received substantial tokens in accordance with their length of service and position, and in the evening a social dance and entertainment at Waikiki fittingly closed a memorable day.

A recognized feature of the Hackfeld house has been the management and treatment of its employes. In nearly all cases the members from time to time of the firm reached their enviable positions from promoted clerkships gained through apprenticeship as office lads, brought out from Germany as the needs of the house required.

A point not to be overlooked in the history of this house has been its long official representative capacity, by one or another of its members, as the consulate for Sweden and Norway (till the withdrawal of H. W. Schmidt in 1890), the German Empire, Russia, Austro-Hungary and Belgium, and its connections in Germany long served Hawaii in like manner, J. F. Muller having been the Hawaiian Consul at Bremen since 1883, and at the time of J. C. Pfluger's death he held the position of Hawaiian Consul-General for Germany.

At the fiftieth anniversary of the house referred to, plans were maturing for the erection of a large three-story and basement stone building to cover the entire premises on Fort street, from Queen to Halekauila, a distance of 208 feet, and running back on Queen street to near the present store front 100 feet, with a like wing on the makai street, to meet the requirements of the corporation. Work was early entered upon, and in spite of various delays in the importations of certain materials therefor, through labor strikes, fires, etc., which has seriously hampered its progress, the building is now receiving the slow finishing touches indicative of near completion for occupancy shortly after the opening year.

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[6]This step has been well carried out by the purchase of a suitable church lot and erection of the edifice which latter had dedication early in June last.

It is a massive looking, handsome structure (as shown in another article in this issue), remarkably in advance of any business block in the city, and is not only a commendable monument to the enterprise of its founders, but a credit also to this mid-Pacific metropolis in which its citizens may take pardonable pride.

The present officers of H. Hackfeld & Co., Ltd., known as a close corporation, are as follows:

President .....Paul Isenberg
First Vice President.....J. F. Hackfeld
Second Vice President.....H. A. Isenberg
Treasurer .....H. Schultze
Secretary and Auditor.....F. W. Klebahn

Directors—F. Klamp, J. F. Humburg, W. Pfotenhauer, George Rodiek.

COMPLETE LIST OF THE BIRDS OF THE HAWAIIAN POSSESSIONS, WITH NOTES ON THEIR HABITS.

Prepared for the Hawaiian Annual by H. W. Henshaw.

SCOPE OF THE PRESENT LIST.

IT is to be regretted that there is no comprehensive work upon Hawaiian birds which is within the reach of the general public. The recent magnificent volume by Mr. Scott B. Wilson, and the equally fine and even more extensive work just published by Mr. Walter Rothschild, both published in London and illustrated by superb plates, are too costly for general distribution. It is greatly to be hoped that the future has in store a comprehensive and popular account of Hawaiian Birds which will be within the reach of all.

The present paper does not supply the want of such a work except to a small degree. It is intended merely as a complete list of the birds of the Hawaiian Possessions, so far as present

knowledge extends. Notes upon the habits of some of the species are appended, chiefly with the hope that the meagerness of our knowledge respecting this subject may thereby be made more apparent, and thus that island observers may be stimulated to enter this very interesting and fruitful field—a field, too, which it would seem should appeal peculiarly to the pride and interest of residents of the islands.

With the exception of a limited knowledge of Oahu and a short visit to the slopes of Haleakala on Maui, the author's own field experience is restricted to the Island of Hawaii, the largest and most extensively forested of the group, and mostly to its windward side. Within this limited area he has enjoyed unusual opportunities to observe the habits of certain species.

Many of the birds that inhabit the Island of Hawaii recur upon the other islands. While the change of food and climate, in other words, of environment, has been sufficient to transform many of them into specifically distinct forms, yet the habits of the related forms usually differ but little on the several islands and the songs still less. Hence, observations of habits made upon one island in the main apply to the allied birds of the other islands. In the case of species which have not fallen under the observation of the author, he has been aided by the published accounts of Wilson, Rothschild and Perkins.

It has been thought desirable to describe every species occurring on the islands. Sometimes the descriptions are brief, but it is believed that in all cases they will suffice for the identification of the birds. Those who may desire fuller descriptions are referred to the works of Rothschild and Wilson, or to the Key to Hawaiian Birds just issued by the Bishop Museum. The descriptive material in the two former works has been freely drawn upon by the author in the case of many species not contained in his own collection. In the case of American species occurring in Hawaii, similar aid has been derived from Ridgway's excellent "Manual of North American Birds."

HAWAII AS AN ORNITHOLOGICAL FIELD.

Owing chiefly to their isolation, there are few land areas in

the world possessed of greater interest for the ornithologist than the Hawaiian Islands, and, until recently, there were few of which the avian inhabitants were so little known. Of late years, chiefly owing to the labors of English ornithologists, our knowledge of Hawaiian birds has greatly increased. Many new species have been discovered by Wilson, Palmer and Perkins, and so thoroughly have the investigations of these naturalists been conducted that we may feel sure that the number of endemic land birds now known to inhabit the islands will never be materially increased.

The insular waters, however, have received comparatively little attention, and it is probable that a few species of water-birds remain to be added to the list, even if no new species are discovered.

There is no doubt, too, that the present list of Hawaiian birds will be materially increased by additional records of American species. There are certain birds, like the golden plover, turnstone, wandering tatler, bristle-thighed curlew and shoveller duck, which annually winter in the islands, and the habit is of long standing. As successive flocks of these birds leave the American coast for Hawaii, a greater or less number of individuals belonging to species of kindred habits mingle with the adventurous travelers, and by them are led to the unknown (to them) tropic islands. Every season some of these strangers visit these shores, but the number of observers is so small that, for the most part, the visitors escape detection. Examples of this class are the black-bellied plover, sanderling, red phalarope, red-breasted merganser and red-backed sandpiper, most of which are recorded for the first time as Hawaiian birds in this list.

Some of these species, like the sanderling, are probably even now forming the habit of annual migration to the islands, while others are to be regarded, so far as our present knowledge goes, as purely casual visitors.

The writer feels sure that the list of these stragglers will continually increase, as observers multiply, until it includes practically all the American west coast migratory species that are suf-

ficiently strong of wing to endure the protracted and laborious flight over the ocean.

OBSTACLES TO ORNITHOLOGICAL STUDIES IN HAWAIIAN ISLANDS.

Prior to the investigations of the above-named naturalists, next to nothing was known of the habits of Hawaiian birds. Their labors, particularly those of Mr. Perkins, have done much to enlighten us upon this subject. The difficulties, however, in this branch of the study, though not insuperable, are very great. So that, notwithstanding the important contributions of the English naturalists, there is still offered an inviting field for future study and investigation.

The chief obstacles in the way of field studies in the islands are the dense forest, the steep mountain ridges beset with dense vegetation, and the extreme rainfall. The woods are so dense that progress in them is all but impossible except by cutting trails, and, as the tangled growth restricts vision upon all sides, birds are very difficult to watch and keep in sight. In this respect, however, a new era is dawning, at least upon the Island of Hawaii. Good roads and passable trails not only permit, but invite, the steps of the nature-lover into the heart of the forest which before was a terra incognita to all but the most hardy and the most enthusiastic. Opportunities to study Hawaiian birds are thus offered not only to the professional ornithologist, but to every nature-lover as well. The field is so broad and even, yet so little worked, that the intelligent observer cannot fail to discover facts of interest to himself and of positive value to science.

Of the nests and eggs of Hawaiian birds we know next to nothing. In fact it may be said that of only one bird, the *Elepaio*, have we an adequate knowledge of its life history, and even this statement must be qualified by adding that even of it there remains much to be learned.

DESTRUCTION OF HAWAIIAN FORESTS.

While the forest recesses upon the Island of Hawaii are being rendered more accessible all the time, it is not to be overlooked

that the forest upon this and the other islands is being rapidly destroyed. Large areas are now falling before the axe preparatory to cultivation, and the birds that once inhabited them are being hemmed into tracts of constantly diminishing size, even if the birds themselves are not destroyed with the forests.

The deforestation of Hawaii is much accelerated by the work of cattle, which are ever increasing in numbers under the constantly increasing demand for beef. They browse upon the tender shrubs, vines and undergrowth, thus not only destroying the young trees and preventing their natural increase, but robbing the large forest trees of their natural protection. The trunks, accustomed to a heavy covering of mosses, lichens, ferns and vines, by which they are protected from the sun and wind and are ever kept moist, succumb to the new conditions, when the sun and wind have free access to them, and sooner or later die. Thus ohias, koas and other large forest trees are destroyed by cattle, though actually untouched by them.

Another source of danger to the forests is a span-worm, which has been identified by Mr. Perkins as the *Scotorhythra idolias*, which has done great damage to the koa of Maui and is now engaged in the same destructive work in Hawaii. Twice the present year (1901) the koa woods of Kaiwiki have been stipped by the larvae of this little moth, which exists in great numbers wherever the koa grows, and occasionally increase to countless myriads, when it stips every koa tree in its district.

This wholesale destruction of forest will soon materially diminish the number of Hawaiian birds—nay, already has done so—and in a few years the opportunity to study the habits of some of the unique bird forms which have been developed upon these islands will be lost forever.

ENVIROMENTAL CHANGES DISASTROUS TO HAWAIIAN BIRDS.

In connection with the disappearance of Hawaiian birds in past times, it should not be forgotten that, like all insular forms of life among which competition is slight or altogether wanting, they suffer much from slight adverse conditions, and even become extinct when the causes seem wholly inadequate. In the

Island of Hawaii, the thinning out of a forest tract, nay, the cutting down of a certain portion on the edges of a large forest, is almost sure to be followed, sooner or later, by the almost complete abandonment of the tract by all its avian inhabitants. So, too, the making of a road through a forest, with the limited passing traffic, seems to have a disturbing influence upon Hawaiian birds absurdly out of proportion to the cause.

The author has lived in Hawaii only six years, but within this time large areas of forest, which are yet scarcely touched by the axe save on the edges and except for a few trails, have become almost absolute solitude. One may spend hours in them and not hear the note of a single native bird. Yet a few years ago these same areas were abundantly supplied with native birds, and the notes of the oo, amakihi, iiwi, akakani, amao, elepaio and others might have been heard on all sides. The ohia blossoms as freely as it used to and secretes abundant nectar for the iiwi, akakani and amakihi. The ieie still fruits, and offers its crimson spike of seeds, as of old, to the ou. So far as human eye can see, their old home offers to the birds practically all that it used to, but the birds themselves are no longer there.

It is more reasonable to conclude that the former inhabitants of such tracts have abandoned them for the more profound solitudes higher up than that they have perished from such slight causes. However, even the abandonment of forest tracts under such circumstances seems inexplicable, and the writer can recall no similar phenomenon among American birds.

It cannot be doubted that the crowding together of the native birds, as the direct effect of deforestation, will sooner or later have a disastrous effect upon their welfare and numbers. As the forest diminishes the food supply of the birds (insects, berries and nectar) will diminish with it, and in time prove inadequate to the demand.

It is evident to all who have considered the subject that one or more conditions of existence in the past have proved unfavorable to the increase and spread of certain Hawaiian birds, and have caused the extinction of others. The necessity of continuous inbreeding has been suggested as adequate to explain

the apparent inability of certain species to hold their own in the struggle for existence, and, in the absence of other and more tangible causes, certain facts relative thereto may be presented.

It is apparent that the birds that are least numerous and that live in much restricted habitats are the ones most subject to inbreeding. Of such island species, *Viridonia* offers, perhaps, the most marked instance, since it is confined to an area of but a few square miles in extent, within which narrow belt of woodland the bird is by no means common.

In such a case it would appear by no means improbable that inbreeding has been a potent factor in the failure of the bird to become numerous, and to extend its range into neighboring districts, especially when to all appearances the latter are precisely similar as regards their avian attractions and resources.

It would appear that forms like *Viridonia* differentiated from the parent stock and succeeded in maintaining themselves up to a certain point and for a certain time, and then either remained stationary, in respect of numbers, or entered upon a retrograde movement, tending perhaps, to ultimate extinction.

No doubt there are many cases where it would be difficult to determine whether a given rare and local form is at the beginning of development or nearing the end of its career; but not so in cases like *Viridonia*. A bird so very different from its allies can hardly be held to be at the commencement of its existence as a separate race, but, on the contrary, must be held to have reached its present stage of distinctness only after a very long period of time. It would seem to be much more probable that a bird so completely differentiated, if weak in numbers and occupying but a small area, is nearing the final stages of its career than the species is in its incipiency.

The rarity and extreme degree of localization of such birds as *Viridonia* are the more remarkable and the more difficult to explain, unless upon some such theory as inbreeding, inasmuch as the environment of the bird up to within two or three years (its home is now being invaded by the axe) appears to have been peculiarly favorable, and is evidently markedly so for other

Drepanine forms, such as *Heterorhynchus, Chlorodrepanis, Oreomyza* and *Loxops,* as is evidenced by their numbers.

In respect to its small numbers and the limited extent of country occupied, *Viridonia* is, perhaps, an extreme case among Hawaiian birds, but there are others scarcely less remarkable. *Pseudonestor* and *Palmeria* of Maui, and *Chloridops* and *Rhodacanthis* of Hawaii are closely parallel, though not so extreme, cases. These birds, except *Palmeria,* which occurs also on Molokai, are confined to single islands and to a comparatively small part thereof.

If inbreeding be accepted as a true and sufficient cause of the present insecure footing of *Viridonia* under environmental conditions of its own choosing, the same theory seems applicable in the case of the other species.

To the same list may also be added the extinct, or nearly extinct, *Ciridops,* and the extinct *Meliphagine* form *Chaetoptila.* None of the above birds appear to have suffered from enforced conditions or external agencies, except as regards compulsory inbreeding.

The two latter species, indeed, were both extinct, or practically so, long before their forest haunts had been interfered with by man in the slightest degree. Whether or not inbreeding played any part in the tragedy, their extinction must, at any rate, be assumed to be due to what may be termed natural causes, since neither bird appears to have ever been the object of pursuit by the natives.

All the above birds differ so much *inter se* as to separable generically, and must have started upon their independent paths ages ago. Like *Viridonia,* they are more likely to be nearing the close of their respective careers than to be just entering upon them.

If in the past, when their forest homes were untouched, island birds have suffered from the disastrous effects of inbreeding, how much more marked is likely to be its effect as the available habitat of the birds is more and more restricted by deforestation.

In this connection it is to be remarked that the species that

rove most widely and are most widely distributed in each island and over the islands generally are, with one exception, the ones that are the most numerous and that appear to be the most hardy. In the consideration of such facts it is always easy to confound cause and effect, but here it is clear, at least, that these species are the ones that are least subjected to the penalties of inbreeding, be those penalties what they may. Their roving habits, even though these are by no means so marked as in the birds of other lands, afford opportunity for the mating of birds reared at a distance from each other, even though upon the same island, and under somewhat different conditions of food and climate.

Still more important to the birds of this class is the possibility of the infusion of fresh blood from the other islands. No one who has studied the habits of the island birds can doubt that the passage of individuals from one island to another is very infrequent. Still, such instances must occasionally occur, and doubtless tend to strengthen and invigorate the avian stocks concerned.

Such species as the iiwi, akakani, amakihi and ou are the best examples of the birds of this class, and they doubtless will survive so long as any forests remain. The three former move about to some extent with the change of the seasons, but more in pursuit of the flowering trees. The ou seeks the fruit of the ieie vine wherever he can find it.

That at least one of these species possesses unusual powers of adaptation to new and strange conditions is attested by the fact that the akakani, in somewhat changed form (*Himatione freethii*), exists upon the rather inhospitable island of Laysan. This island is some 600 miles to the northwest of the main group, and the transferrance of the bird thither was, no doubt, due to accident, as a heavy wind storm. In Laysan its environment is markedly different from that which surrounded it on the islands of the main chain. Yet the bird, though said to be the rarest of the Laysan land birds, exists in some numbers and seems to thrive fairly well, despite the necessity of continuous

inbreeding. The entire lack of competition may, however, make partial amends for this disadvantage.

The several species of o-o, living and extinct, and probably also the extinct mamo, are to be classed with the above species having comparatively wide range, and there is no reason to believe that these latter birds would not still abound in the Hawaiian forests if they had not been pursued to the death for the sake of their feathers.

In connection with the probable future of Hawaiian birds, and aside from the question of inbreeding, it may be added that as new and less favorable conditions prevail, the more highly specialized forms will naturally be the ones to suffer first and most, since they will be the least able to adapt themselves to changes, more particularly those involving the food supply.

The probable extinction of the koa forests, for example, at no distant day is likely to be followed, even if all other conditions should remain unchanged, by the extinction of such birds as *Pseudonestor* and *Rhodacanthis,* because of the extreme dependence of these species for food upon this tree.

Such birds as *Chasiempis,* the several forms of *Chlorodrepanis* and *Phaeornis* are much more likely to survive new conditions indefinitely, if for no other reason than that less specialized habits endow them with larger resources in the way of food and also with greater adaptability. Even the honey-eaters, the most prominent of which are the iiwi and akakani, will long survive, since they are to no small extent insectivorous already, and could doubtless become exclusively so without injury. In a sharp struggle for existence, their chance for survival as against some of the more specialized forms would be excellent.

At least one Hawaiian bird is intensely local in disposition, but, despite its fondness for one locality, it has become very numerous, and is widely dispersed on several islands. This is the omao (*Phaeornis*). This bird has adopted food habits which have subjected it to little or no competition. A confirmed berry-eater, it finds food everywhere abundant in the dense forest and in great variety.

If, as the result of localization, inbreeding produces any ill

effects upon the vitality of *Phaeornis*, they would seem to be more than counterbalanced by abundant food and the absence of competition. It is to be remarked, however, as having an evident bearing upon its probable future fate, that *Phaeornis* declines to live in any but dense and undisturbed forest tracts, and many years ago became extinct upon the island of Oahu.

Allusion has been made above to the possibility of an interchange of avian strains by the passage of birds from one island to the other, and a few words on the subject may be added.

It is a surprising and remarkable fact that channels varying from only ten to thirty miles in width should prove all but impassible barriers even to small birds, to say nothing of those the size and stength of a large hawk. It is at once evident that if such channels actually prove barriers to the passage of birds, the cause lies in the disposition of the birds and not in the physical obstacles.

That these narrow inter-island channels have not always proved impassible to birds is conclusively shown by the fact that several of the genera are represented on all the islands of the main group by the same species (*Vestiaria* and *Himatione*), and that several others are represented by such nearly related species that the latter could have originated only from a common stock.

Having once entered and become established on an island, however, the several species have readily adapted themselves to the new conditions which, though apparently differing but slightly, have yet proved sufficiently distinct to impress a number of the birds with new and, in some cases, markedly different specific or varietal characters.

The intense spirit of localization which restrains birds within the limits of a single island resulted, no doubt, primarily from the absence of competition. Hawaii, Maui, Lanai, Molokai and Oahu under ordinary conditions are each visible in turn from the other, and the short distance and prevailing calm weather would seem to invite the birds to inter-island visits. No doubt anything like severe competition would compel them to longer or shorter excursions to other islands, and thus, among other

effects, would tend to break down the extreme specific and generic differences which now prevail and which make the islands so interesting an ornithological field.

FAUNAL ZONES.

The Hawaiian Islands are practically nothing but vast accretions of lava-mountain masses, sloping on all sides more or less abruptly to the encircling sea. Authorities are agreed that the islands increase in age from east to west, Kauai thus being the oldest island and Hawaii the youngest. The latter, with its three great mountain masses, has but one or two extensive basin-like valleys, practically the only level land of much extent being the Kohala plains. Both Oahu and Kauai contain valleys of size, and, between the two lava mountains of Maui, is a broad and level connecting isthmus. Molokai also has valleys of considerable proportions.

As, however, the valleys have long been forestless, and probably never were forested in their lower extensions, the consideration of faunal belts is practically limited to the mountain slopes.

The author's own investigations are limited chiefly to the Island of Hawaii, which is not only more extensively forested than any of the others but the forests, up to comparatively recent times, have been but little disturbed. The following remarks will be understood, then, as applying more particularly to that island. Nevertheless, the main geographical relations of the fauna and the flora appear to be much the same upon all the islands, though each island, no doubt, presents peculiarities due to local conditions.

Present available data are all too insufficient for an accurate definition of the ornithological life zones of the islands. Indeed, owing to the general climatal sameness and the similarity of the forest belts and the consequent wide range of the birds, it may be doubted if such life zones can ever be defined with the precision attained elsewhere. A consideration of the subject, however, discloses some interesting facts which may here be briefly set forth.

LOWLAND ZONE.—Hillebrand (Flora of the Hawaiian Islands)

found it possible to differentiate more or less sharply four zones according to the plant life. Of these, three only have much interest for the ornithologist.

His first or lowland zone has but slight interest in the present connection. It is the open country, grass-covered, with scattered clumps of trees (chiefly ohia) and extending to a variable but always slight elevation above the sea. The rainfall in this belt is considerable, probably nowhere falling below 100 inches per annum, while the average temperature ranges between 70 and 80 degrees Farenheit.

Except casually and in small numbers, it is not probable that this lower belt was ever occupied by any of the passerine species. It probably always was, as it is to-day (save for the introduced mynah and rice birds) almost an avian desert, uninhabited because no passerine birds adapted, or capable of adapting themselves to such conditions ever chanced to find their way to the islands. It may be remarked in passing that the short-eared owl abounds in this one, but extends its range into the next one.

This belt of comparatively open country offers excellent opportunities for the introduction from America of ground-loving species friendly to agricultural interests, although it cannot be overlooked that all ground-building species must now contend for existence against a formidable foe in the shape of the mongoose. Yet the experiment upon a liberal scale is well worth trial.

Lower Forest Zone.—This zone may be defined as extending from about 500 feet to 1,500. It is well marked by its vegetable productions, especially by the kukui (*Aleurites moluccana*), lauhala (*Pandanus odoratissimus*), and by the hau (*Paritium tiliaceum*), which do not pass beyond it, as also by the awapuhi (*Zinziber zerumpet*), the ti (*Cordyline terminalis*) and the ohia ai (*Eugenia malaccensis*). The ieie (*Freycinetia arborea*), important as furnishing the chief food of the ou, abounds, but extends into the next zone. The ohia (*Metrosideros polymorpha*) constitutes the bulk of the forest in this, as in the next zone, but does not attain the proportions and vigorous growth characteristic of

the tree higher up. The same is true of the koa, which makes its appearance here.

There are no birds that are characteristic of this zone. *Chasiempis, Phaeornis, Chlorodrepanis, Psittacirostra, Himatione, Vestiaria* and *Buteo* are all present, in small numbers towards its lower edge (or altogether wanting), but in increasing numbers towards its upper confines.

There is evidence tending to show that the above species formerly extended somewhat lower down than they do now, and in greater numbers, especially *Chasiempis.* In the past fifty years the treeless area has been constantly creeping upwards as the direct result of deforestation by the planter and indirectly by the work of cattle, elsewhere alluded to, and this has considerably affected the range of the birds.

The temperature is somewhat cooler than in the preceding zone and the rainfall also is greater.

MIDDLE FOREST ZONE.—The middle forest region may be defined as extending from about 1,500 feet to 6,000 feet. This region is within the belt of greatest rainfall (130-180 inches), and upon all the islands is by far the richest botanically, and in all forms of animal life, including the birds.

The temperature varies much between the upper and the lower confines, but the average summer temperature is not above 65 degrees and in winter falls considerably below that. At 6,000 feet altitude, or a little above, frosts are not unknown in summer and are of common occurrence in winter.

The prevailing forest trees are first the ohia; second the koa (*Acacia koa*), both trees being of prime importance in the domestic economy of island bird life. Both furnish food, shelter and nesting sites to the greater number of island passerine birds. Both trees extend above and below this zone, but here they attain their greatest size and development. It is the home of all the *Rutaceae* and most of the *Araliaceae.* Here are the alani, the olapa, the kaawau and many other berry-bearing trees and shrubs. In this belt the ferns flourish in wildest luxuriance, and the giant tree ferns attain their greatest size and abundance. Here occur on all sides the tree lobelias, those remarkable endemic plant

forms, of interest to the ornithologist as furnishing more or less nectar to several species of birds.

In addition to the birds enumerated as living in the next lower belt and extending their range into the present one, several species are present in this zone that descend below only casually. Here belongs, or did belong, the extinct mamo; and here today are found *Moho, Hemignathus, Heterorhynchus, Oreomyza, Loxops, Chloridops, Pseudonestor, Palmeria, Ciridops, Loxioides,* and *Rhodacanthis.* It is highly probable that it was in this belt that *Chaetoptila* lived its allotted span of life, though our knowledge of the former haunts of this extinct species is too scanty for definite statement.

Upper Forest Zone.—The upper forest zone of Hillebrand extends from about 6,000 feet to 8,000 or 9,000 feet, and is characterized, according to that author, by stunted mamani (*Sophora chrysophylla*), *Cyatheoides,* naeo (*Myoporum*). Here luxuriate shrubby *Compositae, Raillardiae, Dubautia, Campylotheca* and *Artemisia.* Here grow wild strawberries and ohelos (*Vaccinium*) which also abound in the barren lava tracts of the middle belt.

The chief interest this belt has for the ornithologist arises from the fact that it offers a home most of the year to the Hawaiian goose, which also inhabits the lava flows of the middle zone, and in summer temporarily visits the lowland belt for nesting purposes.

This upper zone is inhabited scantily, if at all, by forest birds, and then only on its lower edge, which is perhaps occasionally visited by the finch-like forms *Chloridops* and *Pseudonestor,* as also by the honey-eating species when the trees of the middle region have ceased flowering.

It is doubtless neither the altitude nor the cool climate of this upper zone that repels the birds, but the fact that above about 6,000 feet the large forest trees rapidly dwindle to scrubby and depauperate forms that possesses no attractions for the birds, since they afford neither shelter nor abundant insect or other food.

Between the upper limits of this zone and 11,000 feet, where Hillebrand fixes the limit of vegetation on Mauna Kea, the veg-

etation grows ever scantier and scantier till there is little else but bare lava rocks.

EFFECT ON NATIVE BIRDS OF THE PRESENCE OF THE MYNAH.

There appears to be a popular and widespread belief in the islands that the introduction of the mynah has seriously affected the welfare of the native birds, and its presence in woodland tracts described above has been offered as an explanation of their abandonment by the former.

So far, however, as the writer can learn, and so far as his own extended observations show, the mynah does not interfere in any way with the native birds, but appears to dwell with them in harmony, or at least without aggression. The mynah seems never to disturb the nests and eggs of the native species and, as its general habits differ essentially from those of the former, there would seem to be no possible basis for conflict.

DISEASES OF HAWAIIAN BIRDS.

I am not aware that the birds of the Hawaiian Islands are more subject to fatal diseases than those of other lands. Dead birds are, however, found rather frequently in the woods on the island of Hawaii, especially the iiwi and akakani.

There is no doubt that sudden and marked changes of temperature affect Hawaiian birds unfavorably, especially the two species just mentioned and, after heavy and prolonged storms, many individuals of both species are driven into sheltered valleys and even along the sea-shore far from their woodland haunts. Under such circumstances scores of the above named species are picked up dead or dying, and the mortality among other birds is, perhaps, unusually great.

Every naturalist who has visited the islands has noticed the presence of certain tumors or swellings on the feet of the birds. The tumors are mostly, perhaps wholly, confined to the woodland birds. The writer has found them upon the feet of the iiwi, akakani, omao, elepaio, amakihi, *Oreomyza* and the genera *Hemignathus* and *Heterorhynchus*. They have not been present on any of

the many specimens of hawks he has examined, but Mr. W. Newell tells me that he has seen hawks thus affected.

There are certain localities, as in Olaa, where in some seasons a considerable percentage of the birds collected show unmistakeable tokens of this disease, past or present.

Sometimes the tumors are as large as peas, and it would seem that their presence must seriously incommode the bird's movements if nothing more. Evidence, however, is not wanting to show that frequently such tumors have serious consequences. The writer has seen a number of birds that had lost one and even two, toes from one foot, and he remembers one specimen in which the ankle joint was so much involved that it seemed probable that the whole foot would eventually have sloughed off. Often, however, the tumors slough away with little or no damage, save to leave the integument rough and thickened.

Nor are the tumors confined exclusively to the feet of birds, for several have been shot which had large tumors around the rictus of the bill.

Dr. Nicholas Russel, of Olaa, has kindly examined under the microscope slides made from two specimens, and he pronounces the tumors to be of undoubted bacillic origin.

There is little doubt that the bacilli are derived from the wet bark of trees. All the birds affected with the disease, which I have thus far examined, have come from the windward side of Hawaii, where the annual rainfall is from 130 to 180 inches. Upon this theory of origin it is easy to understand how the bacilli occasionally infect the region of the mouth since the bird frequently may be seen rubbing the bill and side of the mouth against the branches to clean them; and again in scratching the throat and head the bacilli may readily be conveyed from the claws.

ORIGIN OF HAWAIIAN BIRDS.

There is no more interesting question concerning Hawaiian birds than that relating to their origin. With the exception of a few species that are evidently comparatively recent comers from America, like the night heron, gallinule, marsh hawk and the short-eared owl, Hawaiian birds are quite unlike any others.

They fall naturally into a few groups of related species, and so different are they from the birds of other lands that their relationships are traceable only with great difficulty. Nor can all the questions involved in the problem be considered settled.

Much valuable light has been thrown upon the subject by Dr. Gadow, who has studied the anatomy of many of the species with interesting and valuable results. These are set forth at length in an Appendix to Wilson's Birds of the Hawaiian Islands, to which the reader is referred.

Dr. Gadow's general conclusions may be summed up as follows: The bulk of the birds that are distinctively Hawaiian belong to a family to be called the *Drepanididae,* which, with little doubt, are of American origin. They appear to be nearest related to the present American family of the *Coerebidae.* The *Drepanididae* were probably the first avian inhabitants of the islands, and have been here a very long time, as is evidenced by the remarkable changes they have undergone and by the numerous related species they have differentiated into.

Later a second infusion of avian stocks occurred, this time from the continent of Australia, of which the elepaio and the several species of o-o are living examples, and the *Chaetoptila* an extinct one.

ORNITHOLOGICAL KNOWLEDGE OF HAWAIIAN NATIVES.

The impression seems to be general that in olden times the natives were extensively acquainted with Hawaiian birds, which is true, and that even the present day natives are very well posted on the subject; the latter is by no means the case.

We may gain some idea of the extent of the bird lore of the natives by their methods of naming and classifying the birds. Wherever it was possible the native name for a bird is imitative of its note or cry, and the Hawaiians, aided no doubt by their flexible, vocalic language, appear to have been very skillful in coining these imitative names. Elepaio, io, uuau, aukuu and many other bird names might be cited as evidence of this initative faculty. By means of the proper accent and pitch such words may be made to give an almost exact idea of the bird's call.

Of nice scientific discriminations of form and structure the natives knew little and cared less and, according to modern ideas, their classification was decidedly crude.

The birds that found place in their myths and legends, like the elepaio and pueo, and those that were important in their domestic economy, like the duck and plover, which they ate, and the mamo, oo and iiwi, whose feathers were valued for decoration, they naturally knew well and had distinctive names for. Indeed for some species, like the iiwi, they had several names, the precise meaning and application of which we do not now know. They even called the iiwi in its first or speckled plumage iiwi popolo, though they must have been well aware of its relationship to the adult bird.

Closely allied species, as we now know them to be, they frequently called by the same name, either not noting the difference or, as is perhaps more likely, not thinking the differences important enough to be worth naming. The several species of amakihi are examples. Soo, too, upon the island of Hawaii, amakihi is applied to both the *Chlorodrepanis virens* and the *Oreomyza mana.*

A few birds appear to have been so rare and so local that they were quite unknown to the natives; at all events they seem not to have been named by them. The *Viridonia,* which is confined to a very small area of dense forest on either side of the Wailuku river, Hawaii, is a conspicuous example of this kind. The writer has shown skins of this bird to a number of natives reputed to be well acquainted with Hawaiian birds—one of whom was born within Viridonia's territory—but none of them had ever seen it alive or could give it a name. One of the old men, indeed, maintained its identity with the amakihi, although it is nearly twice the size of that bird and by no means of the same color.

But in ancient times, no doubt, as above stated, the knowledge of birds was far more widely spread among the Hawaiians and more accurate than it is today. Indeed the younger generation are almost absolutely ignorant even of the names of the birds, and are quite ignorant of their habits.

In the olden days when it was an important part of their duty

for the priests to watch the motions of certain birds and listen to their songs that by this means they might learn the will of the Gods, and when the bird-catcher plied his calling that the feather tribute might not be wanting to pay the taxes imposed by the chiefs, then we may be sure bird-lore was well-nigh universal.

The bird-catchers, especially, must have been thoroughly familiar not only with the haunts of all the feathered kind, but with their songs and their habits.

But taxes are no longer payable in feathers; no longer does the bird-catcher ply his calling; the priest no more reads auguries from the songs of birds; the old days have gone forever, and with the old days and the old conditions have gone the greater part of Hawaiian bird-lore.

HISTORY OF ORNITHOLOGICAL INVESTIGATIONS IN THE ISLANDS.

The history of ornithological investigations in the Islands is on the whole a brief one, and a few words devoted to the subject may be of interest. An admirable resume of the subject by Prof. Alfred Newton was published in Nature for 1892 and is quoted in the introduction to Wilson's Birds of the Hawaiian Islands above referred to, from which the following notes are chiefly culled.

As is well known the Islands were discovered by Cook in 1779. The natural history specimens obtained by Cook came from the islands of Kauai, Niihau and Hawaii. The first knowledge of the Islands' avian inhabitants based upon the Cook collections, reached the world in 1781-85 through Lathams' General Synopsis of Birds. Most of the actual specimens collected by Cook's ships, probably not very many in number, have been lost. The loss is the more unfortunate as Latham's original descriptions, as well as Gmelin's, which were based upon those of the former, leave much to be desired, both in respect to precision and sufficiency. Moreover the early collectors took little pains in labelling specimens, and either did not label them at all or indicated their source as "Sandwich Islands," leaving the particular island to be guessed, for the great differences now known to exist between the birds of the several islands, were not suspected

by the early investigators. It seems probable that the Island of Hawaii supplied the larger number of specimens to Cook's collectors, but in the case of any given species there can be no certainty. Owing chiefly to this doubt as to the exact point of origin, some of the species described by Gmelin have proved stumbling blocks to ornithologists ever since the descriptions appeared.

The quarter of a century that followed the discovery of the Islands is a blank, so far as their ornithological history is concerned; they were frequently visited by ships but not by naturalists.

In 1816-17 Chamisso and Eschscholtz accompanied Kotzebue in his visit to the islands, but these naturalists seem to have paid no attention whatever to the island birds.

In 1824 H. M. S. "Blonde" visited the islands having on board Mr. Andrew Bloxam, "who was something of a naturalist," and it was intended that the published account of the voyage should contain a proper appendix on the natural history of the islands. Of the natural history report of this voyage Mr. Newton says: "An appendix there indeed is, but one utterly unworthy of its reputed author, for the book was edited by a lady who had nothing but a few of his notes to guide her, and though assisted, as it is stated, by 'the gentleman connected with that department in the British Museum' the Appendix is a disgrace to all concerned, since, so far from advancing the knowledge of the subject, it introduced so much confusion as to mislead many subsequent writers."

Having had access to the original notes of Mr. Bloxam, Mr. Wilson is able to supplement the meager contents of the Appendix with the statement that the bird collection contained "twenty-five specimens of land birds—one of them bearing the M. S. name of Turdus Woahensis." Thus we learn the interesting fact that the Island of Oahu once possessed a form of the Hawaiian Thrush (*Phaeornis*) long since extinct.

The Blonde bird collection has shared the fate of so many of the early collections, and no discoverable trace of it remains.

In 1835 the American naturalist, Townsend, and the equally

well known naturalist, Nuttall, visited the Islands of Oahu and Kauai of the group, and spent three months. At the end of the year Townsend returned and, with Deppe, the Prussian naturalist, spent some time in natural history pursuits, visiting most of the windward islands before finally leaving, which he did in March, 1837.

Our gain in knowledge of the avifauna of the islands resulting from the visits of these three investigators was comparatively little. Nothing was published by the investigators themselves though their collections contained several new species of birds. Nuttall was an exceedingly good observer, and notes from him on the habits, and especially upon the songs, which he had a happy knack of describing, of any of the birds he must have seen upon Oahu and Kauai would have been of great value. Again anything like a thorough collection of the birds then existing upon the islands would now be of inestimable worth since it must have contained representatives of certain species, not only now extinct but of which not a single specimen is in existence.

One of Townsend's observations made in the Island of Kauai is so interesting, referring as it does to a long forgotten practice of the natives, that I cannot refrain from quoting it here entire from Wilson's Introduction:

"We made here several long excursions over the hills and through the deep valleys, without much success. The birds are the same as those we found and collected at Oahu, but are not so numerous. They are principally creepers (*Certhia*) and honey-suckers (*Nectarinia*); feed chiefly upon flowers, and the sweet juice of the banana, and some species are very abundant. The native boys here have adopted a singular mode of catching the honey-sucking birds. They lay themselves flat upon their backs upon the ground, and cover their whole bodies with bushes, and the campanulate flowers of which the birds are in search. One of these flowers is then held by the lower portion of the tube between the fingers and the thumb; the little bird inserts his long, curved bill to the base of the flower, when it is immediately seized by the fingers of the boy, and the little flutterer disappears be-

neath the mass of bushes. In this way dozens of beautiful birds are taken, and they are brought to us living and uninjured."

Much of ornithological interest was to have been expected from the Wilkes' expedition of the year 1840 from the zeal and ability of its well known naturalists, Pickering and Peale. During their six months' stay considerable collections were made, but nearly all of them were lost in the wreck of one of the ships, the Peacock. Of the original report upon the mammals and birds by Peale, nearly all the copies were destroyed by fire, a new edition being brought forth by Cassin in 1858.

In 1852 Fr. Hartlaub published an extract of the results of the Wilkes' expedition, and in his summary of the birds inhabiting the islands he includes thirty species, though two of them are marked as doubtful. Commenting upon Hartlaub's list, Prof. Newton remarks that "one of them is now known to be rightly included, but the other must be struck out, as well as, for one reason or another, four more—leaving a total of twenty-five, only sixteen of which are land-birds and only fourteen passeres."

So stood our knowledge of Hawaiian birds till 1869 when a "Synopsis of the Birds hitherto described from the Hawaiian Islands" was communicated to the Boston Society of Natural History by Mr. Sanford B. Dole, and was published in the proceedings of the Society for that year. This list proved a notable advance on our previous knowledge, and included 48 species, the author stating his belief that this number "probably comprises but little more than half the avifauna of the group"—a very accurate estimate as it proved. A revision of this list, in which some of its errors were corrected, appeared in the Hawaiian Annual for 1879.

About the year 1887 Mr. Valdemar Knudsen made many valuable and interesting collections of natural history upon the island of Kauai, and much of his material was sent to the National Museum. The birds were studied by Dr. Stejneger, and the results were published in the proceedings of that institution for 1887. By Mr. Knudsen's efforts several new species of birds were discovered, all of them on the island of Kauai.

The year 1887 marked a new era in the history of Hawaiian

ornithology, since that year witnessed the inception of the labors of Mr. Wilson, an enterprising young Englishman, whose work in the Islands, completed in 1890, was crowned with most gratifying success. His collection of island birds was the most extensive made up to that time, containing no fewer than fourteen new species of Passeres, including two new genera. In addition Mr. Wilson was able to place in the hands of Dr. Gadow specimens of the most important avian types still existing in the islands, and this material formed the basis of most important conclusions as regards the systematic position of Hawaiian birds and of their derivation. The beautifully illustrated quarto which embodied the results of Mr. Wilson's labors, published in parts, was issued in complete form in 1899.

The years of 1890-92 were years of renewed activity in the study of Hawaiian birds. Two collectors were sent to the islands by Mr. Rothschild, and very large and important collections were made by them. These collections were sent to the Tring Museum, England, and formed the basis of many important contributions by Mr. Rothschild to English scientific journals and later of the royal quarto entitled "The Avifauna of Laysan and the Neighboring Islands, with a Complete History to date of the Birds of the Hawaiian Possessions." This volume, in three parts, with its many and fine illustrations, and including in its scope the whole Hawaiian group, must ever remain a landmark in Hawaiian ornithological literature.

The year 1892 also witnessed the beginning of the natural history work in the islands of Mr. R. C. L. Perkins. This gentleman was sent out conjointly by the British Association for the Advancement of Science and by the Royal Society. His general collections were very large, and are by far the most important ever made in the islands. They are deposited in the British Museum and in that of the Cambridge University, England. A considerable number also are in the Bishop Museum, Honolulu. Not the least important part of Mr. Perkin's contributions to the natural history of Hawaii are his notes upon the habits of its birds. Though not a professed ornithologist, Mr. Perkins published material showing him to be an acute and accurate observer, and his

observations went far to fill the previous lacunae respecting this interesting subject.

Mr. Perkins' series of birds included almost all the rarer species still extant, and contained one new species. The fact that so keen an observer and so energetic a collector as Mr. Perkins was able to add but one new species to the list sufficiently attests the thoroughness with which Mr. Perkin's immediate predecessors performed their work.

For all practical purposes the list of island birds is to be regarded as complete. Yet the discovery and description of all the birds inhabiting the islands is to be looked upon but as the necessary preliminary to a still more important study, viz.: the life-histories of the birds, of their relations to each other and to the avi-fauna of other lands.

TURDIDAE. THRUSH FAMILY.

Phaeornis obscura (Gmelin). Omao; Kamao.

The omao, which is the only Hawaiian representative of the Thrush Family, is found abundantly all over the island of Hawaii, but only in the denser forests above one thousand feet. The bird is so shy in some districts, as in parts of Olaa, that it is very difficult to catch sight of, and in consequence is wholly unknown to the settlers except by its voice, while in other localities, not far distant, its disposition is exactly the reverse, and the bird may often be seen, and its habits studied, at short range.

Wherever found, it is prodigal with its song and calls, and its notes do much to dispel the prevailing stillness of the Hawaiian forest. The song is jerky and consists of widely-spaced syllables, but is pleasing and, at times, sweet. The omao sings its sweeter strains while on the wing. In Spring, particularly, the bird seems to be unable to express its feelings from its wonted perch and, leaving the top of some tall tree, it circles widely about flooding the air with its notes. The omao is preeminently a berry-eater and, as it finds an abundance of berry-bearing shrubs growing far up on the stems of the lofty ohias as well as upon low trees, such

as the kopiko, kaawau, mamake and others, it rarely or never descends to the ground.

Though berries are its chief fare the year round, it does not wholly disdain insect food, and I have seen the omao hunting insects over the large limbs of the koa with considerable energy and celerity. Once or twice I have even seen the bird launching out after a flying insect, but in such clumsy fashion as to reveal a woeful want of practice in the business of fly-catching. It does not disdain spiders upon occasion, and in the stomach of one individual, I found a minute land-shell. In the breeding season I once found in the bill of a male several of the brown caterpillars which infest the koa and ohia trees, which the bird was probably carrying to its young. Nevertheless I wish to reiterate the statement that the omao is essentially a berry-eater and that insects form a rare and inconsiderable part of its fare. Of the many birds I have dissected the stomachs of not five per cent have contained insects, and then only in very small proportion. The stomachs of the vast majority have been crammed with berries and with berries only.

It is a common habit of the omao to alight on a limb lengthwise, a custom which, with its erect attitude while perching, strongly indicates thrush affinities.

All observers have noted the curious habit of the omao of shaking its wings as if in an ague fit. The wings are allowed to drop loosely by the sides, and are then shaken with a tremulous motion, precisely as young birds do when begging food from their parents. A succession of these fits always seizes the omao when an intruder is observed and, if the antic was reserved for such occasions only, it might be set down in so shy a recluse as nervous apprehension. But the writer has often observed the omao when himself unnoticed, and has seen the bird indulging in the luxury of a trembling fit all by himself. The habit is common to all the species of the genus, into the origin and meaning of which it is probably useless to inquire. It is worth remarking that the habit is not confined exclusively to omao but is shared by all the species of *Chasiempis.*

Abundant and widespread as is this thrush, practically nothing

is known of its nesting habits. The author feels assured that the bird nests far up in the tall forest trees, and that only by the merest accident will its nest be found.

In March of 1899, while at Kaiwiki, I shot an adult io (*Buteo solitarius*); and upon dissecting it I found in its stomach a small fragment of egg-shell which I suspect was a portion of the egg of an omao. It was of a light blue color sprinkled with minute splashes of reddish brown. The size, as indicated by the fragment, would well correspond to a bird the size of omao and, at all events the egg both in size and color seemed to be essentially Turdine in character. The mynah, the nest of which io sometimes robs, as is well known, lays a blue, unspotted egg. This note is published for what it is worth and, unsatisfactory though it is as evidence, I believe it affords a hint of the character of the omao's egg.

Description.—Adult. Upper parts dull olive-brown, crown and forehead tinged with grey; beneath smoky-grey, fading into white on the abdomen; lower tail-coverts tinged with buff; flanks dull russet; rectrices dark brown, edged with russet; base of inner primaries and secondaries bright russet, forming a broad band. Legs light brown; soles greenish yellow; bill black; soft parts of mouth light yellow. Length about 6.75 inches.

Juv. plumage. Head above clove brown, with shaft-streaks of light buffy; back, edges of primaries and secondaries sepia, most of the feathers edged with blackish, and with arrow shaped shaft-streaks of buff; chin and throat light grey; belly, white; feathers of lower throat, breast and sides edged with black, and with triangular spots of light buff; under tail-coverts russet, flanks tinged with same. Length about 7 inches.

Phaeornis oahensis Wilson. Oahu Thrush.

Thanks to the diligent inquiry of Mr. Wilson we now know that the island of Oahu formerly possessed a member of this family of thrushes, and that in 1824 specimens of the bird were obtained on the island by Bloxam, the naturalist of the "Blonde," who gave it the manuscript name of *"Turdus woahensis"* (see Wilson Birds of the Hawaiian Islands p. XIII.)

The bird doubtless became extinct long ago, and its seems never to have been seen, or at least recorded, from Bloxam's day to this.

The manuscript description is as follows: "Length 7½ inch.

Upper parts olive-brown, extremities of the feathers much lighter color; tail and wings brown; bill bristled at the base."

As Bloxam's manuscript contains a description of the thrush inhabiting the island of Hawaii (*P. obscura*) which he rightly considered a different species, we are safe in believing that the Oahu bird was fully entitled to a distinct name, although no specimens of the bird are now known to be in existence.

Phaeornis myadestina Stejneger. Kamao.

This is one of two representatives of the thrush family found upon Kauai. Palmer describes it as being " a quiet bird and not shy." Its song "reminded him of that of an English thrush, but it was less powerful, although it could be heard at a great distance," and in his opinion was sweeter.

Its habits and its food appear not to differ materially from those of its relative on Hawaii.

Description.—Adult. Entire upper surface of a dull hair-brown with an olive tinge; sides of head dull tawny, the feathers fringed with dusky; lower surface of a light smoky gray, light on throat and fading into nearly pure white on abdomen and under tail-coverts; breast and flanks olive-gray; base of inner primaries and secondaries bright russet. Three outer tail-feathers tipped with white which gradually shades into brown. Length about 8 inches.

Phaeornis Palmeri Rothschild. Puaiohi.

This bird, the smallest island representative of the thrush family, inhabits Kauai where it was first obtained by the Rothschild collectors, though its presence in the island seems to have been known previously by Mr. Francis Gay and to the natives by whom it had received a distinctive name. Its habits and its song appear to differ considerably from those of the other species.

Description.—Adult. Above dull brown, with darker head and almost uniform wings and tail; inner web of external pair of feathers and center of next pair buff; a white orbital ring, beneath greyish, becoming nearly white on the abdomen and buff on the lower tail-coverts; a whitish patch on the under surface of the wing quills. Length about 6.75 inches.

Phaeornis lanaiensis Wilson. Olomao.

This *Phaeornis* is said by Wilson, who discovered and described

it, to inhabit both Lanai and Molokai. I quote from Rothschild: "The olomao, as it is called, both on Lanai and Molokai, is not rare on both these islands, and Palmer saw it in the lowland as well as at the highest elevations. In the stomachs he found seeds and berries of different plants."

Description.—Adult. Much like the other species. May be distinguished from *obscura* by its smaller size and whiter under-parts; from *myadestina* by its smaller size and the absence of the white markings on the tail. Length about 7.50 inches.

SYLVIIDAE. SYLVIA FAMILY.

Acrocephalus familaris (Rothsch.). Miller Bird.

According to Rothschild this little bird is very abundant on the island of Laysan to which it is confined. It is an energetic insect eater, searching for its prey among the roots and grasses. It is especially fond of a large white moth abounding on Laysan and called "miller," whence the name of the bird. The bird nests in tussocks of grass, and lays three pale bluish eggs, blotched with olive brown.

Description.—Adult. Upper parts greyish brown. Below buffy white. Length about 4½ inches.

MUSCICAPIDAE. FLYCATCHER FAMILY.

Chasiempis sandwichensis (Gmelin). Elepaio.

The elepaio is one of the most abundant of all Hawaiian birds, and it is one of the most beautiful and interesting. In some districts it descends almost to sea-level, but it is most numerous at a middle altitude, say from 1,000 to 3,000 feet. The bird is equally at home in the tops of the tallest trees and in the lowest shrubbery and, occasionally, it descends even to the ground in search of insects. Perhaps if it has a favorite hunting-ground next to the ohia tree, it is the mamake, because that tree, with its abundant berries, harbors many insects, and no clump of mamake is without a pair of these little birds.

The curiosity of the elepaio is insatiable and a pair or two are always on hand to inspect an intruder and to learn his business.

It will follow and catch an insect on the wing which it has chanced to dislodge from some hiding place, but it never sits and watches for flying insects as do the American flycatchers. In fact by far the greater parts of its insect food is gleaned from the branches of trees and shrubs, and from among the lichens and tangled ferns. Its motions generally and its hunting habits are those of a wren rather than those of a flycatcher. Indeed its resemblance to the wrens is remarkable, especially when it droops its wings by its side and cocks its tail over its back, which is its frequent habit.

Elepaio appears to be the only Hawaiian woodland bird that nests low down habitually. I once found a nest of this bird on the horizontal scape of a fern (*Sadleria*) within two feet of the ground.

This, however, is a very exceptional location. Usually the nests are situated in a small tree in the shade of the forest, like the mamake, young koa, or one of the berry-bearing trees, like the kaawau, and are placed from ten to thirty feet up. The nest is built in an upright fork or saddled upon a horizontal branch and supported by lateral twigs, and is a beautiful structure, made of grasses woven into a deep cup and most tastefully decorated on the outside with fern fronds and lichens held in place by silk strands taken from spiders' webs.

The elepaio usually lays two eggs, sometimes three. They are of a pure grayish white, more or less profusely sprinkled with reddish-brown dots. No bird has a more important place in Hawaiian mythology than the elepaio, and omens and warnings were formerly read from its actions and notes. Of the latter it has several. Its name is the native interpretation of its song—if it can properly be called a song—and the bird iterates and re-iterates this all day long, so that no one with ears to hear need ever be in any doubt as to the identity of elepaio. It has, besides, several call-notes, one of which is a true flycatcher-like whit.

It is a most active little bird and is busy about something the day long, now engaged in searching every nook and crevice for insects, now chasing a comrade in play in and out of the leafy forest coverts.

Description.—Adult. Above rufous brown; upper tail-coverts white; forehead, lores and superciliary stripe white or (in most specimens from the windward side of island) chestnut; wing coverts white, spotted with black; feathers black at base, more or less white tipped, especially in females; sides of body and chest reddish brown; abdomen and under tail-coverts white; outer edge of outer tail feather mostly white; inner web white for nearly half its length. Length 5.50-5.75.

Juv. plumage. Above ochraceous brown; upper tail-coverts ochraceous; wing-coverts brown tipped with ochraceous; under parts brown and buffy; abdomen greyish white.

Chasiempis gayi Wilson. Elepaio.

This is the elepaio of Oahu and is one of the commonest, if not the commonest, of all the small native birds left on the island. This is what might be expected from its habits, and it is probable that when most of the Hawaiian birds are extinct the elepaio will long continue to maintain itself in scarcely diminished numbers. So long as any woodland at all is left elepaio will hold its own.

Description.—Adult. Above brown, slightly tinged with tawny ochraceous buff; forehead, ear-coverts and an ill-defined line above the eye ochraceous buff; rump and upper tail-coverts white; quills deep brown narrowly edged with pale brown on the outer webs and broadly edged with white inwardly. Rectrices blackish brown, largely tipped with white. Feathers of the chin, throat, and upper breast black more or less tipped with white. Abdomen and under tail-coverts white; breast and sides of body washed with brown. Length about 5.50 inches.

Juv. plumage. Above tawny ochraceous brown, bright tawny ochraceous on the upper tail-coverts. (Rothsch.).

Chasiempis schlateri Ridgway. Elepaio of Kauai.

Three only of the islands are favored by the presence of a species of this genus. Molokai and Maui for some reason, are both lacking the bird. The habits of the three species do not differ essentially.

Description.—Adult. Above dark smoky grey with a brownish tinge; forehead and space around the eye washed with pale buff; rump and upper tail-coverts white. Quills blackish brown, margined with pale brownish ash on the outer webs, and with white on the inner webs; secondaries white tipped. Tail blackish brown; outer tail feathers tipped with white. Wing-coverts, except the primary, tipped with white below whitish,

strongly tinged with brownish buff on the throat, breast, and sides of the body, darkest on the breast. Under tail-coverts and axillaries white. Length about 5.59 inches. (Rothsch.).

CORVIDAE. CROW FAMILY.

Corvus tropicus Gmelin. Hawaiian Crow. Alala.

The Hawaiian crow is a singularly local species, and it may be doubted if in the whole world there is another crow the habitat of which is similarly restricted. Though called the Kona Crow, the alala is numerous in the forests of both the Kona and Kau districts of Hawaii, outside of which island it has never been found. The bird ranges also into the scanty woods on the lava along the Kau road below the Volcano House, and Mr. Oliver Shipman informs me that a few pairs used to breed in the koa forest some two miles west of the Volcano House. This locality brings the bird within sight of the Hilo district, into which the bird seems not to desire, or perhaps to be able, to pass. As food suitable for the crow abounds in the Olaa woods, the only apparent cause for the bird not spreading further northward would seem to be the more abundant rainfall on the windward side of Hawaii.

The alala, like its congeners, seems to be almost omnivorous and like them it possesses the unfortunate habit of robbing the nests of other birds, even taking the eggs and the young of the mynah.

The alala has quite a variety of odd notes but includes in its repertoire a ringing caw, caw, which sufficiently betrays its relationship though the note is pitched upon a much higher key than that of our old friend, "Jim Crow" of America.

It would be difficult to imagine a bird differing more in disposition from the common American crow that the Hawaiian alala. The bird, instead of being wary and shy, seems to have not the slightest fear of man, and when it espies an intruder in the woods is more likely than not to fly to meet him and greet his presence with a few loud caws. He will even follow the stranger's steps through the woods, taking short flights from tree to

tree, the better to observe him and gain an idea of his character and purpose.

The alala is as impudent as he is curious and noisy, and will invade the chicken yard daily to share with the fowls their food, when it requires something more than moral suasion to induce him to leave.

The nest of the alala is much like the ordinary structure of the crow elsewhere, and is made of coarse sticks with a lining of finer material. It is placed in an ohia or similar tree, not necessarily high up, and the eggs are laid in the early summer months. I am not aware that the eggs have been described.

Description.—Adult. Dusky brown throughout, head and tail blacker. Feathers of chin and upper throat bristly, with shining black shafts. Primaries, especially towards tip, lighter brown. Bill bluish black; legs and feet black. Total length about 19 inches; female smaller.

DREPANIDIDAE. DREPANINE FAMILY.

Hemignathus obscurus (Gmelin). Akialoa.

The akialoa is one of the most remarkable and interesting avian forms which has been developed upon the islands. The present species is limited to the island of Hawaii, but Oahu, Kauai and Lanai are, or formerly were, each represented by a species of akialoa. Why this bird has not made a home on the islands of Maui and Molokai it would be hard to say.

Upon Hawaii generally the akialoa must be considered as rare. The deep forests of Olaa would seem to be peculiarly fitted to its habits, but it was only after long search that the writer found the bird there at all and then only upon a few occasions. Whatever may have been the case formerly it is now rare there. It is more numerous in the still denser forest of koa and ohia north of the Wailuku river, though by no means common even there. It is probably still more numerous in Kona.

The stout legs and sharp claws of this bird enable it to pass rapidly over the large limbs of koa and ohia, and to cling in any desired position, while the long curved bill enables it to probe for and to seize from their hiding places in the tangles of ferns and mosses various sorts of grubs, beetles and their larvae which are

its chosen food. I have never seen the akialoa feeding upon the nectar of flowers though other observers have, but it is probably a rare habit.

The akialoa is especially fond of probing into the deep, cup-shaped leaf clusters of the ieie vine. These are usually full of dead leaves and fallen trash, in the recesses of which insects are perfectly safe from all birds except the akialoa and its relative, the akiapolaau, the latter being furnished with a similar hooked probe. I have no doubt that the peculiar leaf clusters of the ieie have had more to do with the development of the extraordinary bills of these two birds than anything else.

The akialoa has a characteristic call, but I have never heard it sing, though I have often met with the pairs in the breeding season.

Description.—Adult. Above bright oil-green; wing and tail quills dusky brown, margined with dull green; a well defined superciliary stripe of gamboge-yellow. Lores black. Beneath dull olive green; legs and feet plumbeus; bill bluish black, base plumbeus. Length about 6.5 inches.

Juv. Dull olive above, tinged with green; beneath olive-yellow; sides and flanks warm olive; superciliaries pale yellow.

Hemignathus procerus Cab. Iiwi.

This Kauai species is said to be known to the natives by the name iiwi. If so the transfer of names is somewhat surprising. The bill is even of more extraordinary proportions than that of the former species. Its chief food, no doubt, is insects, but, according to Mr. G. C. Munroe, it also sucks honey from the lehua flowers. This observer also reports that the species has a sweet song.

We learn from him further that "this bird is much more common and enjoys a wider range than the nukupuu, which bird it much resembles in habits. It seems to inhabit the whole forest region of Kauai."

Description.—Adult. Head above olive, feathers edged with olive-green, giving a spotted appearance; back, edges of wing and tail quills and of wing coverts bright olive-green; wing and tail quills ashy brown; a bright yellow superciliary line, and a black loral spot. Throat and breast deep olive-yellow, merging into sulphur-yellow on abdomen; tibiae dull white. Length about 7.50 inches.

Adult female. Above greyish olive; rump and upper tail-coverts olive green; a dusky loral spot below olive-yellow; sides and flanks olive-green.

Hemignathus lanaiensis Rothschild.

Several specimens of this species were obtained on Lanai in 1892 by Mr. Rothschild's collectors, but it is doubtful if the species is still in existence, as it was then very rare.

Description. Adult male. Differs from *H. obscurus,* its nearest ally, in its much longer and very stout bill, ashy-greyish tint of the crown, and much duller olivaceus green of the back, neck, and rump. Breast dirty yellow, gradually passing into dull olive on the flanks, instead of bright yellowish olive as in *H. obscurus.* Under tail-coverts creamy white, instead of olive-green. (Rothsch.)

Hemignathus ellisianus (Gray).

This form of the akialoa used to inhabit the forests of Oahu where Mr. Wilson thinks it may still linger in small numbers. No collector, however, has seen the bird for many years and its existence is open to much doubt. The single specimen in the Berlin Museum is supposed to be the only specimen extant.

Description.—Above greenish olive-brown, more greenish on the back and rump and more greyish on the head and hind-neck; the dark bases of the feathers on the head showing through. Lores deep brown. A distinct yellow superciliary stripe. Chin, throat, and middle of abdomen dull brownish white (apparently somewhat faded). Upper breast olive-greenish; sides of breast and flanks dull olive-greenish. More olive-brown on the flanks. Wings and tail deep brown, bordered with yellowish green. Under wing-coverts dull white. The bill is brown, somewhat horn-brown, but *not blackish* as in all the other species of *Hemignathus.* (Rothsch.).

Heterorhynchus wilsoni Rothschild. Akiapolaau.

In the akiapolaau we have another of the interesting and extraordinary bird forms with which Nature has favored the Hawaiian Islands, there being a distinctive species for each island. In external form this bird resembles the akialoa, though more compactly and robustly built than that bird, but the yellow belly and the short, blunt mandible, in contrast with the long, delicate maxilla, serve at once to distinguish the two apart. The differ-

ences of form, and especially the different bills, indicate a corresponding difference in habits, of which, indeed, these differences are the direct result.

The akiapolaau frequents the same deep forests as the akialoa, though by no means wholly unknown in more open woods, and like that species it passes over the large limbs and trunks of trees with great rapidity, all the while peering to the right and left for the hidden haunts of its insect food. It has the same habit of probing into the leafy crowns of the ieie vine and into the thick mosses and lichens. But the short, blunt mandible of the akiapolaau has conferred new powers upon it which the other bird does not possess. By means of it, when the maxilla is agape, it can flake off lichens and even pound off small knobs and excrescences under which it suspects larvae to be concealed. Again, fixing itself firmly to a limb by its stout claws, it will seize a small excrescence between the mandibles and tug away at it till it wrenches it off, when it probes the cavity beneath for larvae with its upper mandible. The skull is unusually thick, and the muscles of the neck and the maxilla are remarkably developed so as to permit this double function of the bill as a hammer and as a wrench. To some extent then the akiapolaau has progressed towards the structure and the functions of a woodpecker, though in the main it is very different from any of the members of that tribe, not a single representative of which has found its way to the islands.

It may be added in passing that no family of birds is more needed in the islands than the woodpeckers. Dead timber is very abundant in the forests and, as Hawaiian insects lead hidden lives for the most part, the woodpeckers would prove of immense service in tearing open their burrows and in reducing their numbers. Having to do without woodpeckers, however, Nature has attempted to accomplish their work in a very different way. She has endowed several birds with stout legs and sharp, strong claws to enable them to run swiftly over the trunks and limbs of trees. She has given to others long bills and brush tipped tongues for probing hidden cavities and seizing the insect prey; and she has equipped the akiapolaau with a special device in the shape

of a more or less effective hammer to expose the hidden retreats of larvae.

But to return to our akiapolaau. So far as the general forest is concerned the bird is a rather rare one, but in certain localities north of the Wailuku I have found it rather common. It has a short but sweet warbling song which it utters at frequent intervals as it is engaged in hunting.

Description.—Adult male. Above bright olive-green, brighter on head and rump; wing and tail quills brown, edged with olive-green, as also the wing-coverts; a black loral spot; beneath gamboge yellow; sides and flanks washed with olive-green; legs plumbeus; bill bluish-black, bluish at base. Length about 5.75 inches.

Adult female. Above dull olive with faint greenish cast, greener on rump; beneath olive-yellow, much deeper on chin and throat, sides and flanks greenish-olive.

Young. Are much duller above than the female; below olive, washed with yellowish, especially on abdomen. Both the females and young differ much individually, as regards extent and depth of color.

Heterorhynchus lucidus Lichtenstein.

This is the Oahu representative of the akiapolaau. As suggested by Wilson, it is probable that the original specimens upon which the species rests were collected by Deppe and Townsend in Nuuanu Valley in 1837. The species has not been seen since by any explorer, and it is all but certain that it is extinct. Very few specimens exist in museums.

Description.—Adult male (in Paris Museum). Above olive-green, darker and more olive on the back, lighter and more green on the head, wing, and tail-coverts. Lores and a line behind the eye, brownish-black; across the forehead a narrow, and above the eyes a conspicuous orange-yellow superciliary stripe. Quills deep brown, outer webs edged with greenish yellow. Chin, throat and upper breast bright orange-yellow; abdomen yellow. (Rothsch.).

Heterorhynchus affinis Rothschild.

Found only upon Maui where it is generally confined to the more elevated forest. Mr. Perkins states that this bird has two songs, one of which is identical with that of the Hawaii species, while the other is much like that of the house finch introduced

from California. He finds that the food of the Maui species, like that of the form on the island of Hawaii, consists mainly of insects, "but the birds are quieter and less vigorous in their movements." He records the fact also that this species sucks honey.

Description.—Adult male. Top of head bright gamboge-yellow, passing into yellowish-green on the nape and hind neck, the green being rather abruptly terminated by the grayish olive-green of the back, brighter and greener on the upper tail-coverts. Quills and rectrices deep brown, bordered with bright olive green. Lores black, connected by a black band across the forehead. A tiny black chin spot. Throat bright yellow, passing into sulphur-yellow on the abdomen and pale yellow on the under tail-coverts. Sides of body tinged with greenish-olive. (Rothsch.). Female much duller.

Heterorhynchus hanapepe (Wilson). Nukupuu.

The nukupuu inhabits the forests of Kauai, from an elevation of from 2,000 to 3,000 feet, where it seems to be decidedly rare. Like its congeners, whose general habits it shares, the nukupuu lives chiefly upon insects. The fact that all of the several species of this curious genus live principally upon insects is attested by all who have observed their habits. Indeed the result of these observations might have been predicted from a study of the birds' structure. Long centuries of insect hunting, under the peculiar conditions found in the Hawaiian forest, have impressed upon the birds of this genus the stamp of extreme specialization. Their modification has been all in one direction, and their equipment is that of the highly specialized insect hunter.

Mr. Wilson was informed by natives that the nukupuu eats also bananas and oranges, an interesting fact if confirmed.

D scription.—Colored much like others of the genus, especially the *H. wilsoni* of Hawaii, from which it is at once distinguished by the curved, instead of straight, under mandible. Length about 5.60 inches.

Viridonia sagittirostris Rothschild. Green Solitaire.

This beautiful bird was one of the most interesting discoveries made by Palmer, Mr. Rothschilds' collector, in the island of Hawaii where alone it is found. It is one of the rarest prizes among existing Hawaiian birds and its habitat is limited to the dense for-

est a few miles in extent upon either side of the Wailuku River, at an elevation of from 2,000 to 4,000 feet. Yet even in its stronghold one may watch for it for days in vain, unless he know its call note, when occasionally a pair may be called up out of the forest fastnesses. Having attracted its attention in this way I have succeeded on several occasions in luring one up to within a dozen feet, and have listened to its rather plaintive call note.

The long straight bill is oriole-like in character and, like the orioles, the *Viridonia* seems to live chiefly upon insects which it gleans from the foliage of the ohias, to which tree it seems to confine its attention chiefly. The bird seems to be wholly unknown to the natives and I have been unable to learn its native name, if indeed it ever had one. I have therefore ventured to call it as above.

Description. Adult. Above bright olive-green, brighter on head and rump; an inconspicuous dusky spot anterior to eye; below yellowish-green; wing dark brown, feathers edged with green; a tail of a lighter shade of brown, edged with green; under surface of wing dark ash color; elbow yellow; under wing-coverts light yellowish green; legs plumbeus; bill bluish-black, base of L. M. bluish. Length about 6.5. Female generally duller and smaller.

Chlorodrepanis virens (Gmelin). Amakihi

This little green and yellow bird is one of the commonest of the island species, and is very widely diffused. In this respect it differs markedly from many Hawaiian birds which inhabit only restricted areas specially suited to their habits.

The amakihi loves the nectar of flowers, and is frequently to be seen in company with the iiwi and the akakani rifling the ohia blossoms of their sweets. It has learned also that the imported nasturtium secretes a fine quality of honey and, however close to the house the flowers may grow, it pays them regular morning and evening visits. As the amakihi has a comparatively short bill it is quite unable to reach the nectar, deep down in the long spurred corolla, and, like the iiwi, it has learned to pierce the spur with its bill just over the nectaries, and in this way easily reaches the coveted sweets.

It is the amakihi also that pays so much attention to the ba-

nana blossoms, and daily visits them for the sake of the abundant nectar. This bird hunts, too, all over the broad leaves of the same plant for minute insects which no other bird does. But the amakihi spends most of its time hunting for insects in the foliage of the ohia trees and among the low shrubbery.

It is to be remarked that this species confines its search for insects almost entirely to the foliage, and spends very little time on the trunks and the larger branches. Exactly the reverse is true of the *Oreomyza,* which frequents the same localities, and rather closely resembles the amakihi in size and general appearance. Bearing this difference in habits in mind, the two species may almost always be distinguished at any distance.

The call note of this species is a low sweet "tweet" which is frequently uttered. Its song is a low, simple but, withal, a rather sweet trill which is repeated at rather frequent intervals.

The nest of this species seems to be placed at various heights in the ohia and other trees. It is composed of roots and bark, lined with rootlets. The eggs I have not seen.

Description.—Adult male. Above oil green; beneath greenish-yellow; lores black; wing and tail brownish, edged with green; lining to wing whitish. Bill about .65 long; slightly curved; grayish plumbeus; legs plumbeus. Length about 4.50 inches. Female similar but duller.

Chlorodrepanis wilsoni Rothsch. Maui Amakihi.

Under the above name Mr. Rothschild has separated the Maui amakihi, considering that it has a larger bill than *virens* of Hawaii on the one hand, and is somewhat differently colored from *chloris* of Oahu on the other, a view apparently accepted by Mr. Wilson. The writer also is inclined to consider this view correct, though his present material is only sufficient to show that the Maui bird is remarkably like *virens.* Though the bill of Maui specimens appears to average larger than that of *virens,* yet I suspect that individuals may occur which it will be impossible to determine without knowing the island whence derived. In the juvenile plumage Maui birds seem to be much greyer than the similar stage of *virens* from Olaa. I have not compared skins from Maui with the Oahu bird.

Mr. Rothschild, with material before him from Molokai and Lanai, declines to admit the validity of Wilson's *Chlor. kalaana and chloridoides,* a view which I shall accept for the present.

I found *wilsoni* to be rare in June on the slopes of Haleakala above 5,000 feet, but to be commoner below that elevation. Its habits and notes seem to be much like those of *virens* of Hawaii. The old birds were leading about their families of young which were fully fledged.

Chlorodrepanis chloris (Cabanis). Amakihi.

This is the Oahu amakihi. Probably its habits differ in no essential respects from those of its allies. According to Mr. Seale the bird is not rare on the timbered mountain ridges and in the gulches.

Description.—Adult male. Above bright yellowish-green, with black forehead and lores; wings and tail brownish-grey, edged with green; below golden yellow. Length 4.5 inches.

Chlorodrepanis stejnegeri (Wilson). Amakihi.

This is one of two species found upon Kauai, both of which are known to the natives by the name of amakihi. This bird possesses a more robust form than any of its congeners and a stouter and more curved bill. Its habits probably do not differ in any essential respects from those of the species just described.

Description.—Adult male. Entire upper surface bright olive-green; lores blackish; primaries, secondaries and tail smoky brown; throat, breast and sides lemon yellow, passing into whitish on the belly and under tail-coverts. Length about 4.40 inches; bill about .65; strongly curved. Female similar but duller.

Chlorodrepanis parva (Stejneger). Alawi; Anauanii.

This species is an inhabitant only of the island of Kauai where it was first obtained by Mr. Knudsen. According to Wilson it is found throughout the forest region, and has been taken by Mr. Francis Gay towards the summit of Waialeale (4,000 feet), the highest point on the island.

I see no reason for the removal of this species from the genus

Chlorodrepanis. It is true that it has a nearly straight bill. It must not be overlooked that the bills of the other members of the *Chlorodrepanis* group differ considerably inter se (more especially the bills of *stejnegeri* and *virens*) and, in respect of its curvature of bill, *parva* seems to connect *Chlorodrepanis* with *Oreomyza*. In its other features, however, *parva* seems to be strictly congeneric with *chloris, stjnegeri* and *virens*. The character of the tongue alone is sufficient to show that it does not belong in *Oreomyza*. *Parva* seems, indeed, to be closely related to *C. virens*, from which it is chiefly to be distinguished by its smaller size and its shorter and straighter bill.

Description.—Adult. Entire upper surface and sides of body as well as the outer edges of quills and tail feathers bright yellowish olive-green, inclining to olive-yellow on the forehead, region above the lores, supercilia, and rump; trace of a dusky line between bill and eye; under surface, including under tail-coverts, bright olive yellow; middle of abdomen, tibiae, axillaries, and under-wing coverts white, except those of the latter nearest to the edge of the wing, which are bright yellow; quills blackish, edged in the outer web with yellowish olive, in the inner one with white. Length about 4.30. (Stejneger.)

Oreomyza mana (Wilson). Olive-green Creeper.

This little olive-green bird in certain districts of Hawaii is common, and in others rare. Throughout the Olaa woods, for instance, even at an elevation at from 2,000 to 3,000 feet, the species is rare, but in the forests of mixed koa and ohia along the Wailuku river it is numerous. The bird is common also in the koa woods above the volcano. It appears not to be found at all at low elevations, but occurs from about 2,000 feet upwards.

So nearly of a size are the amakihi and this species, and from a distance so nearly alike in color, that by the novice they may be easily mistaken one for the other. In habits, however, they are quite unlike. Whereas the amakihi, as above stated, hunts for insects among the foliage and the smaller twigs, the present species creeps along the trunks and the larger branches, gleaning from the interstices of the bark and from the mosses and lichens its insect fare. Its food consists very largely of the larvae of beetles, which its sharp, straight bill enables it to procure with

ease, provided they are not deeply hidden. In respect to its food and its general habits, the olive-green creeper may well be compared with the akialoa. Both birds frequent the same localities, live upon much the same food, and procure it in much the same way, save that the much longer bill of the akialoa enables it to explore depths for the hidden larvae which the other cannot reach. So far as I am aware the *Oreomyza* never touches honey.

Description.—Adult. Upper parts dull green, brighter on rump; feathers of head with dusky centers giving a slightly mottled appearance. Under parts greenish buff, shading into yellow on abdomen and into whitish on chin and throat. Wings and tail blackish brown, margined with green. Lores and space beneath eye black, in some specimens tending to orbital ring. Legs brown; Maxilla dark brown; lower mandible light brown; length about 4.50.

Specimens in the juv. plumage have the abdomen cream color, the chin and throat almost white, with a superciliary line of white which, in one specimen, extends clear across the forehead. In very young birds the lower mandible is yellow.

Oreomyza perkinsi Rothsch.

Concerning this newly described species I quote as follows from Rothschild: "This remarkable specimen has a long but straight bill; the nostrils are covered by an operculum, which, however, leaves a minute space at the lower margin open; the second primary is about one-tenth of an inch shorter than the third; the third, fourth, and fifth are nearly equal, but the fourth is a trifle longer. The coloration is that of *Chlorodrepanis virens.* The bird thus occupies a somewhat intermediate position between *Oreomyza* and *Chlorodrepanis,* and it might be a hybrid between *Oromyza mana* and *Chlorodrepanis virens;* but, as *Oreomyza parva* of Kauai occupies a similarly intermediate position between the genera *Oreomyza* and *Chlorodrepanis,* I think it is quite possible that it is a good species, and I have much pleasure in naming it after Mr. Perkins, who has done such very good work on the Hawaiian Islands in furthering our knowledge of their biology."

"Adult male. Above light olive-green (Ridgway, Nom. Colours, pl. x., No. 18). brighter on the rump. Quills black, edged with oil-green; tail-feathers dark brown, edged with oil-green.

Below olive-yellow; vent greenish white. Thighs dirty white. Under wing-coverts white, with a yellow tinge; lores black. Iris dark brown. Legs and feet greyish brown. Soles of feet yellowish flesh-colour. Upper mandible dark brown, with paler base; lower mandible grey. Total length about 5.5 inches, wing 2.6, tail 1.7, tarsus 0.85, culmen 0.63.

One male, Puulehua, [Kona] Hawaii, September 25, 1891.

Resting as it does upon a single specimen, the status of this recently described species can hardly be considered as settled until after further investigation. Its description indicates that it is very closely related to the *Chlorodrepanis virens;* or, as suggested by Mr. Rothschild, it may be a hybrid.

Oreomyza bairdi Stejneger. Akikiki.

This is the Kauai representative of the genus. It is a larger, more robust bird than the one just mentioned and is differently colored, but in general habits the two species appear to resemble each other closely.

Description.—Adult. Above hair brown, tinged with pale green on rump and on margins of wing and tail feathers. Below olive-buff, nearly white on chin and throat, and tinged with pale yellow on the breast and abdomen. Lores whitish. Length about 4.45.

Oreomyza flammea Wilson. Kakawahie.

This beautiful species, the native name of which signifies "firewood," probably from its bright flame color, is found only upon the island of Molokai where probably it is not uncommon. Very little is known of its habits, but they probably do not differ essentially from those of its congeners.

Description.—Adult male. Front and sides of the head pure scarlet; top of the head and back brownish scarlet, brightening into nearly pure scarlet on the rump; chin, throat, and lower surface generally pure scarlet, but paler in hue, brightening, however, on the flanks; remiges and rectrices blackish brown, edged with brownish scarlet; wing lining pale scarlet.

Adult female. Top of the head hair-brown, but each feather brownish-scarlet at the base, and the shafts of those towards the back of the head grey; back hair-brown tinged with red; rump distinctly russet; upper

tail-coverts brownish scarlet; remiges and rectrices blackish brown edged with brownish scarlet, as also are the upper wing-coverts. Beneath, dull white tinged with pale scarlet; sides of the body reddish brown, and wing-lining white tinged with scarlet. Length about 5 inches. (Wilson.)

Oreomyza newtoni (Rothsch.).

I found this species to be very common in the woods of Haleakala at an elevation of between 4,000 and 5,000 feet; in fact it is the most abundant of Maui birds in the vicinity of Olinda.

When referring to the Hawaiian member of this genus (*mana*) I laid special stress upon its habit of hunting almost exclusively along the main stems of the trees and upon the large limbs, a habit which will almost invariably serve to identify the bird in the forests of Hawaii. The Maui species is noticeable for the same habit, but, unlike *mana,* it much frequents also the undergrowth, and not rarely descends even to the ground in its hunting excursions.

Such marked difference in habits between species so slosely allied is extremely interesting, and I attribute it to the absence in Maui of the elepaio. The absence of the latter bird from this island is of itself remarkable, since in Hawaii, just across the channel from Maui, in plain sight and distant not more than twenty miles, the elepaio is very numerous indeed. The elepaio is essentially a bird of the low undergrowth, though by no means exclusively confined to it. As the undergrowth in Maui in unoccupied by any bird, *Oreomyza* has changed its habits and extended its hunting grounds, being indeed far more an inhabitant of the scrub than of the trees. In other words its habits are far less specialized in Maui than are those of its relative upon Hawaii where competition is keener.

Upon a few occasions I saw this species feeding upon nectar from the ohias, but this I believe must be considered a rare habit, as Mr. Perkins, who noted the same habit, also concludes.

In June the old birds were everywhere leading about young, and were feeding them principally upon the small green caterpillars of the koa and ohia.

The call note is quite unlike that of *mana,* being very similar to the chirp of our familiar song sparrow. Only once did I hear

anything resembling a song from this bird. Then I was close to several younglings whom I was watching when a male flew almost to my feet and, after a chorus of excited chirps and pleading notes, burst into an ecstatic warbling song. It may be doubted if this outpouring is the regular song of the species, as it was quite unlike the voice of any other Hawaiian bird known to me. It was a melody born of extreme agitation and of the alternate emotions of hope and fear. If intended, as no doubt it was, to divert my attention and to secure immunity for its young it was a most touching and effective device.

Oreomyza maculata (Cabanis.). Amakihi.

This is the Oahu amakihi. According to Wilson, this species is fairly common in the district of Halemanu where there are still some remains of the former forest. Palmer found it not rare in the upland districts of Waialua from 1,500 feet upwards. Perkins found it also at Kaiwaloa.

Description.—Adult male. Forehead, superciliary stripe, chin, cheeks, ear-coverts, throat, and breast golden yellow; rest of upper parts olive-green. Wing and tail feathers blackish brown, with olive-green edges, loral spot dusky. Beneath yellow, more whitish on the middle of the lower abdomen; sides of breast and flanks washed with olive-green. Under wing-coverts whitish, washed with olive yellow. Length about 5 inches.

Female very different from the male. Forehead, superciliary stripe and under parts yellowish white; sides of breast and flanks washed with olive-grey. Above olive, the greater wing-coverts with large greenish-white tips. (Rothsch.).

Oreomyza montana (Wilson). Alauhiio.

According to Rothschild, Palmer found this species on the southwest side of Lanai from about 1,500 feet to the highest peaks. It is not perhaps so very rare, though difficult to procure on account of the dense brush.

Description.—Adult male. Forehead, line above the eyes, and cheeks bright lemon-yellow; rest of upper parts light yellowish green, more greenish yellow on the rump and upper tail-coverts; margins of quills and recticles like the back. Beneath bright lemon-yellow; thighs brownish buff. Length about 5 inches. Female more greenish and duller. (Rothsch.)

Drepanis pacifica (Gmelin). Mamo.

There is every reason to believe that this famous bird is extinct, or so nearly so as to leave little hope that it will ever again be seen by human eyes. Nevertheless the writer saw at least a pair, possibly a whole family, in the woods of Kaumana, July, 1898. A year later I was assured by a native who had just come down from the deep forest, not far from the above locality, that a few days previously he had heard the note of a mamo near by but did not see it. His efforts to secure the bird, if he found any as he promised, were not successful. This fact brings the living history of the bird down to the year 1899.

The explanation of the extinction of this fine bird is doubtless to be found in the persecution it suffered at the hands of the natives, both in ancient and in modern times. Its feathers were more highly prized than those of any other bird, and were dedicated solely to the service of the higher chiefs. It may be doubted if the mamo was ever very abundant, nor is it likely that many of the feather mantles, even in ancient times, were made solely of the yellow feathers of the mamo. The bird was probably never numerous enough to permit of this extravagance. Still there is indubitable proof that a few such cloaks existed, and it is entirely credible that their manufacture occupied several generations, and that they were of priceless value when once made. The word mamo had several meanings according to Andrew's Dictionary, and one of them signified a yellow war-cloak covered with the yellow feathers of the mamo. Alaneo was another name for a royal robe made of the feathers of the mamo only.

It is said that the birdcatchers in Kamehameha's time, and perhaps before, were strictly enjoined not to kill any of the royal birds, but to turn their captives loose when stripped of the coveted yellow feathers. Had this injunction been strictly obeyed, the golden harvest might have been reaped indefinitely without in any wise affecting the welfare of the bird. But the forests in which the bird-catcher plied his calling was distant and deep, and it is possible that the injunction was not strictly heeded; for meat of any kind was always scarce in Hawaii and in any form was highly

prized. However, the mamo was ever a wary bird and difficult to secure, and we may feel tolerably sure that the ancient system of the natives of limeing the mamo would never have caused the bird's extinction, even if the tapu against its use for food was not strictly observed. After the introduction of fire-arms into the islands and they became at all general, bird lime rapidly gave way to the quicker and more deadly shot-gun and the birds quickly met their doom. In later historic times, at least, the mamo has always been very rare.

We know next to nothing of the habits of the mamo. The birds I saw in Kaumana were very active, and evidently were in pursuit of insects which they were hunting in the very tops of the tall ohias. The birds' flight from tree to tree was not rapid, but was smooth and well sustained, and the bird on the wing reminded me of nothing so much as the cuckoo. Though I observed the birds at intervals for more than two hours, I did not hear a single note.

Description.—Glossy black, with the exception of the lower part of the body, the rump, the tail coverts both above and below, the feathers of the tibia and those of the anterior margin of the wing, which are of a fine crocus yellow; the larger primary wing-coverts and under wing-coverts white, the former mottled with blackish grey, and the latter tinged with yellow. Remiges brownish black, tipped with dull white on the external vane of the five outer primaries, and both vanes of the next four, as well as those proceeding from the olecranon. Four middle rectrices glossy black, the rest more or less brown, and showing a patch of dull white near the tip, which though indistinct on the inner feathers becomes very distinct on the extreme pair. Bill and legs apparently deep brown. Total length about 8 inches. (Wilson.)

Drepanis funerea A. Newton. Black Mamo.

This species was discovered by Mr. Perkins upon the island of Molokai, to which island it is confined. He obtained several specimens at an altitude of about 5,000 feet. It appears to be rather closely related to the mamo and is somewhat smaller.

Description. Black throughout, except the outer edges of the primaries which are grey. Bill long and very much decurved; upper mandible much longer than the lower. Length about 8 inches.

Vestiaria coccinea (Forster). Iiwi.

This is one of the few birds which is generally distributed throughout the islands and, except at low altitudes, it is everywhere numerous.

The most highly colored of all Hawaiian birds, the iiwi, is also one of the most interesting. The disconnected notes of its rather sweet song may be heard coming all day long from the tall ohias when in blossom.

The iiwi is exceedingly fond of nectar, which is obtains chiefly from the blossoms of the ohia, but the bird does not disdain to rifle it from other flowers, both wild and cultivated. Nasturtiums and canna are especial favorites with it, and any one who is fortunate enough to live where the bird is common may attract numbers close to the house by planting the above named flowers. The birds will soon learn to visit the flower beds daily, especially in early morning and at eventide. Unable to reach the nectaries from the mouth of the nasturtium flower, even with their long bills, the iiwi has learned to pierce the spur of the blossom just above the coveted honey, and the brush tipped tongue enables them to scoop out the sweet drops and leave not a trace behind.

The iiwi is at all seasons also an energetic insect hunter, though more particularly when nectar is scarce, and its crop is often crammed with a small green worm which infests the koa, the ohia, and other trees. The iiwi was the species chiefly depended upon in the olden times to furnish the red feathers for the cloaks and helmets of the lesser chiefs. Like the mamo, the oo and other bright feather-bearing birds, the iiwi was caught chiefly by means of bird-lime.

The flight of the iiwi, and also of the akakani, is accompanied by rythmic pulsations, which are audible at quite a distance, and which always betray the passage of the birds above the tree tops. The flight of no other Hawaiian birds are thus marked. I have fancied that the wing-beats of the akakani are pitched on a higher key than of the iiwi, and that the flight of the two are thus distinguishable.

Description.—Adult. General color bright vermillion. Wing and tail

black; innermost secondaries white or white edged; under wing coverts white. Bill and feet vermilion; bill an inch long and much curved. Length about 5¾ inches.

Young in juvenile plumage (iiwi popolo) greenish yellow, variously mottled with black.

Palmereia dolei (Wils.). Crested Honey Eater.

This remarkable and interesting species inhabits the higher wooded districts of the island of Maui, to which island alone it is confined, and where it is not found much if any below an altitude of 5,000 feet. Like the akakani, to which it is evidently related, the crested honey eater frequents the ohia trees almost exclusively and, like that bird, derives a large part of its subsistence from the nectar of the ohia flowers. Its long tube-like, brush-tipped tongue enables the bird to extract the honey from the tassel-like blossoms with great ease and celerity.

In midsummer, at least, *Palmeria* feeds to a considerable extent also upon insect food, especially upon the small green or brown caterpillars which at this season swarm upon both the ohia and koa trees. Upon these same caterpillars it also feeds its young which, by the middle of June, are fully fledged and mostly capable of caring for themselves, though still following their parents.

Palmeria is a strong and active bird, possessing a vigorous flight and displaying much activity in traversing the ohia branches, or in flitting from one cluster of blossoms to another. I noticed much animosity manifested by the individuals of this species towards the akakani. The habits of the two species are too much alike for friendly relations to exist, and the greater size and strength of *Palmeria* enable it to drive away its smaller rivals from coveted feeding grounds. Even the half-grown birds successfully attack the akakani, and divide their time between sipping honey and in chasing their rival cousins.

Like most of the honey-eating birds, the stomach of the crested honey eater is remarkably small for the size of the bird, so etherial a food as the nectar of flowers being speedily and easily digested and necessitating neither a capacious nor a strong stomach.

I heard no song at all from this species, though it is probable that in the mating season the bird gives musical utterance to its feelings. It is to be noted, however, that at the same time and in the same place both the akakani and iiwi were musical enough, though both species were feeding their young. *Palmeria* has a call note which is as characteristic as any sound heard in the Hawaiian woods. It is a loud, clear and rather shrill whistle, somewhat like a flycatcher's call (great crested flycatcher), but perhaps best described by comparison with the well known call of Bob White. The note is easily imitated, and the birds can invariably be induced to answer, and usually can be called up close to the observer. But for this fact *Palmeria* would be indeed difficult to discover, since it is neither numerous nor generally distributed but, on the contrary, is very local, the birds seeming to dwell in small, isolated communities.

The flight of the crested honey eater is unaccompanied by the rythmic pulsations so characteristic of the flight of the akakani (and of the iiwi) while its larger size and whitish crest, as well as the absence of the white crissum, serve to readily distinguish the bird from the former species.

I have mentioned the Drepanine characteristics of the tongue of *Palmeria,* but there is another Drepanine feature wanting in all the specimens of *Palmeria* thus far examined by me. I allude to the powerful scent noticeable in the case of every other member of the group, and which I have come to consider as perfectly distinctive. I am assured, however, by Mr. Perkins that in his own experience the *Drepanine* odor to the bird is very noticeable at certain seasons. As the natives seem not to know the *Palmeria* and to have no name for it, I suggest the above appellation.

Description.—Adult. Upper parts, wing and tail black; feathers of middle back and rump tipped with scarlet and with grayish shaft-streaks; elbow and edge of wing scarlet, secondaries and greater wing coverts tipped with grey; primaries edged with same; a broad nuchal band of scarlet, extending over the side of neck; an occipital crest of pointed lanceolate feathers black with light shaft streaks; a crest of dirty white feathers, nearly an inch long, curved forward from the forehead and partly covering the bill. A light scarlet ring around the eye, broadest above. Throat and upper breast of a beautiful hoary grey; rest of under

parts black with grey shaft-streaks; feathers of belly and flanks tipped with crimson; tibiae orange scarlet. Bills and legs black. Length about 7 inches. Female smaller.

The young repeat the pattern of coloration of the adult even to an incipient crest, but the crimson is replaced by brownish pink. The legs are brownish black, and the bill is black *with orange patches especially on the lower mandible.*

Himatione sanguinea (Gmelin). Akakani; Apapani.

This is one of the most beautiful and abundant of the island birds and, like the iiwi, is found upon all the islands.

In its general habits the akakani resembles the iiwi, but is even more dependent for food upon the nectar of flowers than that bird. Though perhaps a less persistent insect hunter the year round than the iiwi, the akakani is dependent to a great extent for a livelihood upon insects, and is extremely partial to the little green and brown caterpillar of which nearly all the forest birds are so fond.

Like the iiwi its feathers were much used in ancient times to make cloaks, helmets and leis for the priests and lesser chiefs.

The akakani's song is sweet to the ear but is monotonous, and is delivered at all seasons of the year and at all times of the day. In fact this species and the iiwi rank as the most persistent songsters the writer has ever heard. The akakani has a delightful habit of gathering together in loose companies in the tops of the leafy ohia trees about midday, when hunger is appeased and most of the other forest songsters are silent, when the males join in a subdued lullaby and literally sing themselves and their mates to sleep.

The akakani usually nests in the tall forest ohias, but the writer has seen numerous nests in the small, scrubby ohias about the Volcano House which he attributed to this species; those examined were invariably empty.

Description.—Adult. Above and below crimson, brightest on the head and shading off on the abdomen into white; under tail coverts white; wing and tail black, the quills and secondaries edged with scarlet; under wing coverts ashy. Sexes practically indistinguishable. Length about 5¼ inches.

Himatione fraithii Rothsch. Laysan Akakani.

According to Palmer the akakani is by far the rarest of the Laysan birds, although it occurs in fair numbers. Like its relative it feeds upon the nectar of flowers though perhaps more dependent upon insects, of which it is an energetic hunter. According to Palmer the bird has a low sweet song.

The Laysan bird is no doubt a derivative of the Hawaiian Island stock, and must have been a resident of its present domain for a very long time.

Mr. Rothschild states that it resembles *sanguinea* of the islands, but has a shorter bill, and the color is scarlet vermilion instead of the darker blood-red of that species.

(*To be continued next issue.*)

COLLECTION OF ALGAE FROM THE HAWAIIAN ISLANDS.

Written for the Annual by Josephine E. Tilden.

IN the Hawaiian Annual for 1881 Mr. J. E. Chamberlain published the names of one hundred and twelve marine algae common on the shores of the Hawaiian Islands.

During the summer of 1900 the writer spent three months among the Islands working on both marine and freshwater algae. Of the several hundred species collected only a part have as yet been determined, so that the appended list comprises only one hundred names, many of which, however, are not found in Mr. Chamberlain's account. It is hoped to complete the entire number in next year's Annual.

1. Ceramium diaphanum (Lightf.) Roth. Growing on other algae. Waikiki, Oahu. May 28, 1900.

2. Dasya mollis Harv. Forming a soft bushy, reddish mass. Beach at hotel, Waianae, Oahu. May 23, 1900.

3. Dasya villosa Harv. Frond dark reddish-brown. On rocks at low tide. North of hotel. Waianae, Oahu. May 26, 1900.

4. Amansia glomerata Ag. Forming patches of dull brownish or bright red rosettes under dark overhanging rocks. At low tide. Waianae, Oahu. May 27, 1900.

5. Polysiphonia colensoi Hooker and Harvey. Frond globose, reddish or dark brown. Cast up on beach. Waikiki, Oahu. May 28, 1900.

6. Asparagopsis sanfordiana Harvey. Frond flesh color to pale pink, erect, stiff, rising from prostrate rhizome. Attached to rocks in feathery, tree-like tufts. At low tide. Waianae, Oahu. May 18, 1900.

7. Martensia flabelliformis Harvey. Fronds fan-shaped, bearing a single wide zone of network. On reef at low tide. Hanalei, Kauai. July 26, 1900.

8. Martensia denticulata Harvey. Fronds tufted, with fan-shaped segments, bearing more than one zone of network. In tufts or beds on reef at low tide. Hanalei, Kauai. July 26, 1900.

9. Halosaccion hydrophora (Post. and Rupr.) J. Ag. Forming stiff, upright, reddish or brownish-purple sacs growing on shaded sides of deep cracks and crevices on reef. At low tide. Waianae, Oahu. May 27, 1900.

10. Plocamium sandvicense J. Ag. Frond bright red, flat, branched. In caves at low tide. Washed constantly by waves. Laie Point, Koolauloa, Oahu. June 18, 1900.

11. Champia compressa Harvey. Frond small, compressed, articulated throughout. Cast up on beach. Waikiki, Oahu. May 31, 1900.

12. Ahnfeltia concinna J. Ag. Frond brownish-red, horny, irregularly branched. Attached to rocks at low tide. Mahukona harbor, Hawaii. June 27, 1900.

13. Gelidium latifolium Bornet. Frond dark red, flat, branched. Growing on edge of reef where waves dash constantly. Low tide. Waianae, Oahu. May 26, 1900.

14. Wrangelia penicillata Agardh. Frond very soft and gelatinous in substance, branched, filmy and fern-like in appearance, always of a peculiar brownish-green color. Common on reefs at low tide. Washed constantly by waves. Waianae, Oahu. May 19, 1900.

15. Galaxaura adriatica Zanard. Frond rose-pink, becoming whitish in drying, encrusted with lime, hard, brittle. Attached to rocks on sandy beach. Waianae, Oahu. May 22, 1900.

16. Galaxaura rugosa (Soland.) Lamour. Frond stiff, dark red. Growing in crevices of rocks at low tide. Kahuku Point, Oahu. June 13, 1900.

17. Liagora leprosa J. Ag. Frond nearly white or with greenish or reddish apices. On rocks at low tide. Laie Point, Oahu. June 18, 1900.

18. Liagora decussata Mont. Frond encrusted with lime, much branched. The branches show violet or reddish apices. Attached to rocks

on sandy beach at low tide. On a rocky peninsula two miles north of Waianae, Oahu. June 12, 1900.

19. Trichogloea lubrica (Harvey) J. Ag. Frond brownish-red, lubricous, branched. Cast up on beach. Kahuku Point, Oahu. June 13, 1900.

20. Dictyota acutiloba J. Ag. Plant very much branched, brown. Attached to other algae. Waikiki, Oahu. May 30, 1900.

21. Dictyota dentata Lamour. Frond brownish to blue-green. Attached to reef in beds in dark places under rocks. Low tide. Waianae, Oahu. May 18, 1900.

22. Dictyota bartayresiana Lamour. Frond much branched. On pebbles on sandy beach. Waianae, Oahu, May 22, 1900.

23. Dictyota crenulata J. Ag. Frond much branched, with coarser segments than the last, showing always in the water a pale blue irridescense. On reef at low tide. Waianae, Oahu. May 26, and Waikiki, Oahu. May 28, 1900.

24. Haliseris plagiogramma Mont. Frond dichotomous. Lamina having many veins running obliquely from midrib to margin. On reef continually washed by waves at low tide. Laie Point, Koolauloa, Oahu. June 18, 1900.

25. Padina pavonia (Linn.) Gaillon. Frond membranaceous, whitish, fan-shaped, marked with concentric bands. Attached to rocks in tide pools at half tide. Waianae, Oahu. May 17, 1900. Very common.

26. Padina durvillaei Bory. Frond like the last but dark brown in color and larger. Washed ashore. Waikiki, Oahu. May 28, 1900.

27. Gymnosorus variegatus (Lamour.) J. Ag. Frond flattened, adhering to rocks, dark brown. On rocks at low tide. Waianae, Oahu. May 25, 1900.

28. Chnoospora pannosa J. Ag. Plants dark brown, solitary, stiff, flattened-globose, very densely branched. On reef at low tide. Waianae, Oahu. May 19, 1900.

29. Chnoospora fastigiata pacifica J. Ag. Frond regularly dichotomous-fastigiate. On rocks at low tide. Punaluu, Hawaii, July 3, 1900.

30. Sargassum echinocarpum J. Ag. Frond up to two feet in length, branched. Fruiting branches repeatedly forked, collecting in small bunches. On rocks just below high tide. Washed by waves continually. Waianae, Oahu. May 20, 1900.

31. Sargassum polyphyllum J. Ag. Up to twelve inches in length, brown, much branched. Attached to rocks at half tide. Nawiliwili, Kauai. July 27, 1900.

32. Sargassum cymosum Ag. Very similar to No. 30 but with fruiting branches not so much forked. Growing with S. echinocarpum.

33. Turbinaria ornata J. Ag. This plant need not be mistaken for any other. The leaves are peltate with toothed edges and the whole frond is stiff. It is often seen on rocks just below low tide generally where the

tide is too strong to allow of its collection. Quite often branches or whole plants may be found cast up on beach. Waianae, Oahu, May 18, 1900.

34. Ralfsia verrucosa (Aresch.) J. Ag. Frond forming a hard crust, dark brown, leathery, firmly attached. On flat rocks on reef at low tide. Laie Point, Koolauloa, Oahu. June 16, 1900.

35. Colpomenia tuberculata Saunders. Plant forming a hollow, brown, flattened ball with surface deeply wrinkled. Attached to rocks at low tide. Waianae, Oahu. May 18, 1900.

36. Hydroclathrus cancellatus Bory. Plant somewhat flattened-spherical, light brown, consisting of a large-meshed network. On reef at half tide. Waianae, Oahu. May 18, 1900. The Hawaiian name for this alga is "poha." It is used for food.

37. Sphacelaria tribuloides Menegh. Plants forming minute tufts on Turbinaria ornata. Kahuku Point, Koolauloa, Oahu. June 13, 1900.

38. Sphacelaria tribuloides Menegh. var. Forming dark brown silky tufts attached in small holes in rocks, constantly washed over by waves. Waianae, Oahu. May 17, 1900.

39. Ectocarpus mitchellae Harvey. Plants tufted, growing on other algae. In tide pool at low tide. Waianae, Oahu. May 18, 1900.

40. Ectocarpus sargassi Saunders. Forming minute tufts on Sargassum and Chnoospora. Waianae, Oahu. May 17, 1900.

41. Nitzschia majuscula Grun. Microscopic plants growing in soft fragile layers coating other algae. Waialua, Oahu. June 11, 1900.

42. Diadesmis confervacea Kg. Microscopic plants in stagnant water at edge of creek. Kaliuwaa stream, Hauula, Koolauloa, Oahu, June 15, 1900.

43. Licmophora pennatula V. Microscopic algae growing on Caulerpa on beach. Kapaa, Kauai. July 26, 1900.

44. Tabellaria flocculosa (Roth) Kg. Floating in brownish, feathery masses on surface of slowly running sewerage ditch. Kealia Plantation, Kealia, Kauai. July 24, 1900.

45. Neomeris dumetosa Lamour. Frond club-shaped, chalky white in lower portions, bright green at apex. In small holes and cracks in reef at low tide. Not common. Laie Point, Koolauloa, Oahu. June 16, 1900 .

46. Microdictyon umbilicatum (Velley) Zanard. Plant bright or dull green, stiff, forming rosette-like tufts. Attached in pools at half tide. Waianae, Oahu. May 17, 1900.

47. Dictyosphaeria favulosa (Mert.?) Decaisne. Plants somewhat globose, hard, finally becoming hollow, broken and torn, then forming flattened, leathery reticulated membranes. Attached to reef at low tide. Waianae, Oahu. May 18, 1900.

48. Valonia aegagropila (Roth?) Ag. Bright green, growing in little bunches. Branches cylindrical or club-shaped. Attached on reef at low tide. Hanalei, Kauai. July 26, 1900.

49. Codium tomentosum (Huds.) Stackh. Plant cylindrical, with forked branches, dull green in color, resembling a sponge. Cast up on beach. Waialua, Oahu. June 11, 1900.

50. Codium adhaerens (Cabr.) Ag. Plant dark green, forming fleshy lobes which become firmly attached to rock on under side. Under projecting cliffs at half tide. Laie Point, Koolauloa, Oahu. June 16, 1900.

51. Halimeda tuna (Ell. and Soland.) Lamour. Plant bright green, with flat, fan-shaped articulations. Standing out from sides of deeper tide pools at low tide. Waianae, Oahu. May 18, 1900.

52. Caulerpa taxifolia (Vahl) Ag. Frond with erect, fern-like branches rising from creeping rhizome. Growing imbedded in sand on beach or in sand caught in crevices in rocks. Very difficult to dislodge without breaking. Waianae, Oahu. May 19, 1900.

53. Bryopsis plumosa (Huds.) Ag. Tufts matted, dull green, soft. Attached to rocks on sandy beach at low tide. Kapaa beach, Kauai. July 25, 1900.

54. Pithophora affinis Nordst. Forming a fluffy or woolly mass floating on surface of water and covering bottom of fish-pond fed by spring water. Mrs. Frear's summer place. Peninsula, Pearl City, Oahu. June 6, 1900.

55. Cladophora mauritiana Kg. Forming light green, much branched, tufts of delicate filaments. Growing on sandy beach. Waikiki, Oahu. May 28, 1900.

56. Cladophora inserta Dickie. Forming minute pale green tufts growing on rocks at low tide. Waianae, Oahu. May 26, 1900.

57. Cladophora canalicularis (Roth) Kg. Forming long dark green strings in swiftly running water in ditches in rice field. Peninsula, Pearl City, Oahu. June 6, 1900.

58. Chaetomorphopsis pacifica Lyon. Filaments bright green, tufted. On reef at low tide. Pahala, Hawaii. July 3, 1900.

59. Stigeoclonium amoenum novizelandicum Nordst. Light green, fluffy, much branched. Attached to stones in mountain stream. Kaliuwaa stream, Makao, Koolauloa, Oahu. June 19, 1900.

60. Stigeoclonium nudiusculum Kg. Forming dark green feathery tufts. In swiftly flowing water, attached to sides of irrigation troughs. Peninsula, Pearl City, Oahu. June 6, 1900.

61. Stigeoclonium falklandicum Kg. Forming bright green waving masses, attached to grass leaves in large irrigation ditch. Ewa Plantation, Oahu. June 7, 1900.

62. Conferva sandwicensis Ag. Growing in tide pool at bottom of landing. High tide. Probably fed by springs. Hakalau, Hawaii, July 10, 1900.

63. Hormiscia flaccida minor Hansg. Forming a light yellowish-green

stratum on soft stones and dirt under dripping water from tanks. Volcano House, Kilauea, Hawaii. Elevation 4,000 feet. July 1, 1900.

64. Monostroma latissimum (Kg.) Wittr. Frond forming a thin, shining, green membrane on bottom of lagoon on beach. "Sekonet," south of Hilo, Hawaii. The Hawaiian name is "limu paha-paha."

65. Ulva lactuca laciniata (Wulf) J. Ag. Forming small, pale green, thin, deeply lobed sheets. Attached firmly to reef at low tide. Waialua, Oahu. June 11, 1900.

66. Ulva fasciata Delile. Frond forming thin, green, ribbon-like segments, up to two feet in length. Attached to rocks on sandy beach. Waianae, Oahu. May 22, 1900. The Hawaiian name for this alga is "limu paha-paha." It is eaten with raw fish.

67. Ulva fasciata major Tilden. Frond up to five feet in length, green, forming long narrow ribbons. Attached to reef at low tide. Waialua, Oahu. June 11, 1900.

68. Enteromorpha intestinalis genuina Hauck. Frond pale green, narrow, intestiniform. Floating in masses in outer ditch of rice field near beach. Aiea, Oahu. June 2, 1900.

69. Enteromorpha compressa subsimplex Aresch. Frond somewhat grasslike, but soft. Attached to stones on beach. Waikiki, Oahu. May 28, 1900.

70. Enteromorpha compressa constricta J. Ag. Attached to floating raft. Waikiki, Oahu. May 31, 1900.

71. Hydrodictyon reticulatum (Linn.) Lagerh. In pool formed under wooden irrigating troughs carrying artesian well water. Makao, Koolauloa, Oahu. June 16, 1900.

72. Scenedesmus quadricauda genuina Kirchn. In small muddy lake in crater next above Green lake. Puna, Hawaii. July 18, 1900.

73. Spirogyra fluviatilis Hilse. In flume as it leaves reservoir. Hakalau plantation, Hawaii. July 10, 1900.

74. Euastrum ansatum suprapositum Nordst. Forming a greenish scum on surface of water and on bottom of pool. Puna road, (twenty miles from Hilo), Hawaii. July 18, 1900.

75. Dispinctium connatum (Breb.) De Bary. In pool with last.

76. Pleurotaenium rectum Delp. In pool with last two.

77. Closterium lineatum sandwicense Nordst. In warm shallow pool in lava (pahoehoe) in such quantity as to color the water brown. Puna road (eighteen miles from Hilo), Hawaii. June 18, 1900.

78. Tolypothrix distorta (Muell.) Kg. Forming tiny bluish-green tufts or cushions on rocks in mountain stream. Kaliuwaa stream, Makao, Koolauloa, Oahu. June 19, 1900.

79. Scytonema rivulare Borzi. Forming dark brownish or purplish-red cushions on stones in mountain stream. Kaliuwaa stream, Makao, Koolauloa, Oahu. June 19, 1900.

80. Scytonema cincinnatum (Kg.) Thuret. Floating in mats on surface of stagnant water among roots of Water hyacinth. On beach. Meheiwa, Makao, Koolauloa, Oahu. June 20, 1900.

81. Cylindrospermum stagnale minor Tilden. Forming a dark blue-green membrane on wet cliffs. Laupahoehoe, Hawaii. July 10, 1900.

82. Anabaena confervoides Reinsch. Forming small, soft brown masses floating at edge of taro patch near Hauula courthouse. Hauula, Koolauloa, Oahu. June 20, 1900.

83. Anabaena variabilis Kg. Stratum dark blue-green, spread on damp ground. On bottom of irrigation ditches in sugar cane field. Water was turned on about once a week. Ewa plantation, Oahu. June 7, 1900.

84. Nodularia hawaiiensis Tilden. Forming a stringy, dark blue-green stratum. In tufts attached to other algae. On reef constantly washed over by waves. Waianae, Oahu. May 22, 1900.

85. Nostoc foliaceum Mougeot. In globules among mosses and liverworts on dripping cliffs at side of road. South of Laupahoehoe, Hawaii. July 10, 1900.

86. Nostoc commune Vaucher. Forming gelatinous firm, flat, wrinkled masses on boards of flume (not under water), head waters of flume of Pacific Sugar Mill. Elevation 2,300 feet. Pacific Sugar Mill, Hamakua, Hawaii. July 14, 1900.

87. Nostoc verrucosum (Linn.) Vaucher. Forming small, black, "shot-like" balls covering sides of pools in falls and rapids. Head waters of flume. Elevation 2,300 feet. Pacific Sugar Mill, Hamakua, Hawaii.

88. Lyngbya aestuarii (Mert.) Liebm. Forming a dark brown skin growing closely attached to sand on rock. Laie Point, Koolauloa, Oahu. June 16, 1900.

89. Lyngbya aestuarii natans Gomont. In dirty tangled masses floating in lagoon, formed at mouth of river. Kealia river, Kauai. July 29, 1900.

90. Lyngbya martensiana Menegh. Forming dark reddish-brown stratum on twigs under dripping water. Falls four miles from mouth of river. Wailuku river, Hilo, Hawaii. July 7, 1900.

91. Lyngbya semiplena J. Ag. Attached to rocks in tide pool filled at high tide. Waianae, Oahu, May 20, 1900.

92. Lyngbya majuscula (Dillw.) Harvey. Dark blue-green, growing on other algae. At low tide. Waianae, Oahu. May 26, 1900.

93. Phormidium papyraceum (Ag.) Gomont. Forming a dark blue-green shining, leathery stratum on sides of wooden irrigation flume where water dripped through. Kahuku plantation, Oahu. June 13, 1900.

94. Phormidium favosum (Bory) Gomont. Forming a dark blue-green or black shining stratum in running water in trough from rice field. Peninsula, Pearl City, Oahu. June 6, 1900.

95. Oscillatoria sancta Kg. Forming a reddish-brown skin on wet

sides of cliff. Falls four miles from mouth of river. Wailuku river, Hilo, Hawaii. July 7, 1900.

96. Oscillatoria laetevirens Crouan. Forming a delicate, bright blue-green stratum covering bottom of tide pool in rocks into which water splashes at high tide. Waianae, Oahu. May 16, 1900.

97. Aphanothece naegelii Wartm. Forming soft, olive-brown lumps on sides of damp cliff among mosses and liverworts. Elevation 350 feet. Kaliuwaa Falls, Makao, Koolauloa, Oahu. June 19, 1900.

98. Aphanothece prasina A. Br. Forming free-swimming, blue-green, tuberculose, globose or flattened, soft masses floating in ditch in rice field near beach. Very abundant. Aiea, Oahu. June 2, 1900.

99. Gloeocapsa quaternata (Breb.) Kg. Forming a gray-green, mucilaginous coating on wet cliffs. South of Laupahoehoe, Hawaii. July 10, 1900.

100. Gloeothece fuscolutea Naeg. Forming soft blue-green, gelatinous masses covering surface of water in one plat in rice field. Aiea, Oahu. June 2, 1900.

I can not close this paper without thanking my many friends in Hawaii for their innumerable kindnesses to us during our visit to the Islands. In particular I must name Mr. F. C. Smith of the Oahu R. & L. Co., Mr. C. L. Wight of Wilder's Steamship Co., Mr. J. A. McLean of the Inter-Island Steam Navigation Co., Mr. David Haughs of the Government Nursery, and Mr. T. G. Thrum of Honolulu, Oahu; Miss M. Alice Smith, Mr. F. Meyer, Mr. Morton and Mr. Morse of Waianae, Oahu; Dr. A. B. Carter of Makao, Koolauloa, Oahu; Rev. John Alexander Cruzan and Professor H. W. Henshaw of Hilo, Hawaii; Mr. L. Chong of Pahala, Kau, Hawaii; Mr. George Ross of the Hakalau Plantation Co., Hakalau, Hawaii, Mr. David Forbes of the Pacific Sugar Mill, Hamakua, Hawaii; and Mr. George Fairchild of the Kealia Plantation, Kapaa, Kauai. I also gratefully acknowledge the kind assistance of my mother, Mrs. Henry Tilden, and of Miss Caroline M. Crosby who accompanied me on all collecting trips.

University of Minnesota, Minneapolis, Minn. October 9, 1901.

AIAI, SON OF KU-ULA.

BEING PART II OF KU-ULA, THE FISH GOD OF HAWAII.

[Continued from the last Annual; translation completed by S. N. Emerson and the whole carefully revised and compared with the original.]

AFTER the death of the King of Hana Aiai left the people of Haneoo catching hinalea and went to Kumaka, a place where fresh water springs out from the sand and rocks near the surf of Puhele, at Hamoa, where lay a large, long stone in the sea. This stone he raised upright and also placed others about the water spring and said to his friend: "To-day I name this stone Ku-a-lanakila, for I have triumphed over my enemies, and I hereby declare that all fishes, crabs and sea moss shall return again in plenty throughout the seas of Hana, as in the days when my parents were living in the flesh at Lehoula.

From the time Aiai raised this stone up to the present generation, the story of Ku-ula and Aiai is well preserved, and people have flocked to the place where the stone stands to see it and verify the tradition. Some kahunas advise their suffering patients to pay a visit to the stone, Ku-lanakila, with some offerings for relief from their sickness and also to bathe in the spring of Kumaka and the surf of Puhele.

This was a favorite spot of the kings and chiefs of the olden times for bathing and surf riding, and is often referred to in the stories and legends of Hawaii-nei.

This was the first stone raised by Aiai and established as a

Kuula at Hamoa, and the old people of Hana attributed the return of the fish to their waters to its influence.

After Aiai's practice of his father's instructions and the return of the fishes, his fame spread throughout the district and the people made much of him during his stay with them.

A great service wrought by Aiai during his boyhood was the teaching of his friends and his friends' parents how to make the various nets for all kinds of fishing. He also taught them to make the different kinds of fishing lines. When they were skilled in all these branches of knowledge pertaining to fishing he called the people together, and in their presence declared his friend to be the head fisherman of Hana, with full control of all the stations (ko'a ia) he had established. This wonder working power second to none, possessed by Aiai, he now conferred on his friend whereby his (Aiai's) name would be perpetuated and his fame established all over the land.

The first ko'a ia (fishing ground, or station) where Aiai measured the depth of the sea is near Aleamai, his birth-place, and is called Kapukaulua, where he hooked and killed the eel Koona. It is a few miles from the shore to the southeast of the rocky islet called Alau. The second station that he established was at a spot about a mile from Haneoo and Hamoa which was for the kala, palani, nanue, puhi and ula. These varieties of fish are not caught by nets, or with the hook, but in baskets which are filled with bait and let down in the deep sea.

The third station, which he named Koauli, was located out in the deep sea for the deep-sea fishes, the depth ranging about 200 fathoms. This is the ko'a (station) that fishermen have to locate by certain shore bearings least a mistake is made as to the exact spot and the bottom be found rocky and the hooks entangle in the coral. In all the stations Aiai located there are no coral ledges where the fishermen's hook would catch, or the line be entangled, and old Hawaiians commended the skill of such locations, believing that the success of Aiai's work was due to his father's influence as an ocean deity.

Some days later Aiai went over to the bay of Wananalua, the present port of Hana, with its noted hill of Kauiki and the sandy

beach of Pueokahi. Here he made and placed a kuula, and also placed a fish stone in the cliff of Kauiki whereon is the ko'a known as Makakiloia. And the people of Hana give credit to this stone for the frequent appearance of the akule, oio, moi, and other fishes in their waters.

Aiai's good work did not stop at this point, but proceeding to Honomaele he picked up three pebbles at the shore and going into the sea, out beyond the breaking surf, he placed them there. In due time these three pebbles gathered others together and made a regular ridge, and when this was accomplished the aweoweo gathered from the far ocean to this ridge of pebbles for rest, whereupon all the people came with nets, hook, and line and caught them as they desired. The writer witnessed this in 1845 with his own eyes. This ko'a for aweoweo is still there but difficult to locate from the fact that all the old residents are gone; either dead or moved away.

He next went over to Waiohue, Koolau, where he placed a stone on a sharp rocky islet, called Paka, whereon a few puhala grow. It is claimed that during the season of the kala, they come in from the ocean attracted to this locality by the power of this stone. They continue on to Mokumana, a cape between Keanae and Wailuanui. They come in gradually for two days and on the third day of their reaching the coast, at the pali of Ohea, is the time and place of surrounding them with nets. In olden times while the fishermen were hauling in their nets full of kala into the canoes, the akule and oio also came in numbers at the same time, making it impossible to catch all in one day, and as there were so many gathered in the net it took them a day and a night before they could care for their draught, which yielded so many more than could be made use of they were fed to the pigs and dogs.

The kala of Ohea is noted for its fatness and fine flavor. Few people are now living there, and the people who knew all about this are dead, but the stone that Aiai placed on that little island at Waiohue is there still.

Aiai stayed there a few days and then returned to Hana and lived at his birth-place quite a length of time till he was a man grown. During this period he was teaching his art of fishing in

all its forms, and when he was satisfied the people were proficient he prepared to visit other places for like service, but before leaving Aiai told his friend to go and kill the big hee kupua (wonderful octupus) in the deep sea, right out of Wailuanui, Koolau, and he consented.

When the canoes were made ready and drawn to the beach and the people came prepared to go to Koolau, Aiai brought the hokeo (fishing gourd) where the leho (kauri shell) that Kuula his father gave him was kept and gave it to his friend. This shell is called lehoula and the locality at Hana of that name was called after it.

Then the canoes and people sailed away till they got out along the palis near Kopiliula where they rested. Aiai was not with the party, but overlooked their operations from the pali of Puhiai.

While they rested, preparation for the lowering of the leho was being made and when ready, Aiai's friend called on Kuula and Hina for the assistance of their wonderful powers, mana kupua. When he was through he took off the covering of the gourd and took out the leho, which had rich beautiful colors like the rainbow. and attaching it to the line he lowered it into the sea where it sent out rays of a fiery light. The hee, Haaluea, was so attracted by its radiance that it came out of its hole and with its great arms, which was as long and large as a full grown cocoanut tree, came up to the surface of the water and stood there like a cocoanut grove. The men were frightened for it approached and went right into the canoes with the intention of destroying them and the men and capturing the leho; but it failed, because at the proper time Aiai's friend, with his skill and power, had provided himself with a stone which he shoved into the head of the squid and the weight of the stone drew it down to the bottom of the sea and kept it there, being powerless to remove it so that it died. The men seized and cut off one of the arms which was so big that it loaded the canoes down so that they returned to Hana. When the squid died it turned to stone and is pointed out today just outside of Wailuanui, where a stone formation resembles the arms and body of a squid minus one arm.

When Aiai saw from the pali that his friend was successful in

killing the hee, he returned to Hana unseen, and in a short while the canoes arrived with its arm which was divided among the people according to the directions of Aiai.

OTHER STATIONS ESTABLISHED.

When Aiai saw that his friend and others of Hana were skilled in all the art of fishing he decided to leave his birthplace and journey elsewhere, so he called a council of his friends and told them of his intended departure, to establish other fishing stations and instruct the people with all the knowledge thereof in conformity with the injunction of Kuula his father. They approved of the course contemplated and expressed their indebtedness to him for all the benefits he had shown them.

On leaving Aleamai he took with him the fish-hook, Manaiakalani, and the fish pearl, Kahuoi, for aku from the little cave where he had lodged on the hill of Kaiwiopele, and in departing he disappeared in the mysterious manner of his parents. He established kuula's, ko'a aina, by placing three fish stones at Puuiki, Muolea, Hanakaiole and at other points also as far as Kipahulu. At the streams of Kikoo and Maulili there stands a stone today, which was thrown by Aiai and dropped at a bend in the waters, unmoved by the many freshets that have swept the valleys since that time.

Out in the sea of Maulili is a famous station known as Koanui. It is about a mile from the shore and marks the boundary of the sea of Maulili, and the fishes that appear periodically and are caught within its limits have been subject to a division between the fishermen and land owner ever since. This is a station where the fisherman's hook shall not return without a fish except the hook be lost, or the line cut.

The first time that Aiai tested this station and caught a fish with his noted hook he saw a fisherman in his canoe drifting idly, without success. When he saw Aiai this fisherman, called Kanemakua, paddled till he came close to where Aiai was floating on an improvised canoe, being a wiliwili log, without an outrigger, which much surprised him. Before coming together Aiai felt a tug at his line and knew that he had caught a fish and began

pulling it in. When Kanemakua came within speaking distance Aiai greeted him and gave him the fish; putting it into his canoe. Kanemakua was made happy and thanked Aiai for his generosity. While putting it in the canoe Aiai said:

"This is the first time I have fished in these waters to locate, (or found) this station, and as you are the first man I meet I give you the first fish caught. I also give you charge of this ko'a, but take my advice. When you come here to fish and see a man meeting you in a canoe and float alongside of you, if at that time you have caught a fish, then give it to him as I have done to you, without regret, and thus get a good name and be known as a generous man. If you observe this, great benefits will come to you and those related to you."

As Aiai finished speaking he suddenly disappeared, and Kanemakua could hardly realize but what he had been dreaming but for the assurance he had of meeting the young man by the big fish lying in his canoe.

Kanemakua returned to the shore with his prize, which was so large and heavy that it required the help of two others to carry it to the house, where it was cut up and the imu (oven) made hot for its baking. When it was cooked he took the eyes of the fish and offered it up as a thanksgiving sacrifice. Then the family, friends and neighbors around came to the feast and eat freely. During all this time Kanemakua was thinking of the words spoken by the young man, which he duly observed. The first kuula established in Maulili, Maui, was named after him and from that time its fish have been given out freely without restriction or division.

After establishing the different kuulas and station along the coast from Hana to Kipahulu, Aiai went to Kaupo and other places. A noted station and kuula is at Kahikinui. All the stations of this place are in the deep sea where they use nets of three kinds, also fishing with poles and ulua fishing, because this part of the island faces the wind; but the kuulas are located on the sea shore, as is also the one at Honuaula, where it is covered over by the lava flow.

Thus was the good work of Aiai in establishing kuulas, sta-

tions and fish stones continued all around the island of Maui. It is also said that he visited Kahoolawe and established a kuula at Hakioawa, though it differs from the others, being built on a high bluff overlooking the sea, somewhat like a heiau (temple), by placing stones in the form of a square in the middle of which was left a space wherein the fishermen of that island laid their first fish caught as a thank offering. Awa and kapa were also placed there as an offering to the fish deities.

An idea prevails with some people that the ko'a of Kamohoalii, the king shark of Kahoolawe is on this island, but if all the stories told of it be examined there will be found no reference to a ko'a of his on this island.

From Kahoolawe Aiai next went to Lanai where he started fishing for aku (bonito) at Cape Kaunolu, using his pearl Kahuoi. This is the first case known of fishing for aku with pearl from the land, as it is a well known fact that this fish is only caught at deep sea, far from shore. In the story of Kaneapua it is shown that he was the only one that had fished for aku at the Cape of Kaunolu, where it was started by Aiai.

From Kaunolu Aiai went to Kaena cape where, at a place close to Paomai, was a little sandy beach now known as Polihua. Here he took a stone and carved a figure on it, then carried and placed it on the sandy beach and called on his parents. While making his incantations the stone moved towards the sea and disappeared under the water. His incantations finished, the stone reappeared and moved toward him till it reached the place where it had been laid, whereupon it was transformed into a turtle and gave the name of Polihua to that beach. This work of Aiai on the island of Lanai was the first introduction of the turtle in the seas of Hawaii, and also originated the habit of the turtle of going up the beach to lay their eggs, then returning to the sea.

After making the circuit of Lanai he went over to Molokai, landing at Punakou and travelled along the shore till he reached Kaunakakai. At this place he saw spawns of mullet, called Puai-i, right near the shore, so he kicked them with his foot and landed them on the sand. This practice of kicking fish with the feet is carried on up to this time, but only at that locality. Aiai con-

tinued on along the Kona side of Molokai, examining its fishing grounds and establishing kuulas till he got to Halawa. At the Koolau side of the island he stopped at Wailau and saw the cave of the eel Koona that went to Hana and stole the fish from his father's pond, and the cause of all the trouble that befell his parents and himself.

When Aiai landed at Wailau he saw that both sides of the valley were covered with men, women and children engaged in closing up the stream and diverting its water to another course whereby they would be enabled to catch oopu and opae. The water being low the gourds of some of the people were full from their catch.

Aiai noticed the wanton method of fishing, whereby all oopu's and opae's were caught without thought of any reservation for their propagation; therefore he called on his parents to take them all away, and the prayer was granted, for suddenly they all disappeared; those in the water went up the stream to a place called Koki, while those in the gourds were turned to lizards which scampered out and ran all over the rocks. The people were much surprised at this change and sorely disappointed at the loss of their food supply.

On account of his regard for a certain lad of that place, named Kahiwa, he showed him the place of the opae's to be up the precipitous cliff known at Koki. The youth was attentive to the direction of Aiai and going there he found the oopu's and opae's as stated, as they are to this day. That is what established the noted saying of the old people of that land; "Kokio of Wailau is the ladder of the opae." It is also known as the "Pali of Kahiwa."

When Aiai left Wailau he showed this lad the kuula and the fish station in the sea he had located there, at the same distance as that rocky island known as Mokapu.

He went also to Pelekunu, Waikolu and Kalawao, even to Kalaupapa, the present home of the lepers. At the latter place he left a certain fish stone. That is the reason fish constantly gather there even to this day. He also went to Hoolehua and so on as far as "Ka lae o ka ilio" (the dog's forehead) and Ka lae o ka

laau. Between these two capes in the sea is a station established by Aiai where a tree grew out from under a rock, Ekaha by name. It is a hard wood tree, but the trunk, as also the branches are without leaves. This place is a great haunt for fishermen with their hooks.

Aiai then came to Oahu, first landing at Makapuu, in Koolau, where he founded a pohaku-ia (fish stone) for red fish and for speckled fish and called it Malei. This was a female rock, and the fish of that place is the uhu. It is referred to in the mele of Hiiaka, thus:

"I will not go to the stormy capes of Koolau,
The sea-cliffs of Moeaau.
The woman watching uhu of Makapuu
Dwells on the ledge of Kamakani
At Koolau. The living
Offers grass twined sacrifices, Oh Malie!"

From the time Aiai founded that spawning place until the present, its fish have been the uhu, extending to Hanauma. There were also several gathering places for fish established outside of Kawaihoa. Aiai next moved to Maunalua, then Waialae and Kahalaia. At Kaalawai he placed a white and brown rock. There in that place is a hole filled with aholehole, therefore the name of the land is Kaluahole. Right outside of Kahuahui there is a station of Aiai's where he placed a large round sand-stone that is surrounded by spawning places for fish; Ponahakeone is its name.

In ancient times the chiefs selected a very secret place wherein to hide the dead bodies of their greatly beloved, lest some one should steal their bones to make fish hooks, or arrows to shoot mice with. For that reason the ancients referred to Ponahakeone as "He Lualoa no Na'lii"—a deep pit for the chiefs.

Aiai came to Kalia and so on to Kakaako. Here he was made a friend by a man named Apua, with whom he remained several days, observing and listening to the murmurs of the chief, named Kou. This chief was a skillful hiaku fisherman, his grounds being outside of Mamala until you came to Moanalua. There

was none so skilled as he, and generous withall, giving aku's to the people through the district.

As Aiai was dwelling with his friend Apua at Kakaako, he meandered off one day along the shore of Kulolia, and so on to Pakaka and Kapapoko. But he did not return to the house of his friend, for he met with a young woman gathering limu (sea-moss) and fishing for crabs. This young woman, whose name was Puiwa, lived at Hanakaialama and was a virgin, never having had a husband. She herself, as the people would say, was forward to ask Aiai to be her husband, but he listened to her voice and they went up together to her home and saw the parents and relatives and forthwith were married. After living with this young woman some time a son was born to them whom Aiai named Puniaiki. During those days was the distribution of aku which were sent up from Honolulu to the different dwellings, but while others were given a whole fish they got but a portion from some neighbor. For this reason the woman was angry, and told Aiai to go to the brook and get some oopus fit to eat, as well as opae. Aiai listened to the voice of his wife. He dug a ditch; constructed a dam so as to lead the water of the brook into some pits, and thus be able to catch the oopu and opae. He labored some days at this work of theirs, and the fish and shrimps were hung up to dry.

On a certain day following, Aiai and his wife went with their child to the brook. She left their son upon the bank of the stream while she engaged herself in catching opae and oopu from the pits. But it was not long before the child began to cry, and as he cried Aiai told his wife to leave her fishing, but she talked saucily to him. So Aiai called upon the names of his ancestors. Immediately a dark and lowering cloud drew near and poured out a flood of water upon the stream, and in a short time the dam was broken by the freshet and all the oopu and opae together with the child were swept toward the sea. But the woman was not taken by the flood. Aiai then rose up and departed, without thought of his wife.

He went down from the valley to Kaumakapili and as he was standing there he saw some women fishing for oopu on the

banks of the stream, the daughter of the chief Kikihale being with them. At that time, behold, there was caught by the female guardian of the daughter of Kikihale a very large oopu. This oopu she showed to her protege who told her to put it into a large calabash with water and feed it with limu, so that it might become a pet fish. This was done and the oopu was tended very carefully night and day.

Aiai stood by and saw the fish lifted out of the brook and recognized it at the same time as his own child, changed from a human being into an oopu.

At this point the story of Aiai gives place to that of his child.

When the oopu was placed in a large calabash with water, it was carefully tended and fed with sea-moss for some time, but one day in seeing to this duty the guardian of the chiefess, on reaching the calabash, was startled to behold therein a human child, looking with its eyes. And the water in the calabash had disappeared. She was greatly surprised and seized with a dark foreboding, and a trembling fear possessed her as she looked upon this miraculous child.

This woman went and told the chiefess of this child they knew to have the form of an oopu, and as Kikihale heard the story of her guardian she went quickly, with grave doubts, however, of this her report, but there, on reaching the calabash, as she looked she saw indeed a child therein. She immediately put forth her hands toward the child and lifted it to her, carefully examining its form noted its agreeable features. As the thought quickly possessed this girl she said: "Now my guardian, you and your husband take and rear this child till he is grown, then I will be his woman."

The guardian answered her: "When this child becomes grown you will be an old woman; that is, your days will be in the evening of life, while his place will be in the early morn. Will you not thereby have lasting cause for dissatisfaction and contention between you in the future?"

Kikihale answering her guardian said: "You are not to blame,

these things are mine to consider for the reason that the desire is mine, not yours, my guardian."

Just after this talking it was quickly known of this child among the chiefs and attendants, and he was nourished and brought up to adult age when Kikihale took him for her husband as she said she would, and for a time they dwelt together as man and wife without disagreement between them.

But during these days Kikihale saw plainly that her husband was not disposed to do anything for their support, therefore she mourned over it continually and angrily reproved him, finally, with these words, saying:

"Oh my husband, can you not go forth also, as others, to assist our father and the attendants in the duties of fishing, instead of eating till you are satisfied then rolling over with face upward to the ridge-pole of the house and count the aho's? It may do while my father is alive, but if he should die whence would come our support?" Thus she spoke reproachingly from day to day and the words stung Punaiaki's heart with much pain.

And this is what he said to his wife one day: "It is unpleasant to hear you constantly talking thus. Not as wild animals is the catching of fish in the sea; they are obedient if called, and you may eat wastefully of my fish when procured. I have authority over fish, men, pigs and dogs. If you are a favorite of your father then go to him for double canoes, with their fishing appurtenances, and men to paddle them."

When Kikihale heard these words of her husband she hastened to Kou, her father, and told him all that Puniaiki had said, and the request was promptly executed. Kikihale returned to her husband and told him all she had done.

On Puniaiki's going down to the canoe place he found the men were making ready the canoes with the nets, rods, lines and the pearl fish-hooks. Here he lit a fire and burned up the pearl fish-hooks, at which his wife was much angered and cried loudly for the hiaku pearl hooks of her father. She went and told Kou of this mischievous action of her husband, but he answered her not a word at this act of his son-in-law, though he had supplied five gourds filled with them, a thousand in number, and the strangest

thing is, that all were burned up save two only which Kou had reserved.

That night Puniaiki slept apart from his wife and he told the canoe paddlers to sleep in the canoe sheds; not to go to their homes that night, and they obeyed his voice.

It was Kou's habit to rouse his men before break of day to sail in the malaus[1] for aku fishing at the mouth of the harbor, for that was their feeding time, not after the sun had risen. Thus would the canoes enter the schools of aku and this chief became famous thereby as a most successful fisherman, but on this day was seen the sorcerer's work of this child of Aiai.

As Kou with his men set out always before dawn, here was this Puniaiki above at his place at sunrise. At this time on his awaking from sleep he turned his face mountainward and looking at Kaumakapili he saw a rainbow and its reddish mist spread out at that place, wherein was standing a human form. He felt conscious that it was Aiai his father, therefore he went there and Aiai showed him the place of the pa (fish-hook) called Kahuai, and he said to his son: "Here will I stay till you return; be quick."

Upon Puniaiki reaching the landing the canoes were quickly made ready to depart, and as they reached Kapapoko and Pakaka, at the sea of Kuloloia, they went on to Ulukua, now the light-house location of Honolulu harbor. At this place Puniaiki asked the paddlers: "What is the name of that surf creasting beneath the prow of our canoes?" "Puuiki," replied the men.

He then said to them: "Point straight the prow of the canoes and paddle with strength." At these words of Puniaiki their minds were in doubt, because there were probably no akus at that place in the surf, but that was none of their business.

As they neared the breakers of Puuiki, below the mouth of Mamala,[2] Puniaiki said to his men: "Turn the canoes around and go shorewards," and in returning he said quickly, "Paddle strong, for here we are on the top of a school of akus, but strange to say, as the men looked in the water they saw no fish swimming about,

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[1] Light double canoe for quiet water fishing.

[2] Entrance to Honolulu harbor.

but on reaching Ulakua Puniaiki opened up the fish-hook, Kahuoi, from its wrapping in the gourd and held it in his hand.

At this the akus, unprecedented in number, fairly leaped into the canoes. They became so filled with the fish, without labor, that they sank in the water as they reached Kapuukolo and the men jumped overboard to float them to the beach. The canoe men wondered greatly at this work of the son-in-law of Kou the chief, and the shore people shouted as the akus which filled the harbor, swam towards the fish-pond of Kuwili and on to the mouth of Leleo stream.

When the canoes touched shore Puniaiki seized two fish in his hands and went to join his father where he was staying, and Aiai directed him to take them up to where his mother lived. These akus were not gifts for her, but an offering to Kuula at a ko'a (station) established just above Kahuailanawai. Puniaiki obeyed the instructions of his father and on returning to him he was sent back to his mother, Puiwa, with a supply of akus. She was greatly surprised that this handsome young man, with his gift of aku's for her to eat, was her own son and these were the first fruits of his labor.

The people marvelled at the quantity of fish throughout the harbor so that even the stream at Kikihale was also full of akus, and Puniaiki commanded the people to take of them day and night; and the news of this visit of akus went all around Oahu. This unequalled haul of akus was a great humiliation to Kou, affecting his fame as a fisherman, but he was neither jealous of his son-in-law nor angry, he just sat silent. He thought much on the subject but with kindly feelings, resulting in turning over this employment to him who could prosecute it without worry.

Shortly afterwards Aiai arranged with Puniaiki for the establishing of kuulas, koas (stations) and fish-stones around the island of Oahu, which were as follows:

The Kou stone was for Honolulu and Kaumakapili; a kuula at Kupahu; a fish-stone at Hanapouli, Ewa. Ahuena was the kuula for Waipio; two were assigned for Honoulili. Hani-o was the name of the ko'a outside of Kalaeloa; Kua and Maunalahi-

lahi for Waianae; Kamalino for Waimea; and Kaihukuuna for Laiemaloo, Koolau.

Aiai and his son also visited Kauai and Niihau on this work, then they turned and went together to Hawaii. The principal or most noted fishing grounds there, are: Poo-a, Kahaka and Olelomoana at Kona; Kalae at Kau; Kupakea at Puna, and I at Hilo.

In former times at most of these fishing grounds were seen multitudes and varieties of fish, all around the islands, and occasionally deep sea kinds came close in shore, but in this new Era there are not so many. Some people say it is on account of the change of the times.

These are the matters known to me. The end.

CLUB LIFE IN HONOLULU.

Written for the Annual by the Hon. A. S. Cleghorn, only surviving charter member of the British (now Pacific) Club.

IT cannot be said that Honolulu is a city of Clubs nor has it been. Although residents of various nationalities have started several, their existence have not been of long duration. The Britishers, the Germans and the Americans some twenty or thirty years ago had each their respective club houses, but what is now known as the Pacific Club—the successor of the British Club—is the only one now in existence, with the exception of the "Officers' Club," in the city.

The first German club house was on a piece of property which set back from the road, and was reached by a lane leading from Fort street. This club organized early in the fifties and maintained a continuous existence at this locality till about 1872, when they moved to premises of Jas. Love, on Emma street, adjoining A. S. Cleghorn's—now Campbell's—where they were ruthlessly

unhoused December 30th, 1874, by the entire destruction of the building and its furnishings by fire.

Following this severe loss there was a period of suspension for a time, till, procuring a suitable lot off from Punchbowl street with a lane leading in from Emma street, the members reorganized with H. W. Schmidt as president and H. A. Widemann as vice-president. A club house and other buildings were erected and the club was opened June 11th, 1879, in celebration of the German Emperor's golden wedding anniversary. In connection with other amusements there was a bowling alley where the young men were wont to meet and exercise their skill and muscle at ten-pins. After a short existence here the organization disbanded and sold their property in April, 1886, since which time it has been known as the Peck premises.

An American club was formed in the summer of 1856, with some 200 members, of which Dr. R. W. Wood was president and A. J. Cartwright, secretary. The new organization leased and fitted up the Hooper premises on Hotel street, on the plan of the British and German clubs. The literary exercises in the celebration of the Fourth of July that year was held there as its inaugural, the Rev. S. C. Damon reading the Declaration and B. W. Field delivering the oration.

A fitting emblem was prepared by Chas. W. Vincent, its vice-president, and presented to the club in the shape of a large carved eagle standing on a gilded globe which bore, amid stars, the names of Washington and Lafayette. A scroll from the eagle's mouth bore the motto "Where liberty dwells I rest," the whole being borne on a fluted column on which were symbols representing the thirteen original states.

The club houses stood on the premises now occupied by the Hawaiian Hotel. After a few years a period of suspension was the experience of this club also, but reviving again they occupied the property now known as Haalelea Lawn, where they held together for but a short time.

During the years that the three club houses were open at the same time social merriment waxed strong. Members of the different clubs entertained and visited each other and the most

friendly feeling existed one toward the other. They also entertained as guests many prominent and distinguished persons.

The Britishers first opened their "mess" rooms—it was not called a "club" in those days—in 1852, in a one-story wooden building off of Maunakea street, which was reached by a lane leading to the rear of the premises known as Liberty Hall. The older residents of the city no doubt remember Liberty Hall. The original mess consisted of fourteen members; they were William L. Green (the head of the mess), Stephen Spencer, W. A. Cooper, S. H. Cooper, Robert Moffitt, Dr. Richard H. Smythe, James E. Chapman, J. K. Dallison, William Webster, John Janion, Charles Gordon Hopkins, H. Fosbrooke, James Almon and Thomas Harding, not one of whom are now living. The mess remained in these quarters for about two years when they moved into a building on Alakea street, opposite to which is now the residence of S. C. Allen. The building, now old and dilapidated, is being torn down at this writing.

The mess was what might have been termed "movable" property, for after an occupancy of these premises for about one year they again moved, this time it was to a building on Adams Lane, owned by Robert C. Wylie; but it was evidently destined that they should not remain in these quarters, for a short while after their establishment here they were again compelled to move as the building which they were occupying was to be torn down to make room for the erection of a new one which became known at "Hale Ema."

In 1861 they moved from these premises on Adams Lane further up the road to a two-story building facing on Union street, being on premises then owned by William Wond, and which had been originally built for a club house. These premises subsequently became their own and their stay here permanent.

In the year 1865 the mess saw its darkest days. Its membership had been reduced to a small number, so much so that the table had to be given up, and for six months the running expenses of the club house were borne by four members. Through the persistent efforts of two of these four members the mess was kept

together and in a few months afterwards had regained its strength.

In July 1867 the members of the club—it was then known as the British Club—were in a position to purchase the premises they were occupying. Fifteen members subscribed to the purchase fund, they were:—Stephen Spencer, A. S. Cleghorn, H. Prendergast, Robert Moffitt, J. Bollman, Thomas Cummins, James I. Dowsett, Wm. L. Green, John Ritson, H. A. Widemann, John Montgomery, Robert Stirling, John O. Dominis, Dr. F. W. Hutchinson and Dr. Robert McKibbin (of whom Mr. Cleghorn is the only member living.—Ed.)

In 1879 a charter of incorporation under the name of "The British Club" was granted, the charter members being Thomas Cummins, Henry May and Archibald Scott Cleghorn. The Minister of the Interior at that time was Samuel G. Wilder.

In 1892 the present commodious club house was built and occupied by the members. It was in this year also that the name "British" was changed to that of "Pacific." In this instance the older members of the club being outvoted by the newer and later members. The members of the club at the present time are representatives if several nationalities.

A couple of years or so after having moved into their new building, a proposition was advanced by a clique of members to sell their present property and lease the "Paki" premises on King street, formerly occupied by Bernice Pauahi Bishop and Chas. R. Bishop, and latterly known as the "Arlington." The proposition was properly overruled, for had such a move been effected it is quite probable that the club would not now be in existence; as in the opinion of the writer the fact of the club being its own property owner gives it a strength and stability which it otherwise would not have, and more especially so, if it were compelled to shift from one place to another as frequently as it had to do in its earlier days. Moving is more expensive now than it was then.

Club life in the earlier days was somewhat different to what it is now. The club house was used as a home—not many of the members had other homes—where they spent their evenings in a social manner and receiving their friends.

This club has had the honor of entertaining several distinguished and prominent visitors during its existence, among whom may be mentioned the Duke of Edinburgh who visited Hawaii in 1869, the officers of the "Flying Squadron" who were here in 1870, the officers of the famous "Merrimac," and many other naval, military, diplomatic and civil officials who have visited Honolulu. Kings Kamehameha the fourth and fifth were frequent visitors to the club, while Kalakaua and his brother Leleiohoku, were on its roll of membership, as were also members of the diplomatic corps.

The club doors are always open to visitors from abroad during their stay in the city.

The officers of the club at present are:—A. S. Cleghorn, President, (who has held that office since 1865); Sam'l. Parker, Vice-President; Jas. Gordon Spencer, Treasurer; Edgar Halstead, Secretary; Wm. F. Allen, Auditor. The House Committee are W. L. Stanley, Dr. C. B. Cooper and Geo. R. Carter.

The tables of import values since June 14, 1900, represent but the importations of merchandise from countries foreign to the United States and have no reference to shipments from various American ports. Unfortunately there has been no way devised to secure the statistics of merchandise coming here from other parts of the United States, either at the place or port of shipment, or of receipt. This omission will doubtless soon have a remedy, for it is much regretted that a hiatus should exist in the statistics showing the steady growth of the trade and commerce of these islands, especially just as the impetus is given for its permanent or substantial development by and through Annexation.

Honolulu lately has been importing houses of small cottage character, from Seattle. In 1850 there were a number of like importations from China and the Colonies, including a few of two-story dimensions. Probably the last of these to give way to the march of time was the building on Fort street, torn down a few years ago to make room for the Ehlers' block.

ORGANIZATIONS FOR THE PROMOTION OF AGRICULTURE IN THE HAWAIIAN ISLANDS.

Written for the Annual by T. F. Sedgwick, with an outline of the plans and scope of the Hawaii Experimental Station by Jared G. Smith, Special Agent in charge.

THE first recorded experiments in agriculture in these islands were made by Don Francisco de Paula Marin, a Spaniard who lived on the Islands from 1790 to 1830, and many of the existing products are due to the seeds, roots and plants introduced by him. From his time to the present, researches in agriculture have had a prominent place in the development of the islands, and there has been an increasing disposition to investigate and solve the problems that tropical agriculture presents.

The missionaries coming first in 1820, had to face the needs and difficulties of their new environments. They saw that the development of agriculture was of prime importance, and, being men of highest education and energy, set themselves intelligently to the task.

Many kinds of plants and seeds were introduced from 1820 to 1850. Different individuals tried experiments for their own satisfaction, but failed to keep accurate records of their results. Later, those interested in agriculture realized that united effort and definite plans of action were necessary to benefit the country to its greatest extent. In the early numbers of the *Polynesian* (newspaper established in 1844), is found correspondence upon agricultural subjects. Industries were begun with more or less success; suggestions were made for the introduction of new plants; information was given on the treatment of certain plant diseases; new breeds of stock were recommended; the labor question was prominent, and the interest in agriculture seemed to be

spreading over the islands, showing that the people realized the prosperity of the country to depend upon its agricultural resources. At this time, coffee and cane were insignificant, and, like many other crops, were in the experimental stage. Some advocated converting the islands into large stock ranges, while others felt that the smaller industries should be encouraged.

This unsettled state of affairs led to the organization of The Royal Hawaiian Agricultural Society in August, 1850, and systematic investigations were carried on under its direction. The manner in which the whole subject was treated, is worthy of highest commendation even to this day. Inquiries were made into nearly every branch of agricultural research known at that time. Some of the committees appointed were as follows: On Sheep, Neat Cattle, Horses, Poultry, Trees and Grasses, Domestic Products, Roads, Labor, Seasons, Leather, Horticulture, Implements, Sugar, Procuring Seed from Sugar Cane, Culture of the Vine and Tobacco, Fences, Coffee, Swine, Birds, Garden Seeds and Flowers, Grains, Capital and Banking, Butter and Cheese, the Fig, Harbors, Inter-Island Navigation, Arrow root, Pests, Bees, Indigo, Kukui Oil, Cotton, Salt and Analysis of Soils.

Oranges, lemons, limes, plums, peaches, apples, quinces, cherries, mulberries, strawberries, grapes of fifty varieties, custard apple, varieties of sugar cane, corn, oats, wheat, barley, peas, beans and onions were some of the things grown.

Those associated with this society were progressive, energetic men. Every island was represented by its corps of workers and investigators. At the annual meetings each committee presented its report. Many of these reports are as rich in literary merit, as they are in historical and scientific value, and are equally interesting to us fifty years later.

The society organized fairs, awarded prizes and did all in its power to give the cause a firm and prosperous footing. It closed its efforts in the latter part of the fifties, but not until it had made a lasting impression upon the development of the islands. A number of years later another society was organized, but failed for various reasons.

In the nineties, the systematic work was in a measure revived.

The Planters united to establish an experiment station for promoting investigations relating to sugar cane. The results which this station obtained are known the agricultural world over, and the present high development of sugar manufacture in the Hawaiian Islands is due largely to its efforts.

At the present time attention is being directed to another phase of the subject, one which if not of immediate value, is sure to have an important influence in the future. It is that of agricultural education. At the Hilo Boarding School, the pupils grow crops, work in the fields and are interested in agriculture generally. An attempt of this kind was made also on the island of Kauai, but the school was finally abandoned. At Lahaina, Island of Maui, work in agriculture was pursued with good results. At the Leper Settlement, Baldwin Home is surrounded by gardens, cared for by the boys under the instruction of the Brothers, while the girls, at Bishop Home, vie with each other in keeping their little flower plots beautiful.

On the Island of Oahu, the Kamehameha School for Boys has a well equipped department of agriculture, started in 1898. It introduced modern methods of teaching agriculture. The pupils are led to appreciate the value of experiments, and to reason out simple problems in nature study. Manual work is pursued, the great aim being to make farm life attractive to the pupil, and to encourage him to return to the farm or plantation. The results have been most gratifying, and it is believed that this course in agriculture may help to remedy some of the evils that have befallen our native boys.

About this time, too, the public schools were enthused with the idea of nature study, and work was begun by those who had taste for this subject. The Normal School of Honolulu added an agricultural course, thus securing instruction in this branch through the common schools. It has been proposed recently to establish an agricultural department in the new industrial school, which is to be removed to a site in the country where the work can be carried on more extensively.

A creditable effort toward colonization is being made at Wahiawa, on the Island of Oahu. The settlers have united to build

up homes and encourage that thrifty rural life which is the foundation of every nation. They help to supply the markets with vegetables, fruits and other small products.

In this same connection must be mentioned the efforts on the part of earnest teachers at Wailuku, Island of Maui, to induce the Hawaiians to settle in a community, the aim being to instill higher ideals of domestic life, and at the same time to enable them to earn a good living by cultivating the soil.

A number of years ago the Hawaiian Government interested itself in agriculture by establishing a nursery, and by investigating the forestry conditions. The Territorial Government continues this work through its local Bureau of Agriculture and Forestry. At the nursery plants are distributed, thus encouraging the people to beautify their homes, and add to the general attractiveness of the surroundings. The planting of new forests and the preservation of the old is one of the chief features of this Bureau, and a most important one.

The latest step toward systematized research is the establishment, early in the present year, of the United States Agricultural Experiment Station. Its work will consist of experiments which the conditions seem to demand. Soils, horticulture and general crops will receive attention. For some time the work will necessarily be limited on account of the small appropriation, but it is the beginning of investigations whose influence will be far-reaching.

THE HAWAII EXPERIMENT STATION.

The tract of land set apart for the above station comprises about 133 acres. It is a narrow strip extending about two miles along the southern slope of the Punchbowl-Tantalus ridge up to an elevation of 1350 feet. In addition the Secretary of the Navy has granted to the Station the "use for agricultural purposes" of the Naval Hospital Reservation on the southeast slope of Punchbowl, a tract of 20 acres. There is no other Experiment Station in the United States so favorably located for scientific work, in that the difference in altitude between the upper and lower portions of the

station is equivalent to a variation of two and one-half degrees of latitude. Above there are almost daily rains, while the lower portion is arid with only an occasional shower. The soils of the two portions are also of entirely different age and formation and composition. The soils at the high elevations are in the main disintegrated lavas of great age, with a high content of iron and aluminium, and in some cases an acid reaction. The Punchbowl cone is of comparatively recent formation superposed over the Tantalus ridge and contains no true lava but consists of layers of volcanic mud and ashes. The soils on the portion comprising the Naval Hospital Reservation are loose and porous having been formed from the alluvial washings of the Punchbowl cone. They overlie a great bed of volcanic sand, and while very rich, will require an abundance of water.

The entire 153 acres of the station was covered with the usual dense growth of lantana and guava with mesquit or algaroba trees at the lower levels and a planted forest of Australian gum, wattle and ironwood above. The first work has been the clearing of the fields selected for planting, and their preparation, the making of seed beds, the erection of the necessary Station buildings; an office and laboratory, residence, stables and outbuildings, laborers' quarters, and the installation of a small pumping plant, for the site of the station buildings is above the limit of the city water supply. Some grading and road building has also been commenced.

The idea of an Experiment Station is to combine scientific investigation of the problems of the farm with a minimum of practical farming. The dairy herd and poultry yard, orchard and vineyard, and growing crops in the field and garden are the tools of the agricultural investigator. The function of an experiment station is not to show that this or that crop can be grown, or that this or that new industry can be established. It is not to teach *how* this or that method works, but *why* certain methods are or are not to be adopted by the practical farmer. The Station is not to be a model "farm" but is simply the workshop, in which to investigate and attempt to solve the problems which daily confront the farmer and planter.

Through the efforts of the Agricultural Society of 1850 and the later organizations, which in a measure continue the spirit of this society of fifty years ago, agricultural interests are now on a firm footing.

There is one thing yet to be desired:—the organization of a flourishing agricultural society having the sympathy and support of the entire community. Among its objects would be the holding of fairs; the preparation of permanent exhibits to illustrate the resources of Hawaii, and the betterment of market conditions, for, at the present time the local markets offer little encouragement to the small grower. Such an association would give an impetus to the building up of farm homes, and would increase the interest throughout the islands in things agricultural.

Among the decorations of the grounds surrounding Haleiwa, Waialua's attractive and restful resort, are two badly corroded cannon that were fished up out of the bay a year or so ago abreast of the hotel. Col. Iaukea reports two others in the same spot, but too much encrusted with coral formation to be readily dislodged. Natural interest and enquiry has followed their finding as to the time of their loss and name of the vessel they belonged to. Natives all credit the schooner *Malolo* therewith, but this vessel was lost at Mokuleia, some miles distant, and comparatively recently, whereas the guns show evidence of having lain many years in the water. Enquiry of a former resident elicits the information that these cannon, stowed in the hold for ballast, belonged to the old schooner S. S., which was lost in 1857, with a load of lumber, fence posts, etc., while in command of a Captain Tar.

The Hawaiian bark *Don Quixote,* Farrington, master, which sailed from Honolulu May 4th, 1848, with a cargo of oil, Hawaiian cabinet woods, etc., for Bordeaux, France, was the first vessel to fly the Hawaiian flag in European waters, which attracted considerable interest. The *Don Quixote* was dispatched from this port by T. Shillaber, a merchant from India, who, after a short residence here, moved on to San Francisco's larger field.

WIRELESS TELEGRAPHY ESTABLISHED IN HAWAII.

Written for the Annual by W. R. Farrington.

THE history of wireless telegraphy in Hawaii is very much like that of all new inventions in that it had its failures and partial successes and the final result has been a complete success. Wireless telegraphy is now in operation between the different islands of the group transmitting commercial messages with equal accuracy and regularity if not with equal rapidity of the regular wire telegraph as generally known.

To Mr. Fred J. Cross, a former resident of Buffalo, N. Y., an electrician of considerable repute who came to the islands about three years ago, is to be given the credit for the success of the system for the Hawaiian Islands and the carrying it through to final success. He had kept track of the various experiments which had been made in wireless telegraphy and immediately on touring the islands saw the splendid opportunity for establishing communication between the different islands at much smaller expense than would be required to connect them by cable.

When in 1899, Marconi came to the United States to demonstrate the practical uses of his system of wireless telegraphy, it will be remembered that he made a demonstration of his system for the United States Navy and also operated it at the time of the international yacht races. Mr. Cross left the islands for New York, arriving in San Francisco in September, 1899, and immediately telegraphed to Mr. Marconi that he desired to secure the franchise of his system for the Hawaiian Islands. The reply from Marconi's representative was very discouraging, but Mr. Cross was not deterred in his effort. Going on to New York, he met Mr. Marconi, and was present on the warship *New York* when the demonstration was made for the United States navy. The result of his conference with Marconi was an agreement by which the

franchise of the Marconi system for the Hawaiian Islands was secured.

This contract was signed October 31, 1899, whereupon Mr. Cross returned to Honolulu. Under the contract, the Marconi company was to install the system complete on the different islands of the group. Mr. Cross associated with himself Mr. R. D. Silliman and organized the Inter-Island Telegraph Co., Ltd., to take over the franchise which he had secured and operate the system. The company was capitalized at $100,000. Assessable stock was quickly taken up. The people at that time while being somewhat doubtful as to the practicability of the system, were ready to take up with any plan offering reasonable assurance of success. They were satisfied to expend a certain amount of money thereon, considering the great good it would be to the business interests of the islands if it finally proved practical.

A very long delay ensued in establishing the system owing to the outbreak of plague resulting in the refusal of the Marconi company to send their experts out here, they having had an unjustifiable fear of the danger to which their experts would be exposed. Not until May 2, 1900, did Mr. Thos. Bowden, chief expert for the Marconi company arrive in Honolulu, followed ten days later by Messrs. Pletts and Hobbs whereon they immediately began with the installation of the system.

Stations were erected on Oahu, Molokai, Lanai, Maui and Hawaii. For some reason best known to himself, Mr. Bowden proceeded to erect all the stations before making a trial across any of the channels which he had to span. In August, 1900, the stations had all been erected and equipped with such instruments as the Marconi company had sent out. It was at this time that the first failure was registered. Only two stations would respond, these being the stations on Lanai and Maui.

This apparent failure caused a lack of confidence in the system and established the belief in the mind of the average citizen that while wireless telegraphy might be practical for occasional signalling, it could not be used for regular commercial business.

The Marconi company was communicated with who sent out Mr. Andrew Gray, one of their chief experts who was in South

Africa conducting experiments when Mr. Bowden was first sent out to the islands. Unlike his predecessor, Mr. Gray immediately went to work to establish communication between the Islands of Oahu and Molokai, the first link of the system. Mr. Bowden had placed the first station on the heights of Kaimuki, Oahu, some 200 feet above sea level. Mr. Gray in his experiments went to the water's edge and by means of kites found that communication could easily be established by placing the station almost directly on the beach where the receiving wire of the station had constant connection with damp earth.

On November 13, 1900, Mr. Gray and his assistants sent and received the first messages between Oahu and Molokai across an ocean channel of twenty-eight miles. The station was moved to the lower level and thus the first link of the chain which was to connect the Islands was complete. He then found that the Lanai station being on the water level would work perfectly and thus in a very short time the line from Oahu to Molokai and Lanai was complete. The distance between the Molokai and Lanai stations is thirty miles.

Gray then moved the Makena, Maui, station to the water level and found that communication could be had with Lanai, thirty miles distant. The same idea was followed out in the Mahukona, Hawaii, station, the distance between Mahukona and Makena being forty-three miles. After various changes had been made in these stations, the line worked perfectly between Oahu and Hawaii, thus connecting the main islands of the group, Oahu, Maui and Hawaii. The distance of the Makena station from the business centre of Maui made it advisable to put in another station at Lahaina to connect with the Lanai station. The distance across that channel is eleven miles.

Mr. Gray having proved beyond doubt that communication could be carried on regularly across the channels, the work of instructing the operators began in Honolulu. All the operators are young men and women of Hawaii. They had no previous knowledge of telegraphy, it being the contention of Mr. Gray that in operating wireless telegraphy, it was much better to take green hands and instruct them in the first principles. A class was held

in Honolulu under the instruction of Mr. Gray assisted by Messrs. Pletts and Hobbs.

March 2, 1901, the company opened for business. The rates for messages are two dollars for messages of not more than ten words and twenty cents per word for each additional word. Messages were transmitted easily, accurately and rapidly, but the failure of Mr. Bowden's first trial had so far destroyed public confidence that the people were slow to believe it or patronize it. The various plantation managers, however, made use of it and also leading commercial firms for the transmission of orders.

The company owing to the non-payment of assessments has had something approaching a struggle for existence. The business of the line, however, is steadily increasing and promises excellent returns on the investment. The originator and organizer of the company is the manager of the system and has been unfailing in his confidence in the capacity of the wireless telegraph to fulfill all demands made upon it.

The greatest distance over which this line operated under Mr. Gray's installation was forty-three miles from Makena to Mahukona stations. Mr. Cross, however, conceived an improvement upon Marconi's methods and his ideas have proved to be entirely feasible. By equipping Lanai station and Mahukona station with these improvements which increase the force of the current, he has made it possible to cut out Makena, the Maui station, and work from Lanai to Mahukona, Hawaii, direct, a distance of seventy-eight miles. There is no more difficulty in covering this distance than in covering the twenty-eight miles between Molokai and Waialae, Oahu. It is the intention in the near future to cut out the Molokai station. Messages will then be sent from Oahu to Lanai direct, a distance of fifty-eight miles.

The small expense of installing and operating wireless telegraphy is shown by the fact that the installation of the system, including the changes required on account of the mistakes of expert Bowden, was not over ten thousand dollars. A cable could not be laid between the same points for several times this figure.

The rapidity with which messages may be sent is shown by the time required to transmit the time check through all the stations

at the opening of each day's business. At seven o'clock every morning all the clocks in the various stations are checked by the chronometer in Honolulu. To send the signal through from Oahu to Molokai, from Molokai to Lanai, from Lanai to Lahaina, from Lahaina to Mahukona and back to Honolulu through these various stations takes only twelve seconds. This shows that the response from one station to another is just as rapid as telegraphy by wire.

At the present time, the stations are kept open only from seven o'clock in the morning to six at night. As business increases, however, the stations will be equipped with an additional force to enable them to work night and day.

The poles at the various stations are from one hundred and fifty to two hundred feet in height and are indeed the most expensive part of the equipment.

The present officers of the company are: Fred J. Cross, President; W. W. Hall, Vice-President; Wallace R. Farrington, Secretary; Clinton J. Hutchins, Treasurer; E. O. White, Auditor; J. A. Magoon, R. D. Silliman, O. G. Traphagen and W. H. Hoogs, Directors.

It is anticipated that in a short time telegraphic communication will be established between Oahu and Kauai, the Kauai station to be located at Nawiliwili and the Oahu station at Kaena Point. The distance to be spanned is sixty-one miles which is fully within the capacity of the wireless system to cover.

MORE LANDMARKS REMOVED.

A few more interesting relics of early Honolulu have succumbed the past year to the march of progress that is transforming the city with remarkable rapidity, so that any awaking Rip Van Winkle, or absentee landlord returning, will look in vain among its modern structures for old familiar haunts.

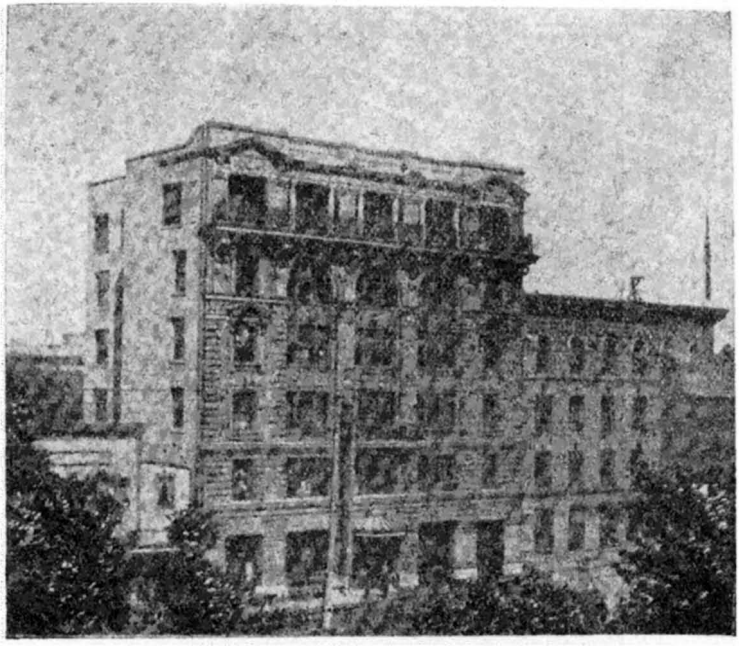
Among the disappearing landmarks this past year, 1901, men-

tion is to be made of the Edinburgh house, adjoining Hackfeld & Co.'s, off Queen street; the part wood and coral school house of the Roman Catholics, on Fort street; and the old style steep roofed building on Hotel street, adjoining the Y. M. C. A. building, each of which claim reminiscences of interest.

"Edinburgh House," so-called, had been occupied for nearly twenty years past by the late Gideon West and his successors, the Hawaiian Carriage Mfg. Co., as the trimming and finishing department. The building dates back to about 1853, or shortly after the completion of the Court House, and was erected for Governor Kekuanoa by native carpenters, under the supervision of one named Pahau, and in the absence of machine or mill-work in those days, it was a creditable structure. On the visit here of Prince Alfred, Duke of Edinburgh, in the *Galatea,* in July, 1869, this residence of the old governor was placed at his service during his stay, hence its name.

The school house on Fort street referred to above was originally a small coral building, but enlarged during its late occupancy by the addition of an upper story of wood. This old structure was once the Court house, and it is of record that the old court house premises, Honolulu, sold to H. Rhodes for $2,500 on note and mortgage with interest at 12 per cent, by Act of Privy Council, March 15, 1852. Our early recollection of the premises was its use as the pastor's study and session room of the 2nd Foreign church, prior to the erection of Fort street church.

The steep roofed house mentioned, that adjoined the Y. M. C. A. gymnasium, was, we believe, the last of Honolulu's adobe buildings and, being such, dates back to a much earlier period than the others; probably early in the '30s. For a number of years past it has been fitted for furnished rooms, the front portion lately having been occupied as the headquarters of the Associated Charities, but the building was long and continuously identified with cabinet makers; first by Lafrenz and Fisher, then Fisher and Jurgens, for a short while, and finally by W. Fisher himself, till in the latter part of the sixties when he sold the property and opened his shop near Fort street, adjoining J. Mott-Smith's drug store.



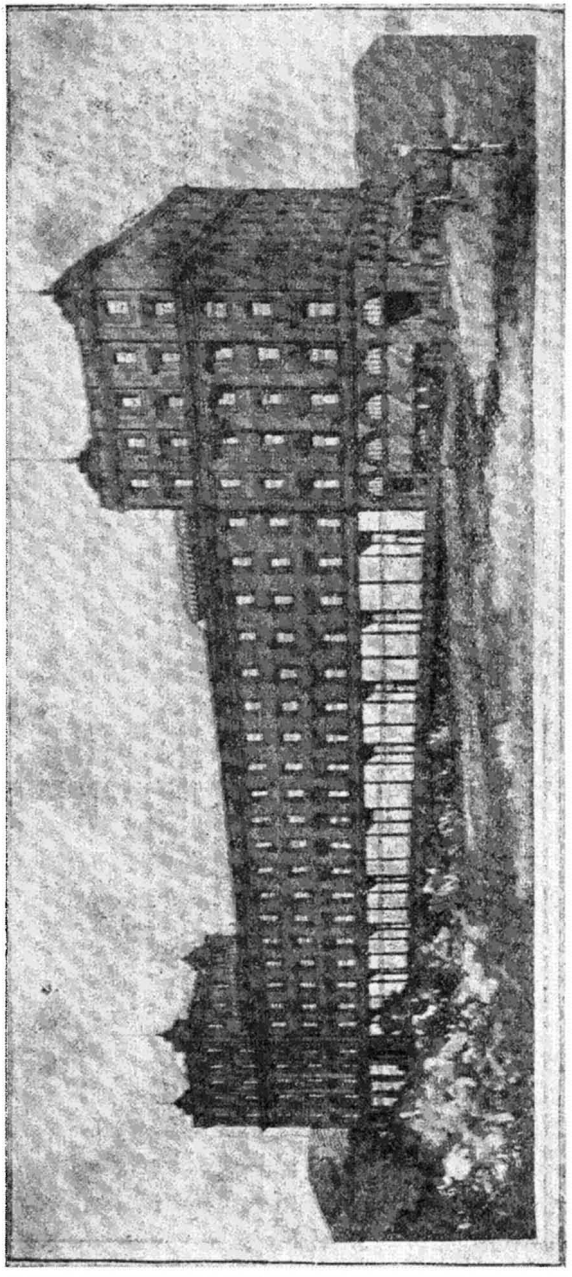
STANGENWALD BUILDING, MERCHANT STREET

NEW ERA OF BUILDING IN HONOLULU.

Written for the Annual by W. E. Pinkham, with illustrations from his specially prepared drawings of the principal business structures of Honolulu in progress or recently finished.

TO all the reforms and changes that the new century has ushered in, socially, politically, and commercially, may be added a transition, which the observing eye cannot fail to note, in the character of new buildings recently completed, some in the course of erection, and other structures contemplated, but yet in an embryonic state.

The change from commonplaceness in design, to style and dignity, came with a bound, characteristic of the environment,



THE ALEXANDER YOUNG BUILDING NOW IN COURSE OF ERECTION.

where enterprise is constantly on the alert, and searching for best results obtainable, as exemplified in such successful recent structures as the Judd, Stangenwald, Boston, and Hackfeld buildings, and the Young Block now in progress. The enterprising promoters of such structures, while building lasting monuments to themselves, are public benefactors, for by their munificence in erecting imposing buildings, the city is greatly benefitted in being made attractive by such improvements, not alone to the residents, but as well to the visitor and tourist.

Aside from old historic associations, such beautiful Italian cities as Florence, with its interesting old palaces, Venice, with its domed and unique buildings on the water ways, and Rome, with her many and varied monuments, would not be nearly as alluring to the many who are attracted, if reduced to areas of ground covered with so-called "improvements," void of the embellishment of man's art and craft.

Honolulu's situation and environment is one of unsurpassing beauty with its clear atmosphere, azure sky, and verdure-clad, rugged mountain peaks as a background. It offers all that nature can provide in scenic loveliness, and augmented by beautiful creations of the genius of man's artistic temperament, "Paradise" will not be a misnomer.

But, to realize our highest hopes and ideals, we must disentangle ourselves wholly from the tentacles of commercialism, for, if we would build enduring works of art, we should not calculate on the so much per square foot basis, for art has never yet been sold by a measuring stick.

But to return to the theme of our heading; a brief retrospect of the development and principle of steel frame construction, which has found its way to Honolulu, may not be amiss in conclusion. To the city of Chicago should be accorded due credit for the first conception and impetus given this system of building, which has been adopted universally. The great advantage in using what is known as "skeleton construction" in buildings of unusual height, is the room space gained where space is most valuable, viz., on the ground floor. Under the

old method of masonry construction, for every additional story in height, the ground floor wall thickness had to be increased, so that in a high building of limited frontage, the lower walls encroached greatly on the most valuable floor area, while the walls of the upper stories, and least valuable area, diminished. The use of steel columns and girders disposes with thick masonry, the thin walls used being merely to enclose the frame work, more as a protection than as a support. The weight of each section of wall in height of story is borne on girders, which in turn are supported by the columns at each of the floor levels. To illustrate more clearly the function of steel and walls, we will take the human structure, the principles being similar, the outer covering or flesh, being supported by the frame work, so that if the lower section, (or flesh covering legs) should be removed, the upper sections would still remain supported by the structural frame-work.

HACKFELD BUILDING, FORT STREET, BETWEEN QUEEN AND HALEKAUILA

FROM PHOTO SPECIAL FOR THE ANNUAL BY F. C. ATHERTON.

HAWAIIAN CALABASHES.

THERE has been considerable interest manifest the past few years by residents and visitors alike in making collections of the wooden calabashes of Hawaiian manufacture. The subject has developed to such a degree as to be quite the "fad" to be the possessor of an array of from a dozen to fifty or more of these specimens of ancient handiwork of various sizes and shape, and, incidentally, of different varieties of wood. Among our foreign residents in this city there are several fine large collections, and we learn of one in San Francisco that is the admiration of all beholders.

As these former household utensils are rapidly disappearing their prices naturally are steadily advancing, and many kamaainas are bemoaning their neglect to improve opportunities that have slipped by them when they might have selected many at a comparative small expense. And similar regret

possesses the Hawaiian that they took so little care of their belongings, and were so ready to leave them exposed to the weather and other means of damage. Not that the *umeke* was an object of special neglect, far from it; for, though introduced wares were readily accepted throughout the islands, nothing exactly substituted the calabash in the estimation of the people in the special uses for which they were designed.

The alii's and many of the better class of natives and part-Hawaiians have large collections, all highly polished, and among them are many cherished heirlooms of ancestry that are held in great veneration, around which the chain of personal narrative in not a few cases trenches on national history, as in the case of one of extra large size and thickness recently on exhibition in this city, said to have belonged to Kuakini—better known to foreigners as Governor Adams—who received it from one of the Kamehamehas. It was given by Kuakini to "long Thompson" of early Honolulu fame, and thus came into the hands of his descendants, who value it at $500. There is one of like interesting antiquity in the possession of Mr. Wm Auld to whom it has come traced through various hands from Kaumualii, King of Kauai, and was used by the royal party on the voyage hither prior to his marriage with Kaahumanu.

But apart from the sentiment which may be found attached to many, there has perhaps long been a disposition to value a goodly array of calabashes of various sizes, shapes and kinds among the chiefs and well-to-do people, for history records several occasions wherein large numbers were destroyed. Two such instances come to mind where in the account of an early Honolulu fire (in 1828) the disaster embraced "several houses and some calabashes," and in the disturbances of the French when they seized the fort in Honolulu, and in wontonness smashed Kekuanoa's calabashes.

These utensils figure occasionally and for goodly amounts in the bills for damages before the present Court of Fire Claims, varying from $5 for a 7x12 inch size to $45 and $50 for those of 28x30 inches; not high prices if size is correct and

condition good. Others have been given in as valued much higher.

That they were objects of esteem and value with Hawaiians is further shown by the prominence made of this feature of the royal hookupu on the occasion of the anniversary of King Kalakaua's fiftieth birthday, in 1886, as a part of the jubilee ceremonies. We do not recall the number presented, but it was said that "among the many beautiful and costly presents of that day those that possessed the most interest were the calabashes, vases, cups and bowls of Hawaiian design and workmanship."

From a descriptive account of the collection we make the following extracts, as illustrative of their variety and uses:

"Amongst the hundreds of these articles presented to Kalakaua were some of very ancient make. Of these some were of gourd shells, ornamented with checkered designs of purely native origin. Others were of koa and kou over two feet in diameter, plain in design, but royal in size and antiquity. A trio of very elegant vase-shaped bowls were provided with handsome stands of kou wood, and were superbly carved. * * * One large urn-shaped calabash of kou was supported on the shoulders of three Hawaiian warriors in feather cloaks and helmets. * * * Besides the individual bowls, cups and calabashes there was also a calabash for awa (a drink made from the root of the *Piper methystichun*) and a crescent-shaped vessel with a ridge raised in the center, used as a fingerbowl.

There were long massive trays of koa wood in which to lay pigs, or large fish baked whole. These trays were supported by parallel bars underneath, carved out of the same block as the trays. These characteristic tokens * * * were placed on long tables in the large dining room of the palace, where their varied shapes and size, and rich dark polish produced a beautiful effect, and gave a distinctive Hawaiian character to the scene."

The late Queen-Dowager Kapiolani's collection was also a large and valuable one, differing from the above in that it held

but a small proportion of the turned vase covered class with base, a modern type not strictly Hawaiian.

Of late years numbers of calabashes have been turned out on the lathe by foreign as also Hawaiian mechanics, but the value to the expert collector is in the possession of specimens of genuine native handiwork of their primitive days, whereon the skill with the old-time stone adze, smoothed down with a kind of sand-stone is evident, whereby they produced these utensils of as true rounded symmetry, both internally and externally, as if they were lathe turned.

Some collectors retain their gatherings in the natural dullness of the wood as an indisputable sign of genuineness and antiquity, in preference to having them polished to bring out the richness and beauty of the wood.

In the foregoing account of the King's collection but two kinds of wood are mentioned, viz., the kou and the koa. The first named was undoubtedly the preferred wood for this purpose, for it predominates in all collections. Milo is another choice calabash wood, as is also the kamani, and hau. Cocoanut also lends variety to this use in the larger sizes among those of native handiwork, more particularly the deep shaped ones, though in the modern turned calabashes a greater variety of wood, both indigenous and introduced, is utilized with very satisfactory results.

Our attention was called recently to one of extra large size that had been turned from the gnarled stump of a monkey-pod tree. On being finished monkey faces one within another could be seen all around it, giving it an added interest from the appropriateness of the name. This variety of wood has the advantage of large size, being easily worked and susceptible of taking a high polish which brings out the rich dark colorings of its somewhat coarse grain.

Calabash turning is done to order by various turners and cabinet makers; more particularly as souvenirs in the medium and smaller sizes, and it is noted the shapes of the ancient type are better observed than was the case twelve years or more ago. Many of these souvenirs are produced from other

woods of the islands than those already mentioned, such as ohia, pandanus, noni, alaa or other variety for the preservation of some sentiment attached, as in the case of those made from rafters and beams taken out of Kawaiahao church in its recent renovation.

There are quite a number of island woods that would work up well in the turner's hands for souvenir purposes as an oddity, or to illustrate the principal article of a Hawaiian household of olden time. The varieties first mentioned were, for good and valid reasons, the recognized calabash woods of the people. With the exception of the coconut wood they were easy to work; all were of remarkable durability; they possessed little or no acidity, or retained none, to impart a flavor affecting the food, and they furthermore met the requirements of size. Probably no others embodied all these essential conditions.

It may perhaps be only a coincident that the kou, koa and milo are the finest of furniture woods, all now rapidly becoming scarce (the first named being quite rare), nor is the kamani and certain varieties of the hau to be ignored for cabinet value, all alike being capable of taking the highest polish, but it is an interesting fact all the same.

There are several places in this city, and in Hilo, where a variety of polished Hawaiian calabashes are kept in stock for sale. The growing demand for them has given a regular calling to several native Hawaiians for the hunting up in out-of-the-way places throughout the islands of all old and damaged wooden utensils for the repairing and polishing of the same for order customers or for the market. And a well repaired calabash loses nothing in estimation or value from the fact that it is patched, for this is to be regarded as another evidence of antiquity and, if anything, should command a premium.

In these days nothing is done, of course, among the Hawaiians in the way of reviving their ancient handwork in this line. The supply therefore of the "legitimate" hand made

article is limited, and this fact adds zest to the collector and assurance of value to his gatherings that is not likely to be diminished by an overstock of the market.

PROGRESS OF THE HILO RAILROAD.

The Hilo Railroad has been built from Waiakea at the east side of Hilo harbor to Kapoho, in the Puna Sugar Plantation, a distance of 24 miles.

On this line and seven miles out from Hilo is the Olaa Sugar Co.'s mill. From this point the railroad runs up through Keaau and Olaa to the 22 mile post on the Volcano Road. The elevation of this present terminus is 2,300 feet. This part of the line, known as the Olaa division, is 17 miles in length. It is now under construction. The track has been laid five miles, and the rest of it will probably be laid before March 1902.

The completion of this line will afford rail communication to within nine miles of the volcano, where stage connection will be made. This will enable passengers arriving at Hilo on the Kinau to make the trip to the volcano in about two hours, affording them ample time there and return by the same steamer.

This line passes through plantation fields and forests alternately affording a pleasing variety of scenery.

The Company intends to extend the railroad along the beach at Hilo to the Post Office Block north of Waianuenue street, and to the wharf, with a branch to Hawaii (Portuguese) Mill. The location of this extension has been approved by the Government.

The railroad is of standard guage, with rails weighing 60 lbs. per yard.

The road bed is well ballasted with crushed lava rock, and with the exception of the two steel bridges which will cross the Wailoa stream will not contain a single bridge or culvert. The road is equipped with 40-ton freight cars, three locomotives of 50 tons each and one locomotive of 20 tons. A complete equipment of machine shops and foundry is also in operation, enabling the company to manufacture its own cars and do all kinds of plantation repair work; 300 cane cars are at present being manufactured in the shops at a lower cost than the iron work could be imported from the States.

The line of work extending through the district of Olaa will reach the Government land lately opened for settlement and with the favorable contracts with the Olaa and Hilo plantations for grinding sugar cane will very much encourage the settlement of these lands.

The officers of the company are: B. F. Dillingham, President; L. A. Thurston, Vice-President; A. W. Van Valkenburg, Secretary; M. P. Robinson, Treasurer; W. M. Graham, Auditor.

ACKNOWLEDGMENTS.—The publisher of the Annual is greatly indebted to the Treasury Department at Washington for special permission granted for the securing of local Custom House information, etc., whereby the continuation of its feature of the commercial statistics of these islands might be assured. Also, to O. P. Austin, Chief of the Bureau of Statistics, for regular forwardance of official monthly publications of the Commerce and Finance of the United States, and personal letters in aid of our work.

To E. R. Stackable, Collector of Honolulu and his staff, we would also acknowledge our obligations for courteous assistance rendered in the matters above referred to.

In this connection we note also our indebtedness to Hon. Wm. R. Merriam, Chief of the Census Bureau, for continuous favors extended the Annual in the progress of the census work.

LAWS PASSED AT FIRST LEGISLATURE OF THE TERRITORY OF HAWAII, 1901.

1—Act appropriating $45,000 to defray the expenses of the Legislature: approved March 27.

2—Act amending Section 1 of Act 40, laws of 1896, and Section 11 of Chapter LVII, laws of 1892, relating to criminal jurisdiction of District Magistrates: approved April 10.

3—Act appropriating an Emergency Fund of $26,500 for repairs to roads, bridges and other damages caused by late storm: approved April 16.

4—Act to prevent employment of minors in or about liquor saloons, or their visiting such places: approved April 16.

5—Act to prohibit the unlawful wearing of badge of the Grand Army of the Republic: approved April 20.

6—Act appropriating $3,500 for Board of Education display at the Buffalo Exhibition: approved April 23.

7—Act providing for names of streets, roads and lanes, district of Honolulu, Oahu: approved April 24.

8—Act providing for the numbering of buildings, district of Honolulu, Oahu: approved April 24.

9—Act providing exemption of certain personal property from attachment, execution and sale, and repealing "Act to facilitate the recovery of rents," passed January 10, 1865, and other laws in conflict: approved April 24.

10—Act relating to the appointment of bailiffs for certain territorial courts; their duties, powers and compensation: approved April 26.

11—Act relating to the sale of alcohol; amending and repealing certain section of Act 64 of laws of 1896: approved April 27.

12—Act amending Section 45 of Chapter LVII laws of 1892, relating to absence, vacancy, etc., in offices of Circuit Judges: approved April 27.

13—Act to provide for the promulgation of the laws: approved April 27.

14—Act amending Section 1 of Act 32 laws of 1896 relating to gross cheat: approved April 29.

15—Act providing for the establishment of a Fire Claims Commission to hear and adjudicate all claims for damages arising out of the bubonic plague fires of 1899 and 1900; and appropriating $17,400 for its expenses: approved April 30.

16—Act to define the Territorial seal: approved April 30.

17—Act to protect laborers and employees from extortion: returned to the Legislature April 24, without signature or veto, after ten days had elapsed since its presentation for the Governor's approval.

18—Act repealing certain obsolete laws: approved April 30.

19—Act amending Section 30 of Chapter LVII laws of 1892, relating to Judges of First Circuit Court: approved April 30.

20—Act to provide an income tax: approved April 30.

21—Act amending Section 814, Chapter LIX of Civil Laws, reducing the "female" dog tax: passed over the Governor's veto, April 18.

22—Act amending Sections 54 and 55 of Chapter LVII, laws of 1892, relating to reorganizing the Judiciary Department: approved May 6.

EXTRA SESSION.

1—Act appropriating $30,000 to defray the expenses of the Extra Session and unpaid bills of Regular Session: approved May 17.

2—Act appropriating $17,000 (additional) to defray the expenses of the extra session: approved July 8.

3—Act making appropriations for salaries and pay rolls for biennial period ending June 30, 1903: approved July 18.

4—Act making special appropriations for like period as above: approved July 18.

5—Act making appropriations for certain outstanding bills: approved July 29.

RETROSPECT FOR 1901.

REVIEWING the events of the year now drawing to a close it is a satisfaction to record it as one of progress for the new Territory in spite of the drawbacks that have been labored under. The health of the country has been good, the weather fine, rain—except in a few districts—has been fairly distributed, crops have largely exceeded the estimations and labor has not become demoralized; but there has been too much political contention for the good of the country.

The strong majority of Home Rulers elected to both houses of the legislature gave that party the opportunity to do great things for Hawaii and the people whose interests they professed to hold dear, but it early became manifest that incompetency predominated the ranks, egotism possessed the would-be leaders and senseless opposition was shown on various occasions against government measures in general and the Governor in particular.

The Republican minority of both houses did well in saving the country from a number of disgraceful measures. Persistent effort was made to saddle the city with a fifty-year franchise in favor of the Tramway Company; attempt was made to legalize gambling, and to revive kahunaism; compulsory vaccination was repealed and a reduction of dog tax made a pet measure. An act to create Counties and Municipalities, ill drawn and badly considered in the lower house was passed by them for the senate to amend, but that body passed it defiantly, with all its crudities, because the minority did not like it as it stood. Much disappointment was felt by them at the bill meeting with a "pocket veto," for Home Rulers and a certain foreign element hoped thereby to "curtail the Governor's power by placing appointments and expenditures in the hands of native voters organized to put down the power of the whites."

Practically the whole session was taken up with childish wrangling. Desirable measures for the promotion of govern-

ment and public welfare were neglected or studiously blocked in committee, as in the case of the loan measure and appropriation bills, expecting thereby to force an extension of the session which had been refused them on the ground that "the methods of the present session had been so wasteful of both time and money with little to show for a large expenditure of public funds."

At the close of the regular term they were immediately called in special session to consider the appropriations, and the same inability to confine themselves to the duty they called for was manifest. The time limit expired before the act was through its third reading and the session had to be extended several days for this purpose, finally adjourning July 29th, at an expense to the country of $45,000 for its term of sixty days and $47,000 for its thirty days extra session; far exceeding the most expensive previous legislature known in these islands, which was in 1886, when $49,984.08 was required to defray the expenses of its long session of 129 days.

COURT OF CLAIMS.

The Commission appointed to consider all claims for damages arising out of the fires during the plague consisted of F. W. Macfarlane, A. N. Kepoikai, J. G. Pratt, A. C. Lovekin, and F. J. Testa. They began their labors June 20th in the Chamber of Commerce rooms but moved to the Executive building at the close of the legislature. The time for filing claims expired by limitation September 24th, by which date 6,748 claims had been presented, with damages amounting to $3,167,132.90. Since then the court has been occupied in their adjudication, and much testimony taken to arrive at fair valuations. As a class the Chinese are said to appear to advantage in the amount of their claims—with a few exceptions—, whereas many Hawaiians and Japanese have exhibited a disposition to overreach that will signally fail them.

Through the amount of labor involved in the adjudication of so many claims among these nationalities the appropriation of $17,400 to meet the expenses of the Commission have been insufficient. Rather than the work should cease, however, arrange-

ments have been made by the chairman for advances of funds by the banks, the loan to be repaid by the next legislature.

REAL ESTATE MOVEMENTS.

The year has been marked as showing less activity in realty transactions with little or nothing transpiring of the speculative character hitherto prevailing, but notwithstanding the stringency of the money market and decline of stock quotations as the year advanced there has been little disposition shown to sacrifice values.

The most important movement in residence properties this year was in the opening up of the College Hills tract at the entrance of Manoa valley, the first sales of which for choice of lots took place by auction March 23rd at which forty were disposed of at figures beyond upset prices, ranging from $600 to $2,800 each. Subsequent sales have been continuous in view of Rapid Transit connections giving them easy access to the city. Conditions imposed on all purchasers will insure desirable homes in this neighborhood.

Puupueo tract, a little further in the valley, has also been sub-divided into residence lots and recently placed upon the market, the Transit line including this section in their completed Manoa circuit.

A number of residence lots have changed hands in the Pacific Heights, Makiki, Pawaa, and the Baseball tracts, as also in the Kalihi section of the city, the latter making sales on time payments to encourage persons of small means in securing homes.

There have been but few transfers in business properties during the period under review, the sale at auction of the Rooke properties on Fort and Union streets being the most important. A recent purchase by W. C. Peacock of Emmeluth's interests in the Mahuka and Ahana properties, on Merchant street, is reported.

On Maui the Kahikinui stock ranch changed hands the early part of the year, Dr. J. H. Raymond being the purchaser, who absorbed, in September, the Rose Ranch also. Negotiations for the sale of ranch properties of the island of Lanai have been in progress recently, but at this writing is said to be off.

BUILDING PROGRESS.

The building activity reported in last Annual has continued up to the present writing. During the first quarter of the year it was said "there were more buildings being erected and in contemplation than ever before in the history of this city." A much better showing would have been made but for the strikes in the East and in San Francisco delaying needed supplies for buildings in progress and increasing their cost. Of the business structures under way at last writing the Stangenwald, Hall & Son, and McIntyre's are completed, the Hackfeld block nearly so and the Young block is well advanced. Davies & Co. have completed a large three-story warehouse on the Esplanade and erected a two-story office building for their needs on Kaahumanu street. The Hawaiian Electric Co. have also a new two-story brick building on King street near Union Square, and a three-story brick structure on King, near Fort, for C. R. Collins, is just finished. On Alakea street, corner of Beretania, a two-story brick building for business purposes has been erected by the Pacific Improvement Co. Just below it is a large two-story annex to the Hawaiian Hotel that will materially enlarge its accommodations, while opposite has been erected an office and apartment house, adjoining the Pacific Club premises.

Among the new buildings in progress are: the Convent school on Fort street, and just below it two stores of J. H. Fisher, and on Beretania street near Progress block is one of Frank Hustace. Adjoining the Elite, on Hotel street, is the Oregon block. All these are two-story brick buildings and except the first named are for stores, all now nearly completed as is also a block on Nuuanu street near Queen. In the "Chinatown" section, Smith, Hotel and Maunakea streets are showing many new brick blocks.

The new preparatory school building on course of construction on the campus of Oahu College, the corner stone of which was laid with special ceremonies October 4th is progressing rapidly; its walls, of concrete, already being up three stories, with promise of completion by April.

The principal new structures entered upon are the Sachs' building, corner of Beretania and Fort, and the Hall & Son's to occupy

their old site, both of which will be of three stories and will be remarkable for their architectural beauty.

The suburban residence districts are steadily building up; notably Pawaa, Makiki, the Baseball tract, Kalihi, Pacific Heights, and College Hills. Beretania avenue also claim a number of new residences, and on Nuuanu avenue the Afong home has given place to a spacious mansion.

PUBLIC IMPROVEMENTS.

The demands for public improvements throughout the islands to keep pace with its needs were never more urgent than they have been this past year. Much had been contemplated by the government and its necessity made apparent to the legislature, but though many items were inserted in the appropriation bill unfortunately no means were provided to enable the government to enter upon any work of magnitude, no matter how pressing. As a result, little is being done outside of repairs of "roads and bridges."

The School street steel bridge over the Nuuanu stream is thrown open to traffic, but considerable finishing work is yet required.

The wharves of the naval reserve have been completed and at this writing a new wharf on the opposite side of the harbor, to parallel the Railroad wharves is entered upon, designed to accommodate our increasing shipping. Hackfeld & Co. are advancing the funds for this work for repayment by the next legislature.

Beretania street extension joining King street at Leleo is at last finished and will greatly relieve the congestion of traffic over the King street bridge, but Aala park, long promised, lying between these two thoroughfares, is still a future possibility.

Important street widenings, and the extension of Fort street that have long been demanded has little consideration for want of funds.

ELECTRIC ROAD PROGRESS, ETC.

After vexatious delays from various causes the Rapid Transit Company finally completed all connections and formally opened up their road in this city by an excursion over the line on August

31st last, the section in operation extending from Wilder Avenue at Punahou, to near Wyllie street on Liliha, via Pensacola, Kinau, Alapai, Hotel and King streets, a distance of five miles. The trial was made an historic event by prominent parties participating in the exercises at the power house of the Company, on Alapai street, at its inauguration.

The cars are all of first class construction and finish from the Duplex Car Co. of Bucyrus, Ohio, and the American Car Co. of St. Louis, put together here. The road is well and substantially built and equipped, and the efficiency of machinery and electrical plant commends the enterprise as meriting the public confidence and support. The success so far met with for the small section opened is gratifying to its manager and directors; no less than 200,000 fares per month having been taken in since its opening, with but six cars in operation and a ten minute service. On Sunday, Nov. 24th, 11,500 passengers were carried over the line.

Public demand for the extension of the line into Manoa, and out King street to Kalihi is being met at this writing, and favorable offers have been made the company to hasten the construction of its Waikiki section by continuing the Pawaa line recently contracted for.

An article on the subject in this issue shows the successful inauguration, after many difficulties, of the Marconi wireless telegraph system to all the windward islands, which was reported in progress in our last issue, and the extension of Desky's Pacific Heights electric road has been brought down to connect with the Tramway cars on Nuuanu avenue.

The Automobile Co., referred to in last Annual as nearly ready, began its service March 9th, but after a short trial their vehicles were withdrawn and shipped back to the factory through their failure to fulfill the requirements contracted for. A recent mail advises of their entire loss by fire.

PLANTATION LABOR.

In response to the effort and enquiry mentioned in last Annual as in progress for new sources of labor supply to meet the needs of the expanding sugar industry, the partial relief that has fol-

lowed in the supply of Porto Ricans during the year has been fraught with much difficulty and expense, and as usual has subjected the planters to unjust newspaper articles on the Coast by ignorant or designing writers. The later arrivals of these immigrants have been, fortunately, an improvement on the pioneer bands, which were in an emaciated, half-starved condition at the start of their journey. The first lot arrived Dec. 23rd, 1900, by the *Rio de Janeiro* by way of San Francisco, but subsequent arrivals have been by way of San Pedro.

January 2nd, 1901, a batch of Tennessee negroes arrived by the *Zealandia,* mostly for the Maui plantations, but they have not proved at all satisfactory. The latter part of same month some sixty-five Portuguese immigrants arrived, recruited in the Eastern states, and later in the year a batch of laborers came to swell the colony of Italians already here.

Japan has recently withdrawn her restrictions on the emigration of her people, and as a consequence a number of the better, experienced, class have returned of their own volition for services here.

Unfortunately the Custom House records no traffic or travel hither from the mainland, whence the immigration for the year has come, consequently we have no complete official figures for this increase to our population, but the number of Porto Ricans may safely be placed at 2,500.

The table of plantation labor statistics, on page 39, shows the steady increase in the force demanded, and though the number in June, 1901, were 3,600 over the total at the close of 1899, yet there is hardly a plantation in the islands but what has suffered from insufficient help. And the outlook still requires special effort to meet the needs.

TEMPERANCE MATTERS.

The islands have been favored the past year by the visits of prominent temperance advocates, some by invitation of parties here having the welfare of the community at heart, and others touching here for a brief season en route to other lands. The friends of temperance were glad to welcome Miss Ackerman

again and her co-worker Miss Murcutt, of the W. C. T. U., on their round-the-world mission. They held several helpful meetings both in Hilo and in this city.

Rev. E. S. Chapman, of the anti-saloon league of California, came at the same time to view the field and gave a series of inspiring lectures preparatory to the organization of a local league for work along the lines of "suppression of the saloon." This body, upon organizing, empowered Dr. C. to secure a person of experience for the special work to devote his whole time thereto, resulting in the arrival of Rev. L. M. Hartley.

Simultaneously with Dr. Chapman's visit was the call of Francis Murphy, of world-wide temperance fame, en route to the Colonies. At request of friends of the cause he remained over a trip and conducted a series of gospel temperance meetings that proved helpful to many and led to the formation of Murphy organizations having frequent entertainments as anti-saloon attractions. Mr. Murphy made a like visit on his return trip from the Colonies and gave encouragement to the work.

Following the above workers was the visit of John Wolley, apostle of prohibition and nominee for President by that party at the last election. He gave two addresses while here on the line of voters' responsibility.

Many friends of temperance hoped for a material check to the liquor traffic by the passage of the Dispensary bill, introduced by Dr. Russel at the last legislature, but beside the opposition of liquor men public opinion was divided upon its practical working considering the social peculiarities of the Hawaiian. It therefore failed to pass.

As a mockery, apparently, to the above effort the saloons are multiplying on all sides, both in the city and throughout the islands. Besides more liquor saloons, under light wine and beer licenses there seems to be no limitation to these encouragers of idleness, demoralization and crime. The advent of the local brewery has been the signal for the opening up of a number of these licensed blots on society in various parts of the city, even to the invasion of hitherto quiet neighborhoods.

HONOLULU'S SYMPATHY.

This community, like many others, felt deep sorrow at the death of President McKinley, from the bullet of an anarchist assassin. On receipt of the sad tidings public offices closed, courts adjourned, flags were half-masted, and the following day many places of business and public buildings were draped in mourning and general business suspended. The Chamber of Commerce, the Bar and other bodies gathered to express their sympathy in this great loss to the nation. A committee from the Chamber of Commerce being empowered, arranged for a public memorial service which took place on Saturday, September 28th, at Kawaiahao church. All offices and places of business closed for the day. The impressive exercises began at 10 a. m. and were conducted in English and Hawaiian, addresses being given by Governor Dole, Revs. A. Mackintosh, H. H. Parker, W. D. Westervelt and others. The next day special memorial services were held in all the churches and the large attendance at each bore evidence of the public grief. A movement is now in progress for a lasting memorial in this city to his honor, to which public subscriptions will be solicited.

Public memorial services were also held February 8th at Kawaiahao church to the memory of Queen Victoria, upon the receipt of the news of her peaceful death after so long and prosperous a reign. All nationalities crowded the edifice in their desire to honor her memory.

FIRE DISASTERS.

Fires have been both numerous and disastrous in and around the city since our last record. The year 1900 was rounded out with a fire that destroyed four Chinese stores and dwellings at Palama. This was followed, in January, with a small blaze at Kakaako. In May the Myhre residence on Punchbowl slope was entirely consumed, with its contents.

July 7th fire was discovered at daylight on the bark *C. D. Bryant*, at the Irmgard wharf, among the cargo. The Fire Department and tug *Fearless* rendered prompt and efficient service. After several hours strenuous effort the fire was controlled; much

of the cargo being badly damaged. Indications pointed to incendiarism.

The early morning of August 6th a fierce fire was found raging in Hall & Son's new store that had been but recently completed and outfitted with a valuable stock. The fire had gained such headway by the time aid arrived that the building was seen to be doomed, and the Lewers & Cooke building and adjoining lumber yard were in great danger. The firemen did good work to confine it as they did, so that by 6 a. m. all danger of its spreading was over. The loss of Hall & Son was placed at $140,000, with insurance of $91,000. Lewers & Cooke's loss of $20,000 was fully covered. Fortunately no wind was stirring or a much heavier loss would have followed.

About 2 a. m. of August 21st fire broke out in the Stockyards' Co.'s buildings, corner of King and South streets, and spread with such rapidity that it was quickly consumed, with nearly all its contents, together with an adjacent block of two-story buildings in course of construction. Some eighty valuable horses perished in the flames. The estimated loss was placed at $75,000, with insurance to but half the amount.

There was another fire on the 30th of same month in which three cottages, on School street, were entirely destroyed. There have been others, but mostly of but partial damage.

The Department has recently been strengthened by the receipt of a new powerful steamer, which arrived June 28th by the *W. H. Dimond.*

DROUGHT ON WINDWARD HAWAII.

The districts of both Kohala and Hamakua have suffered severely throughout the year from an unprecedented drought that caused much discomfort and solicitude to residents from the drying up of springs hitherto deemed unfailing, and consequent distress among the stock. Reports in early October from the plains of Waimea represented much loss of cattle in that part of the district. This condition presents a serious aspect to the planters for the loss caused not only to the cane of the present crop but injuring the prospects of the following crop.

Severe as Kohala people feel their lot, Hamakua has suffered additional affliction from uncontrollable fires that have been devastating the forests since early in July. The Ookala and Kukaiau Plantations have further suffered through cane fires, the result of a native's carelessness, whereby nearly 300 acres were destroyed.

The latter part of October a spell of wet weather set in giving welcome rains in various districts, the first windward Hawaii had enjoyed since early in April last, which naturally gladdened the hearts of ranchmen and planter alike. At this writing—in November—copious rains have fallen so as to have effectually extinguished their forest fires.

BUSINESS REMOVALS.

The Honolulu Iron Works Co. have completed their heavy job of moving from their old location on Queen and Marine streets to their newly constructed and extensive premises at Kakaako on the opposite side of the city, where the various departments of the establishment have been specially laid out and provided with the most efficient machinery, etc., to enable it to handle all orders with the utmost expedition.

The Union Feed Co. is another concern whose business has outgrown the limits of its old location, corner of Queen and Edinburgh streets. Like the Iron Works Co. they have secured spacious premises at Kakaako, erecting buildings specially adapted to the needs of their extensive business at the corner of Ala Moana (Ocean Road) and South street.

Through the loss of their fine building by fire in August, already referred to, E. O. Hall & Son have established themselves in the Ehlers' block, Fort street, absorbing thereby the business and stand of the Pacific Cycle Co., while a new building arises, Phoenix like, from the ashes of the old.

The First National Bank of Hawaii and its branch The First American Savings and Trust Co., changes from their location in the Campbell block to specially provided and spacious quarters at the corner of King and Fort streets in the new McIntyre building. McInerny's Shoe Department has also moved to the same

building, adjoining E. W. Jordan's, their old stand being occupied, temporarily, by the Honolulu Drug Co., from the von Holt block till the Pearson & Potter Co. moves to the Oregon building now nearly ready, when they will locate there.

CHURCH DEDICATIONS, ETC.

Dec. 2nd, 1900, Kawaiahao church celebrated its 75th anniversary as an organization, with appropriate and historic services.

Dec. 12 to 15th the Mormans celebrated their semi-centennial jubilee by a three days' exercises at the Orpheum commemorative of the founding of their faith in these islands. President Geo. Q. Cannon, one of the founders, arrived to conduct the services.

Feb. 3rd, 1901, the first Chinese church at Hilo, Hawaii, was dedicated.

March 31st rededication services were held at Kamoiliili church, recently renovated and repaired through the efforts of relatives to the memory of W. H. Rice, its first builder.

April 8th dedication of the new church at Lihue, Kauai, for English and native services, the gift of A. S. Wilcox and wife; Hon. G. N. Wilcox providing the lot and parsonage.

June 2nd was dedicated the new German Lutheran church of this city, Rev. W. Felmy, pastor.

The new Roman Catholic chapel, St. Augustine's, at Waikiki, rebuilt largely through the efforts of Father Valentin, was dedicated with impressive services, Sunday Nov. 17th.

Steps were taken by Hawaiian churchmen at the recent General Convention of the American Catholic Church held in San Francisco looking to the taking over of the supervision of the Anglican Church of these islands, which met a gratifying response, and a resolution was adopted "that the Hawaiian Islands are hereby constituted a Missionary District of this Church by the name of the Missionary District of Honolulu, said action to take effect on the first day of April, 1902."

MARINE CASUALTIES.

Dec. 27th, 1900, the *Kilauea Hou* of Wilder's S. S. Co. was

driven ashore by stress of weather at Hilo, and had to be abandoned.

On Feb. 22nd, 1901, after a successful trip from the Orient, touching en route at Honolulu as usual, the P. M. S. S. *Rio de Janeiro* struck on the rocks during a dense fog and sank near the entrance to the port of San Francisco, with the loss of 104 lives, among whom were a number from this city; all the cabin passengers which had joined her at this port were among the drowned.

Steam schr. *Surprise* was driven on the reef at Koloa, Kauai, Feb. 22nd and became a total wreck.

Am. bark *Olympic* was partially dismasted in a whirlwind Feb. 22nd at 8 p. m. shortly after leaving San Francisco for this port, arriving here March 18th, after a long passage. One seaman was lost overboard.

Steamer *Upolu* was lost at Puako, Hawaii, April 2nd.

Am. ship *J. B. Thomas* arrived in command of the boatswain, the Captain, Wm. Brown, having been lost overboard April 23rd.

Schr. *Golden Gate,* lost at Awalua, Lanai, June 27th.

July 26th, total loss by fire of the Am. bark *Empire,* at Mahukona, with coal from Newcastle.

Schr. *Alice Kimball* under stress of weather went ashore at Kahului, Maui, and after three months delay was worked off and brought to Honolulu Aug. 15th by aid of a jury rudder.

Schr. *Blanche and Ella* was driven ashore at Wailua, Kauai, Nov. 10th, during heavy weather and became a total loss, with much of her cargo.

Schr. *Mille Morris* went hard and fast on the reef near Punaluu, Oahu, Nov. 7th, and has been dismantled and abandoned.

Am. ship *Roanoke,* from Norfolk, Va., for San Francisco, arrived at this port Nov. 25th with her cargo of coal on fire since the 12th inst. and in a leaking condition.

NECROLOGY RECORD.

The well known residents and prominent personages of the islands that have passed away since our last record embrace the following, viz.: Jas. A. Hopper (in San Francisco), W. Horace

Wright, Arch. A. Steele, of Hilo, David Center and J. Chas. Long of Maui, Thos. W. Gay of Waialua, W. H. Henshall (drowned at San Francisco), Mrs. M. Bruns, Marcus R. Colburn, John McLean, John A. Moore, of Maui, Dr. Robt. McKibbin, Mrs. A. B. Ingals (at Clifton Springs), John N. Wright, W. S. Luce, Mrs. Saml. Parker (in New York), Mrs. F. S. Lyman, of Hilo, Capt. John Rice, Hugh Morrison (at San Francisco), Jas. Hunt, Paul Neumann, Wm. C. Wilder, M. T. Donnell, Rev. J. Waiamau; Mrs. J. J. Horner, of Hamakua, Mrs. M. E. Rowell (in Southern California), and Gideon West. We note also the deaths of Danl. A. Ray, U. S. Marshal, and Jno. C. Baird, U. S. Attorney, Federal officials located here.

INFORMATION FOR TOURISTS AND OTHERS.

IN THE prominence to which these islands have been brought the past few years the world has familiarized itself with Hawaii as never before, and the enquiries for information pertaining to its present conditions and future prospects indicate a healthy awakening to a realization of the excellent opportunities these islands offer in certain lines of agriculture, in scenic attractions varying from tropic growth to Yosemite and Alpine grandeur, with a healthy climate and balmy atmosphere, with-all that rivals the famed Mediterranean resorts.

It has been the province of the HAWAIIAN ANNUAL, ever since its existence, to present just such lines of reliable information as indicated above, for the benefit of foreign inquiry and home reference, and the widening circle of readers and flattering testimonials received give evidence that the labors in this direction have not been in vain.

The carefully prepared and revised statistical tables cover the fields of Government and commercial progress for many years past, while special articles present attractions and existing conditions in Hawaii nei and indicate also its possibilities.

But while the preceding information has value for many readers, the transient visitor and tourist, with but a few days—or may be hours only—at their disposal, is desirous of improving the most of his (or her) opportunity to see the attractions of place and people. For such readers the following brief outline is given:

To the incoming visitor, Honolulu, situate on the island of Oahu—and the capital city of the group—presents peculiar attractions, nestled as it is amid evergreen foliage at the foot and in the valleys of a mountain range whose peaks kiss the clouds at a height of 3,000 feet. The grove of cocoanut trees that fringe the shore along Waikiki give strangers their first tropical impression after rounding Diamond Head—Honolulu's landmark—and the nestling cottages, or more pretentious residences, that open up to view while passing down the reef to the entrance of the harbor, presents a picture of restfulness that charm alike all incomers. First impressions are said to be lasting, and nature has so favored Hawaii that it is a rare occurrence for visitors after a tour of the city, or of the islands, not to express the hope to return for re-enjoyment of place and people.

Vessels on entering port find, with but rare exceptions, wharfage facilities awaiting them, and as the mail steamers warp in to the dock, numerous native boys swim about anxious to display their skill in diving for nickels, or a "nimble six-pence," that may be thrown in the water. The scramble of from six to twenty divers after a single coin afford rare sport to strangers.

Upon landing, courteous hack drivers are at hand or within easy reach by telephone, to convey passengers to hotels or private residences, or for a drive about the city and suburbs. The charge for such service is regulated by law, and will be found elsewhere in this issue.

If one's time is limited to the few hours' stay of a through steamer in port, the first important point of interest to visit is the Pali, at the head of Nuuanu valley, distant six miles from the Honolulu Post Office, well macadamized the whole way. The road leads through the earlier residence portion of the city, affording a view of spacious and well kept grounds to the majority of homes, indicative of the comfort and taste of our residents.

passing points of historic interest, then on past stretches of wilder country, flanked on either side by moss and fern banked mountain slopes, till all of a sudden the gap is reached and the scenic view of the precipices of Koolau, with its rolling table land some twelve hundred feet beneath, and the blue Pacific Ocean in the distance, presents a scene of entrancing beauty. The Pali is made historically famous as the place over which the forces of Kamehameha the First drove his enemies in the final battle in the conquest of this island in 1795.

Next in scenic interest would be a trip to Tantalus, a mountain peak some 2,000 feet high, overlooking, not only Honolulu, but the stretch of country ranging from Koko Head to Barber's Point. A good winding carriage road traverses the entire distance and passes through shady forest glades and wild shrubbery into a balmy atmosphere that is attracting public attention as an unsurpassed location for summer cottages, tourists' resort, or sanitarium.

Another pleasant drive to a commanding point is around Punchbowl, an extinct volcano some 500 feet high, just back of the city, or, a trip by the electric cars up Pacific Heights slope, between Nuuanu and Pauoa valleys, to the site of Desky's proposed hotel at an elevation of about 800 feet. From these advantageous positions many delightful views are obtained. Honolulu, hidden for the most part amid luxuriant foliage, gives from these points the impression of one large park on the borders of the sea.

While the attractiveness of a drive to Waikiki and Kapiolani Park is admitted by visitors to afford rare enjoyment, the ideal is reached by a sojourn among its seductive groves where the sound of the restless surf, dashing on the guarding reef, or wavelets rippling on its sandy shore, sings a sweet lullaby, and the pleasure of ocean bathing in a temperature that, like its skies, its seas, and atmosphere, is surpassed by no other spot in all the wide world. Poets have sung its praises; writers have vied with each other in describing its charms, and artists have sought inspiration to depict on canvass glimpses of its beauty.

The Hawaiian Hotel Annex and the Moana Hotel have been

erected to meet the increasing demand for public accommodation at the beach of Waikiki.

To the north of Honolulu are situated the Kamehameha Schools, for boys and for girls, established for Hawaiians by will of the late Mrs. Bernice Pauahi Bishop. The Museum, established by Hon. Chas. R. Bishop, in connection therewith, is an exceptionally fine institution, noted for a completeness in Polynesian antiquities second to none other. Certain days of each week are set apart for the free admission of all visitors. At present this is Fridays and Saturdays, from 10 A. M. to 4 P. M., and on days of arrival of through steamers. These institutions are reached by the King street cars, and the Rapid Transit electric cars on Hotel street.

Trains of the Oahu Railway and Land Company leave the station at Leleo, King street, thrice daily for Pearl Harbor, Ewa Plantation and way stations. Two trains continue on to the Waianae Plantation, distant thirty-three miles, and from thence around the northern point of the island to Waialua, where the fine hotel Haleiwa has just been erected with special view to the comfort and attraction of visitors. Trains at this point continue on to Kahuku, the terminus of the line. Visitors taking a railway trip have an opportunity of viewing the magnificent Pearl Harbor, also of witnessing the interesting features, en route, in the cultivation of rice and sugar cane. At few other points throughout the islands, can these two industries be seen so advantageously working, as it were, side by side. Ewa Plantation, and the recently established Oahu Plantation, on land adjacent, as also the Waialua Agricultural Co. will afford tourists an insight into the most modern methods of cane culture and sugar manufacture by three of the principal concerns of the kind on the islands.

If time is too limited to permit any of the above mentioned trips, an observation tour of the city would be in order, and an interesting time spent in visiting the different public buildings and grounds, hotels, places of business, and the attractive residence portions of the city.

The attractions of the other islands are not to be ignored, each

presenting interesting features of individuality as to scenery, places of historic interest, or established industries. Naturally the volcano of Kilauea, on Hawaii, is the main object of interest to all tourists and is well worth a visit even in its periods of inactivity. The scenic attractions of the windward coast of Hawaii, which visitors pass on the trip to Hilo, is varied and delightful, while of Hilo itself an eminent visitor wrote—"See Naples, and then die! said somebody. 'See Hilo, and live for ever!' say I." Her strong natural attractions and business outlook, through the sugar and developing coffee industry in its neighborhood, is bringing in an enterprising population that is rapidly extending the limits of the town. Old streets are being widened and new ones are being laid out to meet the public demand of improvement.

Comfortable steamers offer frequent facilities to reach all principal points between the islands, two or more weekly for windward ports of Hawaii and one or more for its leeward coast ports, nearly all of which take in Maui en route. Among the strong attractions of the island of Maui, additional to its extensive sugar plantation, is, the picturesque valley of Iao—rivaling the Yosemite—, celebrated as the scene of one of the fiercest battles in Hawaiian history, when bodies of the slain dammed the Wailuku and its stream ran blood. The crater at Haleakala, the largest extinct volcano in the world, also on this island, well repay all visitors.

The "garden island" of Kauai in turn presents unrivaled scenic attractions, facilities to visit which occur thrice or more each week by regular and convenient steamers.

In connection with the foregoing, the following tables may be of service:

FOREIGN PASSAGE RATES.

Cabin passage per steamer, Honolulu to San Francisco, $75.00.
Round trip tickets, good for three months, $125.00.
Steerage passage per steamer, Honolulu to San Francisco, $35.00.
Cabin passage per steamer, Honolulu to Victoria and Vancouver, $75.00; and to San Francisco per company's steamer arrangements, if desired, at the same figure.

Second Cabin passage per steamer, Honolulu to Victoria and Vancouver, $25.00.

Cabin passage per steamer to Fiji, $87.50; to Sydney, $150.00.

Second Cabin passage per steamer to Fiji, $50.00; to Sydney, $75.00.

Cabin passage by sailing vessel, to or from San Francisco, $40.00, or $25.00 by steerage.

Cabin passage per steamer, Honolulu to Hongkong or Japan, $250.00.

Steamers to and from San Francisco are two or more every three weeks—one direct and return, the others en route to or from the Colonies.

Steamers of the Canadian-Australian line to and from Vancouver are also two every four weeks.

Steamers from San Francisco to Japan and China, and *vice versa*, touch regularly at this port en route, and with the combined service of the Pacific Mail, Occidental & Oriental and Toyo Kisen Kaisha S. S. lines afford almost weekly communication.

INTER-ISLAND PASSAGE RATES.

Cabin Passage per Steamers, from Honolulu to

Lahaina, Maui	$ 5 00
Kahului or Hana, Maui	7 00
Maalaea, Maui	6 00
Makena, Maui	8 00
Mahukona or Kawaihae, Hawaii	10 00
Kukuihaele, Honokaa or Paauhau, Hawaii	10 00
Laupahoehoe or Hilo, Hawaii	12 50
Kailua or Kealekekua, Hawaii	11 00
Honuapo or Punaluu, Hawaii	13 00
Koloa, Nawiliwili, Hanalei, Kilauea or Kapaa, Kauai, each	7 00

Round trip tickets are usually obtained at a fair reduction, with privilege of getting off at any port along the route.

CARRIAGE FARE.

Carriage fare from steamer to hotel, for either one or two passengers . . . . . $ 25

Each additional passenger	10
Carriage fare in shopping, or making calls, including detentions,—per hour:	
One passenger	1 00
Two passengers	1 50
Three passengers	2 00
Four passengers	2 50
For each additional hour, when more than one passenger, 50 cents each.	
Carriage fare per hour, continuous driving, one passenger	1 50
" " " " " " two passengers	2 00
" " " " " " three passengers	2 50
" " " " " " four passengers	3 00
Specially for the Pali, one passenger each way	3 00
" " " " two passengers each way	4 00
" " " " three passengers each way	5 00
" " Kapiolani Park, one passenger each way	1 00
" " " " two passengers each way	1 50
" " " " three passengers each way	2 00

Special Punchbowl drives, round trip, one passenger, $1.50; two passengers, $2.50; three passengers, $3.00.

The foregoing rates are for between the hours of 5 A. M. to 11 P. M. At other hours the rates of fare may be doubled. No driver is compelled to take a single fare beyond the two mile limit, except by special bargain. When two or more offer, the regular fare must be accepted.

Good saddle horses may be engaged by the hour at one dollar or less, according to length of time.

Bicycles can be rented from several cycle agencies at moderate rates, by the day, or hour.

HOTEL RATES.

Hotel rates for room and board range from $3.00 to $5.00 per day. Private accommodations, in various parts of the city, are obtained at prices ranging from $10.00 per week up.

CURRENT MONEY.

American and Hawaiian currency is the standard throughout

the islands. Other coins may be exchanged at the banks at about the United States Treasury ruling rates.

TAXES.

The annual taxes of the country consist of: Poll, $1.00; school, $2.00, and road, $2.00. Owners of carriages pay $5.00 each. The dog tax is $1.00. Real and personal property pays a tax of 1 per cent. upon its cash value as of January 1st of each year, and a tax of 2 per cent. is levied on all incomes and profits of business exceeding $1,000 per annum.

The natives of the windward side of this island have a tradition that Kahuku, the north-eastern point of Oahu, was a section of land that drifted in from the sea and was caught by the people of the Koolauloa district by its two loko's and drawn in to the shore and made fast. In evidence thereof, the hollow sound of this section of the district as one rides over the ground is mentioned, and the coast character of the alleged ancient shore, now far inland, is referred to as conclusive proof.

Mention is made in the history of the house of H. Hackfeld & Co. in this issue, of the brig *Wilhelmine,* formerly the ketch *Basilisk,* as a vessel with an interesting past. This is plainly indicated in the following paragraph, met with in an early number of the *Polynesian*:

"H. B. M.'s Ketch *Basilisk.*—This vessel, so famed in Tahitian history, as being for a year or more an ark of refuge to Queen Pomare and a bone of contention between the French and English at the Society Islands, after having been condemned and sold here, and rebuilt and laying idle in our harbor for two years, has been sold to a mercantile house for a voyage to Mexico, her rig being changed to a herm brig."

POSTAL SERVICE, TERRITORY OF HAWAII.

Corrected to December 1st, 1901.

Geo. D. Linn, Inspector in Charge.
Geo. W. Carr, Asst. Supt. Railway Mail Service.
Jos. M. Oat, Postmaster.
Louis T. Kenake, Cashier; Wm. I. Madeira, Asst. Postmaster; W. Hanna, Chief Registry Clerk; Z. T. Banks, Chief Money Order Clerk; W. C. Kenake, Chief Mailing Clerk; W. S. Marchant, Chief Distributor.

POSTMASTERS ON HAWAII.

Hilo ..... L. Severance
Pepeekeo ..... E. N. Deyo
Honomu ..... Wm. Hay
Kawaihae ..... W. Hookuanui
Mahukona ..... Jno. S. Smithies
Kukuihaele ..... W. Horner
Kamuela ..... Miss E. W. Lyons
Kohala ..... Miss M. R. Woods
Paauilo ..... Anthony Lidgate
Laupahoehoe .... E. W. Barnard
Ookala ..... W. G. Walker
Honokaa ..... A. B. Lindsay
Kapoho ..... W. H. C. Campbell
Mountain View ... E. L. Rackliff
Kalapana ..... H. E. Wilson
Volcano House ..... F. Waldron
Holualoa ..... P. M. Snodgrass
Kailua ..... Chas. B. Hall
Keauhou ..... H. L. Kawewehi
Kealakeakua ..Miss M. Wassman
Napoopoo ..... R. Wassman
Hoopuloa ..... D. L. Keliikuli
Hookena ..... Jno. K. White
Pahala ..... T. C. Wills
Hilea ..... Jno. C. Searle
Honuapo ..... Geo. Dawson
Waiohinu ... Anna H. McCarthy
Naalehu ..... G. C. Hewitt
Punaluu ..... Wm. Fennell
Hakalau ..... D. McKenzie
Olaa ..... F. B. McStocker
Papaaloa ..... Alfred C. Palfrey

POSTMASTERS ON MAUI.

Lahaina ..... Arthur Waal
Wailuku ..... T. B. Lyons
Makawao ..... Jas. Anderson
Hana ..... N. Omsted
Hamoa ..... J. R. Myers
Spreckelsville .... W. J. Lowrie
Ulupalakua .... F. P. Rosecrans
Keokea ..D. Kapohakukimohewa
Kaupo ..... J. S. Garnett
Makena ..... J. M. Napoula
Kihei ..... E. A. Bammberger
Kipahulu ..... A. Gross
Kahului ..... R. W. Filler
Paia ..... D. C. Lindsay
Hamakuapoko .. W. F. Mossman
Pauwela ..... Miss M. Kapehi
Peahi ..... T. K. Pa
Waihee ..... Lucy Kaleikau
Nahiku ..... N. E. Lemmon
Keanae ..... D. P. Kapewa
Waiakoa .... Chas. E. Copeland

POSTMASTERS ON OAHU.

Aiea ..... James A. Low
Pearl City ..... J. P. Keppler
Honouliuli ..... Geo. F. Renton
Waipahu ..... H. D. Johnson
Waianae ..... R. L. Gilliland
Waialua ..... W. W. Goodale
Laie ..... Joshiah Keaulana
Kaalaea ..... J. K. Maawe
Hauula ..... Moses Aalona
Waimanalo ..... A. Irvine
Kahuku ..... H. K. Oana
Heeia ..... Frank Pahia
Wahiawa ..... L. G. Kellogg
Haleiwa ..... C. P. Iaukea
Waikane ..... Saml. Kaiwi

POSTAL SERVICE—CONTINUED.

POSTMASTERS ON KAUAI.

Lihue	W. T. Lucas	Kapaa	Levi P. Kauhoe
Koloa	M. A. Rego	Kealia	Jno. W. Neal
Hanapepe	H. H. Brodie	Kilauea	Jno. Bush
Makaweli	J. A. Palmer	Kekaha	— Arndt
Mana	N. Mejdell	Waimea	C. B. Hofgaard
Eleele	J. S. Sylva	Hanalei	C. H. Willis

POSTMASTERS OF MOLOKAI AND LANAI.

Kamalo	D. McCorriston	Keomoku	Sidney C. Biddell
Pukoo	J. H. Mahoe	Kalawao	Wm. Clark
Kaulawai	Jane W. Munro	Kalaupapa	J. S. Wilmington

POST OFFICE INFORMATION.

Office hours of the General Delivery are from 6 a. m. to 12 o'clock midnight. On legal holidays the time is from 8 a. m. to 9 a. m. On Sundays, from 10 to 11 a. m.

Hours of the Stamp and Registry Departments are from 8 a. m. to 6 p. m., and of the Money Order Department from 9 a. m. to 5 p. m.

The General Delivery is open (except Sundays and holidays) from 6 a. m. till midnight, for the delivery of mail, registering of letters and issuance of Money Orders.

Inter-Island mails close forty-five minutes before the sailing of steamers. For foreign ports the ordinary mail closes one hour prior to steamer's departure.

RATES OF POSTAGE; DOMESTIC.

First class matter (letters, etc.)	2 cents per oz. or fraction
Second class (newspapers and periodicals)	1 cent per oz., or fraction
Third class (books, circulars)	1 cent per 2 oz. or fraction
Fourth class (merchandise—limit of weight 4 lbs.)	1 cent per oz. or frac.
Registration Fee (additional postage)	8 cents.
Immediate Delivery Stamp (additional to postage)	10 cents
Postal Cards	1 cent each

FOREIGN POSTAGE.

The rates to all foreign countries except Canada and Mexico are: Letters—per half ounce or fractional part, 5 cents; second and third class matter, 1 cent for each 2 ounces or part. Postal Cards, 2 cents each.

Parcels of Merchandise, 12 cents per pound. Limit of weight, 11 pounds.

REFERENCE LIST OF PRINCIPAL ARTICLES

That have appeared in the Hawaiian Annuals, 1875-1901.

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[In consequence of the frequent enquiry for various articles that have appeared in earlier Annuals; their time of issue, etc., with the request that an index thereof be compiled for handy reference, we have classified the principal articles published therein during the past twenty-seven years, under their respective subjects, and trust the list will prove helpful to many. Interest and value is added thereto by giving, for the first time in most cases, their author, with the years' Annual wherein it appeared, which may be readily found by the page reference here given. Editor.]

AGRICULTURAL.

History of the Sugar Industry of Hawaiian Islands, by T. G. T., 1875, p. 34.

History of Coffee Culture in Hawaiian Islands, by T. G. T., 1876, p. 46; 1895, p. 63.

History of Rice Culture in Hawaiian Islands, by T. G. T., 1877, p. 45.

The Hawaiian Islands as a Sugar producing country, by T. G. T., 1879, p. 27.

Varieties of Sweet Potato, by T. G. T., 1879, p. 30.

Varieties of Taro, by T. G. T., 1880, p. 28; Taro, by T. G. T., 1887, p. 63.

Cultivated sugar canes of the Hawaiian Islands, by A. C. Smith, 1882, p. 61.

Something about Bananas, by Walter Hill, 1883, p. 62.

Fruits and their seasons in the Hawaiian Islands, List of, by T. G. T., 1886, p. 49.

Introduction of Queensland Canes, by C. N. Spencer, 1889, p. 91.

Hawaiian varieties of Bananas, by T. G. T., 1890, p. 79.

Lapsed and possible industries in Hawaii-nei, by T. G. T., 1893, p. 105.

Bureau of Agriculture and Forestry, by T. G. T., 1894, p. 92.

Diversified Industries, by Jos. Marsden, 1894, p. 94.

Coffee outlook in Hawaii, by T. G. T., 1895, p. 65; in Hamakua, 1899, p. 131.

Cotton, a possible Hawaiian industry, by L. D. Timmons, 1898, p. 57.

Sugar as an industry for the Hawaiian Islands, by J. B. Atherton, 1898, p. 106.

Coffee the coming industry, by L. D. Timmons, 1898, p. 109.

Agricultural possibilities, by W. N. Armstrong, 1898, p. 114.

Kona, Hawaii, its possibilities, by T. G. T., 1899, p. 127.

COMMERCIAL.

EDUCATIONAL.

HISTORICAL.

RESEARCH.

REMINISCENT.

FLORA AND FAUNA.

FOLK LORE.

REFERENCE.

LABOR AND IMMIGRATION.

IMPROVEMENTS.

VOLCANO.

MUSIC.

CLIMATE.

DESCRIPTIVE.

MISCELLANEOUS.

ELECTION RETURNS—GEN'L. ELECTION OF NOV. 6, 1900.

For Delegate to Congress, and Territorial Senators and Representatives, received by the Secretary of the Territory from the Chairmen of the Inspectors of Election.

DELEGATE, SENATORIAL AND REPRESENTATIVE—For Island of Hawaii.

DELEGATE 56TH CONG.	PRECINCTS 1ST DISTRICT.								PRECINCTS 2ND DISTRICT.							TOTAL.
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	
Kawananakoa, D.	6	85	2	3	28	17	5	10	28	5	15	30	53	30	12	329
Parker, Samuel. ..	21	200	19	25	37	37	54	21	119	54	43	101	52	60	39	882
Wilcox, R. W.	112	224	71	44	8	7	12	71	150	14	122	66	91	70	17	1079
FULL TERM 57TH CONG.																
Kawananakoa, D	5	79	3	4	30	17	5	9	32	7	12	23	47	28	17	318
Parker, Samuel ..	21	207	20	26	36	39	51	19	112	50	40	107	56	63	36	883
Wilcox, R. W.....	111	220	70	42	5	8	15	73	159	16	131	70	90	64	16	1090

SENATORS 1ST SENATORIAL DIST.	PRECINCTS 1ST DISTRICT								PRECINCTS 2ND DISTRICT.							TOTAL.
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	
Blacow, C R....R	12	126	13	19	30	29	33	11	31	12	14	18	9	5	2	364
Brown, J. T... HR	122	281	65	44	18	19	17	60	118	8	80	37	81	26	12	988
Desha, S. L.....I	45	225	23	10	13	5	5	12	42	15	45	95	28	6	2	571
Holstein, H. L...R	19	119	10	15	35	27	26	17	132	25	54	103	77	68	18	745
Kaiaiki Chas. ...I	10	15	4	2	....	5	5	4	21	11	79	60	16	9	1	242
Kaohi, J. B,...HR	86	134	57	43	3	5	11	46	167	17	123	53	98	41	3	887
Kauhane, Sam .D	9	34	2	5	19	18	17	10	61	17	42	23	102	137	42	538
Lobenstein, A.B R	24	223	26	27	42	33	35	27	30	46	9	14	9	18	28	591
Paris, J. D..... R	19	150	8	15	26	34	31	11	60	29	78	158	86	61	43	809
Rickard, H. S... D	1	32	1	4	51	12	12	11	24	4	4	12	11	12	8	199
Russel, Dr. N. HR	101	205	68	45	11	7	7	57	122	16	53	44	83	48	6	873
West, Henry ..HR	101	170	62	41	6	6	3	46	88	4	69	29	73	18	1	712
Woods, Palmer..D	3	56	3	4	18	12	26	20	150	46	86	81	76	88	45	714
REPRESENTATIVES 1ST REP. DIST.																
Ewaliko, J.... HR	96	295	74	44	9	6	5	61	....	....	....	....	....	....	....	590
Haaheo, S. H..HR	124	252	66	44	28	28	22	70	....	....	....	....	....	....	....	634
Koahou, K. M....I	6	33	12	2	13	5	4	6	....	....	....	....	....	....	...	81
Lewis, J. D..... R	16	233	8	17	29	23	30	7	....	....	....	....	....	....	....	363
Makekau, R H HR	125	225	71	47	39	33	29	97	....	....	....	....	....	....	....	666
Mattoon, Jas... R	14	117	12	23	51	21	20	7	....	....	....	....	....	....	....	265
Nailima, W. B.HR	98	309	65	43	24	17	7	60	....	....	....	....	....	....	....	623
Purdy, Wm. N...D	3	23	....	5	14	27	46	16	....	....	....	....	....	....	....	134
Rycroft, R. H... R	59	185	10	22	26	24	23	7	....	....	....	....	....	....	...	356
Williams, Chas. R	13	130	11	19	28	38	45	32	....	....	....	....	....	....	....	316
2ND REP. DIST.																
Fraser, E. A.... R	....	....	....	....	....	....	....	....	110	28	19	27	8	6	1	199
Kamauoha, G P,R	....	....	....	....	....	....	....	....	58	16	53	141	79	44	43	434
Kanehailua, S.D. I	....	....	....	....	....	....	....	....	158	16	9	21	9	3	....	216
Kaniho, H M..HR	....	....	....	....	....	....	....	....	208	29	125	73	88	32	....	555
Kekaula, J.K. HR	....	....	....	....	....	....	....	....	43	6	114	75	100	133	20	491
Keliikoa, J.W HR	....	....	....	....	....	....	....	....	135	12	151	85	137	25	2	547
Lenhart, J. C... R	....	....	....	....	....	....	....	....	45	18	44	86	20	17	32	262
Malulani, H.P K. I	....	..	....	....	....	....	....	....	16	1	3	14	2	3	1	40
Martin, J. H. S...D	....	....	....	....	....	....	....	....	43	22	23	22	22	115	13	260
Monsarratt, J. ..R	....	....	....	....	....	....	....	....	69	44	67	93	63	115	67	518
Naopc, C. G. ..HR	..	....	....	....	....	....	....	....	109	19	76	57	130	16	1	408
Ne, S. H.K. ... D	....	....	....	....	....	....	....	....	28	5	5	7	6	7	3	61
Wright, Wm. J... I	....	....	....	....	....	....	....	....	39	18	51	64	113	72	43	400

GENERAL ELECTION RETURNS—*Continued.*

DELEGATE, SENATORIAL AND REPRESENTATIVE.

For Islands of Maui, Molokai and Lanai.

DELEGATE UNEXPIRED 56TH CONG.	VOTING PRECINCTS													TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	
Kawananakoa, D.....	78	32	53	19	37	58	13	2	9	47	1	23	16	388
Parker, Samuel	66	23	30	6	14	113	54	11	32	112	31	56	33	581
Wilcox, R.W.	46	60	93	....	22	212	6	43	50	35	67	60	17	711
FULL TERM 57 CONG.														
Kawananakoa, D.....	77	34	58	17	36	56	11	3	10	52	1	21	17	393
Parker, Samuel.....	69	21	30	7	15	112	54	11	32	108	30	57	34	580
Wilcox, R. W.	48	67	90	....	23	214	6	38	49	33	68	61	17	714
SENATORS 2ND SENATORIAL DIST.														
Baldwin, H. P..... R	88	36	43	4	38	117	55	12	42	141	34	63	38	711
Clark, Thos..... D	67	28	52	13	25	49	9	3	8	42	3	16	12	327
Cockett, C. B..... HR	46	45	89	1	25	167	2	38	30	22	58	54	13	590
Cornwell, W. H..... D	70	17	67	14	18	92	18	6	11	47	2	13	11	386
Kaiue, Samuel ..HR	43	94	83	3	26	207	9	42	50	38	64	68	19	746
Kepoikai, A. N. ....R	76	22	27	5	18	110	53	9	36	109	31	53	35	584
Lyons, T. B..... D	60	8	35	9	12	99	7	1	8	37	1	12	11	300
Reuter, M. H.....R	61	11	11	...	12	60	39	9	29	102	27	73	35	469
White, Wm.....HR	46	67	91	5	27	161	5	38	35	30	58	62	14	639
REPRESENTATIVES 3RD REP. DISCT.														
Ahulii, Iokua.....HR	37	41	62	....	21	165	4	40	37	30	69	76	13	595
Beckley, F. W.... HR	89	83	87	....	26	200	5	42	41	46	67	91	22	799
Dickey, C. H..... R	69	25	31	....	16	114	55	11	25	129	33	58	28	604
Eldredge, D. P ... D	63	18	13	....	5	....	2	2	1	12	1	....	....	117
Forsyth, A. K..... I	10	2	9	1	5	124	3	39	54	17	....	55	12	331
Hayselden, F. H....D	72	19	79	20	30	69	12	2	9	36	7	15	11	381
Hihio, J. K.....HR	47	58	89	1	44	176	5	44	46	28	68	69	15	690
Hons, Geo..... R	61	13	37	2	11	125	58	9	33	105	28	58	24	559
Kahaulelio, D. H....R	65	45	29	2	18	89	43	9	28	107	25	52	30	542
Kahaulelio, D K. HR	54	50	98	1	20	67	10	2	2	31	15	12	25	387
Kauimakaole, G.P HR	44	45	61	....	30	142	4	40	34	27	64	83	16	590
Kawaihoa, Sol.... HR	45	71	72	....	24	183	4	40	37	25	61	61	16	639
Long, Henry..... R	61	13	19	2	19	85	49	7	31	107	26	53	29	501
Naki, Paia ..... D	72	61	38	10	21	47	10	1	5	41	....	9	12	327
Nakila, J. K ..... R	64	19	23	2	15	90	47	10	33	102	32	59	39	535
Nui J. Hapai..... D	69	17	41	12	23	64	12	2	16	74	4	11	15	360
Pali, Phillip.... R	60	17	84	5	40	82	45	9	28	103	22	52	28	575
Richardson, John.. D	66	30	52	10	27	68	10	1	6	33	3	17	13	336

GENERAL ELECTION RETURNS—*Continued.*

DELEGATE AND SENATORIAL

For Island of Oahu.

DELEGATE UNEXPIRED 56TH CONG.	PRECINCTS 4TH DISTRICT							PRECINCTS 5TH DISTRICT.										TOTAL
	1	2	3	4	5	6	7	1	2	3	4	5	6	7	8	9	10	
Kawananakoa, David.....	54	98	73	119	78	36	8	11	25	26	32	4	27	48	37	61	49	786
Parker, Samuel	202	474	77	358	156	106	7	64	45	55	32	35	102	172	124	149	65	2223
Wilcox, Robert W..... ...	152	236	138	112	193	30	18	58	121	69	28	12	106	291	196	136	78	1974
FULL TERM 57TH CONG.																		
Kawananakoa, David	53	103	73	118	85	35	8	10	19	25	33	5	28	51	34	66	48	795
Parker, Samuel	211	472	77	347	161	106	7	67	47	55	32	37	99	170	127	140	63	2218
Wilcox, Robert W.	152	232	140	109	205	30	18	57	125	74	27	10	105	295	192	133	79	1983
SENATORS 3RD SENATORIAL DISTRICT.																		
Achi, W. C. .....R	179	396	75	281	139	77	4	74	55	58	41	28	73	187	144	124	82	2017
Auld, William .....D	52	101	65	123	66	41	3	5	18	24	23	8	26	72	54	75	48	804
Bipikane, J. W.....HR	11	17	14	12	7	3	6	8	13	8	4	3	9	11	3	9	3	141
Boyd R. N.....HR	127	217	123	117	172	24	19	41	112	52	29	8	100	257	157	121	71	1747
Brown, Cecil.... .....R	205	479	86	333	138	109	7	71	63	52	28	38	76	169	119	140	62	2175
Carter, Geo. R..... .....R	185	421	79	306	140	91	9	72	49	49	34	34	73	151	98	138	55	1984
Carter, Joseph O .....D	105	216	88	204	103	62	9	11	31	29	29	13	75	92	55	109	78	1309
Crabbe, Clarence L. .....R	191	453	72	351	149	110	9	65	43	46	29	28	72	155	118	136	54	2081
Fernandez, Abraham .....D	51	99	68	112	69	39	1	8	23	20	15	8	14	90	41	59	38	755
Holt, John D. Jr .....D	58	137	61	185	71	44	2	8	21	25	26	7	27	68	42	70	74	926
Isenberg, D. P. R.....D	90	188	78	188	87	65	5	11	15	24	21	10	66	64	39	77	59	1087
Kalauokalani, D..... HR	142	236	137	118	194	27	24	55	125	69	40	9	137	296	179	129	76	1993
Kanuha, David. .....HR	131	216	134	105	189	24	18	51	118	53	34	10	130	287	178	125	68	1871
Kaulia. Jas. K.....HR	139	225	124	100	173	22	21	46	111	57	31	7	101	274	177	129	75	1812
Lilikalani, E. K. ..... D	54	66	49	78	65	16	5	7	17	31	24	3	13	42	32	49	41	592
Pahia, Frank..... ... R	165	362	67	258	123	68	13	93	59	48	30	26	69	160	110	104	53	1808
Pua, S. K.... .....HR	130	220	117	103	181	27	22	49	113	60	33	10	122	269	192	121	76	1845
Rowe, E. C.....HR	115	185	108	100	146	31	14	39	94	46	22	8	105	225	141	102	66	1547
Waterhouse, Henry .....R	167	349	58	237	116	77	4	72	37	48	25	28	91	132	88	109	33	1671

GENERAL ELECTION RETURNS—*Continued.*

REPRESENTATIVES ISLAND OF OAHU.

4th and 5th Rep. Districts.

REPRESENTATIVES 4TH DISTRICT.	VOTING PRECINCTS 4TH DISTRICT.							TOTAL
	1	2	3	4	5	6	7	
Aylett, R W.....R	182	387	73	298	124	90	3	1157
Booth, Chas. W.....D	61	116	94	133	67	33	6	510
Hush, John E.....D	51	105	73	119	73	38	3	462
Camara, J. M.....D	53	124	75	149	68	51	4	524
Clark, Joseph K.....HR	137	192	108	95	172	22	17	743
Gilfillan, A. F.....R	187	445	74	330	140	103	7	1286
Haiola, P.....I	12	33	16	17	21	2	18	119
Hoogs, W. H.....R	182	450	80	314	146	100	5	1277
Kailimai, W. H.....HR	139	220	123	96	190	24	22	814
Kalauokalani, D. K.....HR	146	238	140	125	201	28	25	903
Keiki, J. K. K.....R	178	346	66	250	104	66	6	1016
Kumalae, Jonah.....R	167	394	66	256	132	70	6	1091
Macfarlane, E. C.....D	93	151	85	172	92	48	9	650
Meheula, Solomon.....HR	120	190	125	102	173	22	19	751
Nakookoo, Jno. K.....HR	125	215	113	98	185	26	20	782
Quinn, J. C.....HR	151	247	130	125	201	43	17	914
Robertson, A. G. M.....R	184	422	72	316	135	102	4	1235
Spencer, S. Wm.....D	32	77	45	89	69	26	2	340
Wise, John H.....D	66	133	74	152	99	41	2	567

REPRESENTATIVES 5TH REP. DISTRICT.	VOTING PRECINCTS 5TH DISTRICT.										TOTAL
	1	2	3	4	5	6	7	8	9	10	
Brown, Frank.....D	12	24	30	18	16	69	67	34	74	61	405
Coelho, Wm. J.....R	54	48	43	32	26	64	135	101	99	32	634
Damon, Samuel M.....D	17	27	30	32	21	78	118	71	118	81	593
Emmeluth, John.....HR	45	122	69	28	11	96	244	167	128	78	988
Harvey, Frank R.....D	11	25	26	24	11	51	106	71	75	57	457
Hitchcock, H. R.....R	58	39	43	27	25	68	169	119	118	50	716
Holt, R. Wm.....D	16	23	30	27	9	29	75	37	66	41	353
Johnson, Enoch.....R	60	47	48	31	20	64	141	118	111	78	718
Kaulukou, J. L.....R	63	48	43	30	28	72	142	109	121	67	723
Lane, John C.....R	64	47	41	28	31	93	146	119	110	50	729
Mahoe, S. K.....HR	58	123	86	40	6	97	248	168	115	73	1014
Makainai, Jesse P.....D	52	122	83	51	14	105	298	188	149	110	1172
Markham, Geo.....HR	10	17	29	10	1	18	19	16	16	3	139
McCandless, L. L.....R	54	38	42	28	35	94	143	104	118	46	702
Mikalemi, Edw. B.....I	10	8	4	5	3	11	20	9	11	5	86
Mossman, H J.....D	10	25	18	16	10	24	76	51	57	55	342
Mossman, Wm. Jr.....HR	50	114	62	33	10	123	244	157	118	80	991
Paele, Jas. K.....HR	49	97	41	9	6	83	243	165	115	66	874
Poepoe, J. M.....I	4	28	8	8	2	15	39	21	42	8	175
Prendergast, J. K.....HR	44	103	63	32	7	119	264	153	111	84	970

GENERAL ELECTION RETURNS—*Continued.*

ISLAND OF KAUAI.

DELEGATE UNEXPIRED 56TH CONG.	VOTING PRECINCTS.									TOTAL
	1	2	3	4	5	6	7	8	9	
Kawananakoa, David ..	.....	4	9	14	21	44	13	6	36	147
Parker, Samuel.....	17	2	37	12	7	55	15	8	17	170
Wilcox, R. W.	4	26	80	32	24	43	51	13	46	319
FULL TERM 57TH CONG.										
Kawananakoa, D.	2	4	10	13	23	41	16	5	36	150
Parker, Samuel	15	2	39	11	7	56	14	7	13	164
Wilcox, R. W.....	4	26	76	36	22	47	51	13	46	321
SENATORS 4TH SENATORIAL DIST.										
Bishop C. H. .....D	4	1	12	10	14	42	13	5	37	138
Kahilina, I.... ... HR	6	26	69	35	26	23	48	19	47	299
Nakapaahu, Luka ..HR	4	31	89	39	31	22	45	13	43	317
Rice, W. H.....R	15	3	30	16	10	78	16	9	18	195
Wilcox, G. N.....R	12	5	30	16	20	95	25	7	34	244
REPRESENTATIVES 6TH REP. DISTRICT.										
Akina, J. A.	4	27	112	38	4	16	51	10	29	291
Blake, Chas.....	2	4	7	6	44	15	12	14	19	123
Kaauwai, I. K.....	6	24	73	32	5	19	51	8	26	244
Kaeo, S. K.	16	2	28	3	3	58	12	5	4	131
Kaili, S. K	2	2	10	7	7	59	13	6	60	166
Kalawaia, D. L.....	3	1	7	8	9	38	14	6	28	114
Knudsen, E. A.....	15	5	31	9	4	53	6	5	7	135
Leleiwai, J. B. K	3	25	75	43	2	13	38	4	21	224
Mika, A. K.....	4	1	1	5	31	20	3	13	24	102
Puuki, R....	2	25	79	38	20	34	52	19	52	321
Puni, Jaseph.....	.....	3	1	3	26	13	4	9	6	65
Sheldon, W. J.....	.....	1	20	10	11	19	10	4	25	100
Waialeale, R.....	11	.....	5	2	16	6	.....	1	1	42
Wenner, Wm. Jr.....	4	.....	.....	3	.....	5	.....	...	.....	12
Wilcox, S. W	14	4	34	15	20	104	19	10	37	257

SUMMARY OF RETURNS FOR DELEGATE TO 56TH AND 57TH CONGRESS.

	HAWAII	MAUI, ETC.	OAHU	KAUAI	TOTAL
Kawananakoa, D. .....D	329	388	786	147	1650
Parker, Samuel .....R	882	581	2223	170	3856
Wilcox, R. W .....HR	1079	711	1974	319	4083
Kawananakoa, D. .....D	318	393	795	150	1656
Parker, Samuel .....R	883	580	2218	164	3845
Wilcox, R. W.....HR	1090	714	1983	321	4108

Initials D, H R, I and R, indicate Democrat, Home Rule, Independent and Republican candidates,

COURT CALENDAR.

The several terms of Circuit Court are held chronologically throughout the year as follows:

First Wednesday in January, in the town of Hilo, Island of Hawaii; first Monday in February, in the city of Honolulu, Island of Oahu; first Wednesday in March, in Lihue, Island of Kauai; first Wednesday in April, in the town of Kailua, N. Kona, Island of Hawaii; first Monday in May, in the city of Honolulu, Island of Oahu; first Wednesday in June, in the town of Wailuku, Island of Maui; first Wednesday in July, in the town of Honokaa, Island of Hawaii; first Monday in August, in the city of Honolulu, Island of Oahu; first Wednesday in September, in Lihue, Island of Kauai; first Wednesday in October, in North Kona, Island of Hawaii; first Monday in November, in the city of Honolulu, Island of Oahu; first Wednesday in December, in the town of Lahaina, Island of Maui.

By Circuits the several terms are held as follows:

First Circuit—Island of Oahu.

On the first Monday of February, May, August and November.

Second Circuit—Island of Maui.

On the first Wednesday of June, in Wailuku, and on the first Wednesday of December in Lahaina.

Third Circuit—Island of Hawaii.

(Hawaii is divided into two circuits.)

On the first Wednesday of April, in Kailua, N. Kona, and on the first Wednesday of October, in North Kohala.

Fourth Circuit—Island of Hawaii.

On the first Wednesday of January, in Hilo, and on the first Wednesday of July, in Honokaa.

Fifth Circuit—Island of Kauai.

On the first Wednesdays of March and September, in Lihue.

The terms of the Circuit Courts may be continued and held from the opening thereof respectively until and including the twenty-fourth day thereafter, excepting Sundays and legal holidays. Provided, however, that any such term may be extended by the presiding judge for not more than twelve days thereafter.

SUPREME COURT.

The Supreme Court by last Act, Laws of 1901, opens its only term throughout the year on the first Monday of October, and thereafter continues to hold sessions.

REGISTRY AND DIRECTORY FOR 1902.

(Corrected to December 12, 1901.)

TERRITORIAL OFFICIALS.

Sanford B. Dole ..... Governor
H. E. Cooper ..... Secretary
E. P. Dole ..... Attorney-General
W. H. Wright ..... Treasurer
J. H. Boyd ..... Supt. Public Works
A. T. Atkinson .. Supt. Public Instruction
E. S. Boyd ..... Commr. Public Lands
W. Taylor..Commr. Agricul. and Forestry
A. G. Hawes, Jr....Private Secy. to Gov.

R. W. Wilcox ..... Delegate to Congress

LEGISLATIVE BODY.

SENATORS.

Hawaii—J. D. Paris, Jno. Brown, J. B. Kaohi, Dr. N. Russel.
Maui—H. P. Baldwin, Wm. White, S. E. Kaiue.
Oahu—Cecil Brown, C. L. Crabbe, W. C. Achi, G. R. Carter, D. Kalauokalani, D. Kanuha.
Kauai—I. Kahilina, L. Nakapaahu.

REPRESENTATIVES.

Oahu—W. Aylett, A. F. Gilfillan, W. H. Hoogs, J. W. Keiki, J. Kumulae, A. G. M. Robertson, W. Mossman, S. K. Mahoe, J. Emmeluth, J. K. Paele, J. K. Prendergast, J. P. Makainai.
Maui—C. H. Dickey, S. Kawaihoa, J. K. Hihio, F. W. Beckley, J. Ahulii, G. P. Kauimakaole.
Hawaii—J. Monsarrat, R. H. Makekau, W. B. Nalima, S. H. Haaheo, H. M. Kaniho, J. W. Keliikoa, **J Lewis, J. K. Kekaula.**
Kauai—J. A. Akina, S. W. Wilcox, J. Kawai, Jos. Puni.

NATIONAL GUARD OF HAWAII.

Commander in Chief..Governor S. B. Dole
Adjutant General Staff .....
.....Lieut. Col. John H. Soper
Paymaster ..... Major J. W. Pratt
Ordnance Officer ..... **Capt.** E. O. White
Aide-de-Camp ..... Capt. L. T. Kenake
Aide-de-Camp ..... Capt. H. Berger
Aide-de-Camp.....Capt. C. H. Atherton
Aide-de-Camp.....Capt. A. G. Hawes, Jr.

MILITARY DIVISION FIRST REGIMENT NATIONAL GUARD OF HAWAII.

Field and Staff.

Colonel J. W. Jones.
Lt. Col. C. J. McCarthy.
Major C. W. Ziegler.
Major J. M. Camara.
Major C. B. Cooper, Surgeon.
Captain Jno. Schaefer, Adjutant.
Captain W. G. Ashley, Quartermaster.
Captain Thos. E. Wall, Ordnance Officer.
Captain C. L. Garvin, Assistant Surgeon.
Captain R. P. Myers, Assistant Surgeon.
1st Lt. B. H. Wright, Battalion Adjutant.
1st Lt. E. H. Boyen, Battalion Adjutant.

Line Officers.

Company "A."

Captain ..... Henry Klemme
1st Lieut. ..... F. A. Smith
2nd Lieut ..... E. L. Berndt

Company "B."

Captain ..... W. R. Riley
1st Lieut. ..... J. B. Gorman
2nd Lieut. ..... A. H. Moore

Company "C."

Captain ..... J. A. Gonsalves
1st Lieut ..... J. Machado
2nd Lieut. ..... T. P. Melim

Company "D," (at Hilo).

Captain ..... W. A. Fetter
1st Lieut. ..... Hermann Ludloff
2nd Lieut. ..... W. H. Beers

Company "E."

Captain ..... L. J. Nahora-Hipa
1st Lieut. ..... J. K. Mauloa
2nd Lieut. ..... Thos. Kakalia

Company "F."

Captain ..... Sam'l. Johnson
1st. Lieut. ..... J. W. Short
2nd Lieut. ..... W. W. Carlyle

Company "G."

Captain ..... Chas. Wilcox
1st Lieut. ..... Gus Rose
2nd Lieut. ..... S. K. Kamaiopili

Company "H."

Captain ..... T. B. Murray
1st Lieut. ..... Peter Travens
2nd Lieut. ..... J. A. Thompson

Company "I," (at Wailuku.)

Captain ..... J. N. K Keola
1st Lieut. ..... W. R. Boote
2nd Lieut. ..... G. H. Cummings

DEPARTMENT OF JUDICIARY.

SUPREME COURT.

Chief Justice ..... Hon. W. F. Frear
Associate Justice....Hon. C. A. Galbraith
Associate Justice ..... Hon. A. Perry

Clerk Judiciary Department.Henry Smith

First Judge 1st Circuit, Oahu .....
..... Hon. A. S. Humphreys
Second Judge 1st Circuit, Oahu .....
..... Hon. Geo. D. Gear
Second Circuit, Maui....Hon. J. W. Kalua
Third Circuit, Hawaii—Hon. W. S. Edings
Fourth Circuit, Hawaii.....
..... Hon. Gilbert F. Little
Fifth Circuit, Kauai ..... Hon. J. Hardy

CLERKS OF SUPREME AND CIRCUIT COURTS.

Henry Smith ..... ex-officio
1st clerk 1st Circuit, Oahu .... Geo. Lucas
2nd clerk 1st Circuit, Oahu .....
..... J. A. Thompson
3rd clerk 1st Circuit, Oahu .....
..... P. D. Kellett, Jr.
4th clerk 1st Circuit, Oahu .....
..... A. G. Kaulukou
Second Circuit, Maui ..... J. N. K. Keola
Third Circuit, Hawaii ..... M. F. Scott
Fourth Circuit, Hawaii ... Daniel Porter
Fifth Circuit, Kauai ..... H. D. Wishard

INTERPRETERS, ETC.

Hawaiian.....Jno. E. Bush, C. L. Hopkins
Chinese ..... Li Cheung
Japanese ..... J. H. Hakuole
Portuguese ..... Jos. Frias
Stenographers: J. W. Jones, Miss Clare De Cew, Honolulu; Miss Frances Washburn, Hilo.

DISTRICT MAGISTRATES.

Oahu.

W. L. Wilcox ..... Honolulu
2nd L. A. Dickey ..... Honolulu
S. Hookano ..... Ewa
J. Kekahuna ..... Waianae
Jno. Kaluhi ..... Koolauloa
A. S. Mahaulu ..... Waialua
E. P. Aikue ..... Koolaupoko

Maui.

W. A. McKay ..... Wailuku
D. Kahaulelio ..... Lahaina
Chas. Copp ..... Makawao
J. K. Iosepa ..... Hana
J. K. Piimanu ..... Kipahulu, Hana
S. E. Kaleikau ..... Honuaula
J. H. Mahoe ..... Molokai
S. Kahoohalahala ..... Lanai

Hawaii.

G. W. A. Hapai ..... Hilo
Asst., Thos C. Ridgway ..... Hilo
R. H. Atkins ..... North Kohala
Z. Paakiki ..... South Kohala
J. K. Makuakane ..... North Hilo
Henry Hall ..... Hamakua
Wm. Kamau ..... Puna
J. H. Waipuilani ..... Kau
Geo. Clark ..... North Kona
S. K. Kaai ..... South Kona

Kauai.

H. K. Kahele ..... Lihue
Wm. M. Kekoa ..... Koloa
John Kakina ..... Hanalei
J. K. Kapuniai ..... Waimea
Z. Kakina ..... Kawaihau

DEPARTMENT OF SECRETARY.

Secretary ..... H. E. Cooper
Chief Clerk of Department .....
..... Miss K. Kelley
Clerks .....
..Misses G. Gurney and Barraclough
Electoral Registrar .. Miss H. A. Austin

FOREIGN REPRESENTATIVES.

Portugal—Consul-General .....
.....Senhor A. de Souza Canavarro
Italy—Consul .....
F. A. Schaefer (Dean of the Consular Corps).
Netherlands ..... H. M. von Holt
Belgium—Acting Consul .... R. F. Lange
Austria-Hungary—Acting Consul ....
..... F. A. Schaefer

Sweden and Norway ..... H. W. Schmidt
Denmark ..... H. R. Macfarlane
Germany ..... J. F. Hackfeld
Mexico—Acting Consul ...F. A. Schaefer
Peru ..... Bruce Cartwright
Chili—Acting Consul ..... H. Focke
Great Britain—Consul ..... W. R. Hoare
Great Britain—Vice-Consul.F. M. Swanzy
Russia—Acting Vice-Consul .....
..... J. F. Hackfeld
Spain—Vice-Consul ..... L. F. Alvarez
France—Consul ..... M. A. Vizzovona
Japan—Consul, Miki Saito; Eleve Consul, S. Hirai.
China—Consul, Yang Wei Pin; Vice-Consuls, Goo Kim Fui and Wong Kwai.

DEPARTMENT OF ATTORNEY-GENERAL.

Attorney-General ..... E. P. Dole
Deputy Atty-General....Jno. W. Cathcart
Asst. to Atty-General .... E. A. Doughitt
Clerk of Department ..... J. M. Kea
Stenographer ..... Miss A. Allen
High Sheriff ..... A. M. Brown
Deputy Sheriff ..... C. F. Chillingworth
Clerk to High Sheriff ..... H. M. Dow
Sheriff of Hawaii ..... L. A. Andrews
Sheriff of Maui ..... L. M. Baldwin
Sheriff of Kauai ..... J. H. Coney
Jailor of Oahu Prison ..... Wm. Henry
Oahu—Deputy Sheriffs: Ewa and Waianae, Antone Fernandez; Waialua, Andrew Cox; Koolauloa and Koolaupoko, F. Pahia.
Kauai—Sheriff, J. H. Coney; Deputy Sheriffs: Lihue, W. H. Rice, Jr.; Kawaihau, C. K. Haae; Hanalei, H. M. V. Bergau; Koloa, W. O. Crowell, Waimea, H. V. Halvorson.
Molokai—Deputy Sheriff, Geo. Trimble.
Maui—Sheriff, L. M. Baldwin; Deputy Sheriffs: Lahaina, C. R. Lindsay; Wailuku, A. N. Hayselden; Makawao, S. Kalama; Hana, F. Wittrock.
Hawaii—Sheriff, L. A. Andrews; Deputy Sheriffs: North Hilo; L. E. Swain; Hamakua, J. Fernandez; South Kohala, S. M. Spencer; North Kohala, Chas. Pulaa; North Kona, J. K. Nahale; South Kona, G. P. Kamauoha; Kau, F. C. Eaton; Puna, J. E. Eldarts; S. Hilo, H. S. Overend.

BOARD OF PRISON INSPECTORS.

F. J. Lowrey, J. S. Walker, G. S. Smithies.

TREASURY DEPARTMENT.

Treasurer ..... W. H. Wright
Registrar of Public Accounts .....
..... Hy. C. Hapai
Auditor ..... H. C. Austin
Deputy Auditor ..... H. C. Meyers
Bookkeeper ..... M. T. Lyons
License Inspector ..... J. Batchelor
License Clerk ..... G. Rose
Corporation Clerk ..... H. Peters
Stenographer ..... G. Ewaliko

ASSESSORS AND DEPUTIES.

1st Division, Oahu.

James W. Pratt ... Assessor 1st Division
Alexander D. Thompson.Deputy for Oahu
James L. Holt...1st Deputy for Honolulu
Makanoe C. Amana .....
..... 2d Deputy for Honolulu
Frank K. Archer .....
..... Deputy for Ewa and Waianae
Edward Hore ..... Deputy Waialua
L. J. Aylett ..... Deputy Koolauloa
Henry Cobbs Adams .....
..... Deputy Koolaupoko No. 1
James Davis...Deputy Koolaupoko No. 2

2d Division, Maui, Etc.

Wm. Tate Robinson .....
..... Assessor 2nd Division
James N. K. Keola .....
..... Deputy for Wailuku
W. O. Aiken.....Deputy for Makawao
A. Gross ..... Deputy for Hana
Geo. S. Dunn ..... Deputy for Lahaina, Molokai and Lanai

3rd Division, Hawaii.

Nathan C. Willfong..Assessor 3d Division
Geo. H. Williams .....
..... Deputy for N. and S. Hilo
Wm. Horner ..... Deputy Hamakua
Henry J. Lyman ..... Deputy Puna
Wm. P. Fennell ..... Deputy Kau
John H. Ahu ..... Deputy S. Kona
J. Kaelemakule ..... Deputy N. Kona
Eben P. Low ..... Deputy N. Kohala
Wilmot Vredenburg ....Deputy S. Kohala

4th Division, Kauai.

E. E. Conant.....Assessor 4th Division
T. Brandt ..... Deputy for Waimea
Henry Blake ..... Deputy for Koloa
W. E. Deverill .....Deputy for Hanalei
J. B. Hanaike ..... Deputy for Lihue
John W. Neal ..... Deputy for Kawaihau

DEPARTMENT OF PUBLIC WORKS.

Superintendent..... J. H. Boyd
Chief Clerk of Department..B. H. Wright
Clerks—Manuel Cook, Chas. Wilcox, O. K. Stillman, C. F. H. Siemsen, Miss N. Barraclough.
Asst. Supt. Public Works... M. Campbell
Supt. Water Works, Honolulu..A. Brown
Clerk Water Works, Honolulu .....
..... E. V. Richardson
Supt. Water Works, Hilo....W. Vannatta
Supt. Water Works, Wailuku..W. E. Bal
Supt. Water Works, Koloa ..... H. Blake

Inspector Electric Lights....W. L. Frazee
Road Supervisor, Honolulu....T. A. Lloyd
Asst. Road Supervisor ..... C. B. Dwight
House Numbering ..... A. E. Murphy
Garbage and Excv. Service.....
..... Saml. Johnson
Harbor Master, Honolulu .....
..... Capt. A. Fuller
Assistants .....
.... Capts. A. F. Marx, A. S. Rosehill
Pilots, Honolulu—Capts. J. C. Lorenson, J. R. Macaulay, M. N. Saunders, E. F. Cameron.
Harbor Master and Pilot, Hilo .....
..... Capt. J. Fitzgerald
Pilot, Kahului .....Capt. Robt. English

GOVERNMENT SURVEYING CORPS.

Surveyor ..... W. E. Wall
Chief Assistant ..... O. L. Sorenson
First Assistant ..... J. S. Emerson
Second Assistant ..... J. M. Donn
Meteorologist ..... C. J. Lyons

DEPARTMENT OF PUBLIC INSTRUCTION.

Superintendent ..... A. T. Atkinson
Commissioners—W. D. Alexander, C. L. Hopkins, Mrs. E. W. Jordan, H. von Holt, Mrs. W. W. Hall, Arthur B. Wood.
Traveling Normal Inspectors—J. K. Burkett, C. W. Baldwin, S. Keliinoi.
Secretary ..... Dr. C. T. Rodgers
Asst. Secretary ..... Miss R. Davison
Stenographer and Book Clerk.. .....
..... Miss Daisy Smith

SCHOOL AGENTS IN COMMISSION.

Hawaii.

Hilo ..... L. Severance
Puna ..... A. G. Curtis
Kau ..... G. G. Kinney
North Kona ..... M. F. Scott
South Kona ..... Miss Ella H. Paris
South Kohala ..... Miss E. W. Lyons
North Kohala ..... Dr. B. D. Bond
Hamakua ..... A. B. Lindsay

Maui.

Lahaina and Lanai ..... H. Dickenson
Wailuku ..... Mrs. E. L. Austin
Hana ..... F. Wittrock
Makawao ..... W. O. Aiken
Molokai ..... O. Tollefson

Oahu.

Honolulu ..... Miss R. Davison
Ewa ..... Geo. F. Renton
Waianae ..... F. Meyers
Walalua ..... C. P. Iaukea
Koolauloa and Koolaupoko..H. C. Adams

Kauai.

Waimea and Niihau ..... C. B. Hofgaard
Koloa and Lihue ..... H. D. Wishard
Hanalei ..... W. E. H. Deverill
Kawaihau ..... G. H. Fairchild

DEPARTMENT OF PUBLIC LANDS.

E. S. Boyd ..... Commissioner
S. Mahaulu ..... Secretary
Geo. Rosa, J. Mahony ..... Clerks

Sub-Agents.

1st District, Hilo and Puna .....
..... W. R. Kamanao
2nd District, Hamakua....Chas. Williams
3rd District, Kona and Kau .....
..... J. Kaelemakule
4th District, Maui ..... W. O. Aiken
5th District, Oahu ..... S. Mahaulu

BUREAU OF CONVEYANCES.

Registrar of Conveyances....T. G. Thrum
Deputy Registrar of Conveyances ...
..... C. H. Merriam

Agents to Take Acknowledgments.

Island of Oahu.

Honolulu—B. L. Marx, W. F. Dillingham, P. Silva, F. C. Smith, C. H. Merriam.
Ewa ..... A. Kauhi
Waianae ..... J. Kekahuna
Koolauloa ..... E. P. Aikue

Island of Maui.

Lahaina ..... H. Dickenson
Wailuku ....G. B. Robertson
Hana, Kaupo ..... C. Lake
Kipahulu ..... J. K. Nakila

Molokai.

Kalaupapa ..... Ambrose Hutchinson
Kamalo ..... D. McCorriston

Island of Hawaii.

N. Kohala—D. S. Kahookano, C. H. Pulaa.
Hamakua ..... J. W. Leonhart
Hilo ..... G. W. A. Hapai, B. B. Macy
Kau .....C. Meinecke
Kona—T. K. R. Amalu, D. Alawa, J. W. Keliikoa.

Island of Kauai.

Lihue ..... J. B. Hanaike
Niihau ..... J. B. Kaomea

AGRICULTURE AND FORESTRY.

Commissioner ..... Wray Taylor
Entomologist ..... Albert Koebele
Forester ..... David Haughs
Gardener ..... C. J. Austin
Stenographer ..... Miss M. Peterson

BOARD OF HEALTH.

President .....Dr. H. C. Sloggett
Members: F. C. Smith, E. A. Mott-Smith, Wm. Auld, E. P. Dole, Dr. C. B. Cooper, Dr. W. L. Moore.
Secretary ..... C. Charlock
Executive Officer ..... Dr. J. B. Pratt
Bacteriologist ..... Dr. J. T. McDonald
City Sanitary Officer ..... C. H. Tracy
Meat Inspector and Veterinary .....
.....W. T. Monsarrat
Registrar Births, Deaths and Marriages ..... Robt. Henderson
Stenographer ..... Miss M. Weir
Food Commissioner and Analyst .....
..... E. C. Shorey
Milk and Poi Inspector ..... H. Myhre
Supt. Insane Asylum .. Dr. R. M. Malster
Plumbing Inspector ..... E. G. Keen
Asst. Plumbing Inspector..J. F. Kiernan
Supt. Leper Settlement....C. B. Reynolds
Sanitary Inspectors—A. G. Hitchcock, J. W. Francis, T. W. Carroll, N. P. Jacobson, J. B. Gorman, J. Vivichaves.
Fish Inspector, Honolulu ..... L. Berndt
Asst. Fish Inspector....J. K. Mokumaia

Government Physicians.

Oahu—Honolulu, Dr. R. P. Myers, Dr. A. N. Sinclair; Waialua, Dr. Hubert Wood; Ewa, Dr. C. A. Davis; Waianae, Dr. Thos. McMillan; Koolau, Dr. W. B. Deas.
Kauai—Waimea, Dr. B. F. Sandow; Koloa and Lihue, Dr. E. S. Goodhue; Kealia and Hanalei, Dr. P. R. Waughop.
Maui—Makawao, Dr. F. W. McConkey; Hana, Dr. McGettigan; Wailuku, Dr. J. Weddick; Lahaina, Dr. C. Davison; Kihei, Dr. R. H. Dinegar.
Hawaii—Hamakua, Dr. C. B. Greenfield; Hilo, Dr. R. H. Reid; N. Hilo, Dr. Archer Irwin; Olaa, Dr. C. R. Blake; Puna, Dr. J. Holland; Kau, Dr. L. S. Thompson; Kohala, Dr. B. D. Bond; S. Kohala, Dr. J. Atcherly; Kona, Dr. Jas. Maloney.
Island of Molokai—Dr. A. Mouritz; Resident Physician Leper Settlement, Dr. R. Oliver.

Board of Medical Examiners.

Dr. G. P. Andrews, Dr. W. E. Taylor, Dr. J. T. Wayson.

NOTARIES PUBLIC.

Oahu—Jas. M. Monsarrat, J. A. Magoon, A. B. Wood, J. M. Camara, Jr., J. A. Hassinger, C. F. Peterson, R. C. A. Peterson, E. H. Hart, E. A. Mott-Smith, G. D. Gear, N. Fernandez, H. Holmes, W. L. Peterson, A. M. Brown, L. A. Dickey, J. M. Vivas, W. G. Ashley, A. W. Carter, W. J. Forbes, J. W. Girvin, C. A. Long, W. M. Graham, W. R. Castle, J. Haleakala Barenaba, Wm. Henry, W. L. Stanley, J. W. Jones, A. A. Wilder, C. D. Chase, J. H. Fisher, C. P. Iaukea, P. L. Weaver, C. F. Chillingworth, P. H. Burnett, E. S. Boyd, J. M. Kea, J. W. Short, D. A. Dowsett, Lorrin Andrews, F. M. Brooks, E. W. Davies, F. S. Peachy, S. K. Ka-ne, B. G. Allen, I. M. Long, J. H. McKenzie, W. K. Apuakehau, Walter Gassett, G. F. Bigelow, W. W. Thayer, E. B. Clark, J. A. Johnson, P. M. Lansdale, J. L. Kaulukou, A. T. Brock, P. M. Pond, W. P. Boyd, F. T. Merry, L. K. Kentwell, J. Effinger, A. R. Cunha, Kate Kelley, P. Silva, J. S. Kalakiela, R. D. Mead, Wm. Savidge, R. A. Miller, H. C. Adams, J. Batchelor, F. W. Makinney, F. F. Fernandez, J. M. Kaneakua, M. K. Nakuina, A. M. Moore, W. L. Whitney, H. C. Hapai, P. E. Neumann, Jona. Shaw.
Maui—W. F. Mossman, J. H. Nishwitz, E. H. Bailey, J. H. S. Kaleo, P. N. Kahokuoluna, E. Lililehua, M. P. Waiwaiole, G. H. Dunn, G. K. Kunukau, B. K. Kaiwaiea, J. K. Saunders, W. P. Haia, F. W. Hardy, F. H. Babcock, S. E. Kaleikau, A. F. Tavares, N. E. Lemon, W. O. Aiken, J. N. K. Keola, J. L. W. Zumwalt, Jas. L. Coke, Joel Nakaleka, F. P. Rosecrans, T. K. Nathaniel, Jno. Richardson, J. K. Kaupu, Geo. Hons, A. N. Kepoikai, G. W. Kauimakaole, L. Joseph, H. Dickenson.
Hawaii—D. Porter, E. W. Barnard, T. H. Wright, J. S. Smithies, W. Vredenberg, F. L. Winter, S. Haanio, Jr., J. H. Waipuilani, F. M. Wakefield, H. T. Mills, G. K. Wilder, W. Horner, Jas. Bright, G. P. Tulloch, W. P. Fennel, R. A. Lyman, E. D. Baldwin, T. Aiu, S. W. Kekuewa, H. J. Ahu, J. Greig, S. Lazaro, J. K. Nahale, A. W. Heydtmann, W. Hookuanui, H. E. Wilson, Z. Paakiki, A. W. Hobson, W. S.

Wise, W. J. Rickard, C. H. Pulaa, G. F. Affonso, C. S. Smith, C. M. Le Blond, G. F. Maydwell, A. C. Palfrey, J. F. Clay, T. C. Ridgway, E. W. Estep, H. J. Lyman, W. H. Little, F. M. Washburn, Chas. Weatherbee, J. C. Lenhart, G. P. Kamauoha, D. K. Baker, D. K. Wailehua, S. K. Pua, H. L. Holstein, S. M. Spencer, G. G. Kinney, A. G. Curtis, Chas. Williams, A. H. Jackson, W. T. Balding, B. B. Macy, J. U. Smith, C. M. Kamakawiwoole.

Kauai—Jno. M. Kealoha, Th. Brandt, W. E. H. Deverill, R. W. T. Purvis, C. H. Bishop, Z. Kakina, E. Omsted, J. W. Neal, E. J. G. Bryant, S. K. Kaeo, M. F. Prosser, M. L. May, W. O. Crowell.

AGENTS TO GRANT MARRIAGE LICENSES.

Oahu.

Kona—J. H. Boyd, J. A. Hassinger, M. G. Silva, C. Charlock, W. Savidge, C. Wilcox, M. K. Nakuina, J. M. Camara, Jr., G. N. Shaw, Wm. O. Atwater, E. H. Hart, G. Rose, L. K. Kentwell.

Koolaupoko—B. Pahia.

Koolauloa—G. Kamaka.

Ewa and Waianae—H. D. Johnson, Mrs. S. Kekela, H. K. Meemano.

Maui.

Waiiuku—M. P. Waiwaiole, Geo. Hons, S. E. Kaleikau, W. E. K. Maikai, M. Kauhimahu.

Makawao—J. Anderson, W. F. Mossman, T. K. Pa, S. A. Kahokuoluna, J. K. Kapihe, H. Long, M. G. Anjo.

Hana—J. K. Iosepa, J. K. Saunders, B. K. Kaiwiaea, G. W. K. Kauimakaole, D. P. Kapewa, J. W. Halemano.

Molokai—D. Kailua, J. K. Kainuwai W. Notley, H. Peelua, G. Kekipi, J. S. Wilmington, J. N. Uwahinui.

Hawaii.

Hilo—J. H. Maby, L. Severance, L. Malterre, V. A. Carvalho, B. H. Brown, G. F. Affonso, A. W. Richardson.

Hamakua—J. W. Moanauli, J. L. Kanakaoluna, J. W. Kapololu, J. Kaiula.

North Kohala—E. de Harne, J. S. Smithies, W. Wilson, S. K. Kaunamano, G. P. Tulloch.

South Kohala—James Bright, S. M. Spencer, J. K. Kealoha, J. S. K. Nakanelua.

North Kona—D. Alawa, J. Kaelemakule, S. Haanio.

South Kona—J. Holi, W. J. Wright, H. T. Mills, G. Waiau, D. W. Pohina, W. Apela.

Puna—H. J. Lyman, H. E. Wilson, A. G. Curtis.

Kau—T. C. Wills, C. Meinecke, D. K. Wailehua, F. C. Eaton, W. P. Hart.

Kauai.

Lihue—J. H. K. Kaiwi, L. W. Meheula, L. K. Kaumualii.

Kawaihau—S. U. Kaneole.

Hanalei—H. K. Anahu, C. A. Manu, W. P. Aalona, S. Koili.

Waimea—L. Aka.

Niihau—J. B. Kaomea.

COMMISSIONERS OF FENCES.

Hawaii.

Hilo—B. Brown.

North Kona—J. Lincoln, G. W. McDougall Wm. Kalaiwaa.

South Kona—R. Wassmann, J. Todd, J. Gasper.

North Kohala—H. L. Holstein, R. Hind, Jr., D. H. Kaailau.

Maui.

Lahaina—L. M. Baldwin, G. H. Dunn, H. Dickenson.

Wailuku—W. A. McKay, Geo. Hons.

Makawao—F. W. Hardy, J. Wagner.

Hana—F. Wittrock, M. H. Reuter.

Molokai—J. H. Mahoe, D. Kailua, D. McCorriston.

Oahu.

Honolulu—J. A. Gilman, M. K. Cook, C. D. Chase.

Ewa and Waianae—J. T. Campbell, J. Kahoa.

Waialua—H. Wharton, A. Cox, A. Kaili.

Koolaupoko—H. C. Adams, D. M. Kapalau.

COMMISSIONERS OF PRIVATE WAYS AND WATER RIGHTS.

Hawaii.

Hilo ..... B. H. Brown
North Kohala ..... G. P. Tulloch
South Kona ..... E. Kapa

Maui.

Lahaina ..... H. Dickenson
Wailuku ..... M. P. Waiwaiole
Makawao ..... Chas. Baldwin
Hana ..... J. K. Saunders

Oahu.

Kona ..... Mrs. E. M. Nakuina

Koolaupoko ..... E. P. Aikue
Koolauloa ..... W. Rathburn
Waialua ..... A. S. Mahaulu
Ewa and Waianae ..... J. E. Kahoa

Kauai.

Koloa and Lihue ..... J. H. K. Kaiwi
Waimea ..... Th. Brandt

ROAD BOARDS.

Hawaii.

Hilo—J. A. Scott, H. Deacon, L. A. Andrews.
North Hilo—W. G. Walker, M. Bronc, A. Chalmers.
Puna—F. B. McStocker, R. D. Junkin, H. J. Lyman.
Kau—L. S. Thompson, G. C. Hewitt, J. Ikaika.
Hamakua—A. Lidgate, A. Horner, H. Louisson.
N. Kohala—J. Hind, R. Hall, E. E Olding.
S. Kohala—Paul Jarrett, F. Johnson, Akona.
N. Kona—L. S. Aungst, J. A. Maguire, J. K. Nahale.
S. Kona—Geo. McDougal, F. R. Greenwell, F. Buchholtz.

Maui.

Lahaina—Matt McCann, D. Kahaulelio, R. C. Searle.
Wailuku—C. B. Wells, W. J. Lowrie, L. M. Baldwin.
Hana—K. S. Gjerdrum, D. H. Napihaa, J. McGettigan.
Makawao—S. E. Kalama, W. O. Aiken, H. A. Baldwin.
Molokai—D. McCorriston, J. H. Mahoe.
Lanai—L. M. Vettleson, A. C. Dowsett, S. Kenui.

Oahu.

Koolaupoko—F. Pahia, D. M. Kapalau, E. P. Aikue.
Koolauloa—G. Kamaka.
Waialua—W. W. Goodale, C. P. Iaukea, Kaiakawaha.
Ewa and Waianae—F. Meyers, A. Ahrens A Kauhi.

Kauai.

Koloa—W. McBryde, M. Kaluna, J. W. Waughop.
Lihue—J. H. Coney, J. H. K. Kaiwi, C. H. Rice.
Kawaihau—S. N. Hundley, D. Lovell, Ed. McCorriston.
Hanalei—C. H. Willis, J. Kakina, Henry Peters.
Waimea—J. K. Kapuniai, T. Brandt, B. F. Sandow.

COMMISSIONERS STREET GRADES.

Honolulu—W. E. Wall, W. E. Rowell, M. Campbell.
Hilo—E. D. Baldwin.

INSPECTORS OF ANIMALS.

Oahu—W. Hoogs, W. T. Monsarrat.
Hawaii—W. H. Shipman, A. Wall, H. B. Elliot, J. S. Smithies, E. P. Low.
Maui—J. L. W. Zumwalt, L. M. Baldwin, E. B. Carley.
Kauai, W. H. Rice, Jr.

CHAMBER OF COMMERCE.

President ..... W. G. Irwin
Vice-President ..... C. M. Cooke
Secretary and Treasurer....J. G. Spencer
Arbitration Committee: C. M. Cooke, J. B. Atherton, F. A. Schaefer, W. F. Allen and F. M. Swanzy.

MERCHANTS' ASSOCIATION.

Organized March 18, 1901.

President ..... F. W. Macfarlane
Vice-President ..... W. W. Dimond
Secretary and Treasurer....W. W. Harris
Directors: F. W. Macfarlane, W. W. Dimond, R. F. Lange, E. O. White, H. F. Wichman, H. Lewis, J. F. Humburg, J. Wakefield, W. W. Harris.

HAWAIIAN SUGAR PLANTERS' ASSOCIATION.

Reorganized Nov., 1895.

President ..... W. G. Irwin
Vice-President ..... H. A. Isenberg
Secretary and Treasurer .... W. O. Smith
Auditor ..... G. W. Robertson
Trustees: The above officers, with F. A. Schaefer, J. B. Atherton, H. P. Baldwin, F. M. Swanzy and B. F. Dillingham, comprise the Board.

BOARD OF UNDERWRITERS—AGENCIES.

Boston ..... C. Brewer & Co.
Philadelphia ..... C. Brewer & Co.
New York.....The B. F. Dillingham Co.
Liverpool ..... T. H. Davies & Co.
Lloyds, London .....T. H. Davies & Co.
San Francisco ..... H. Hackfeld & Co.
Bremen, Dresden, Vienna..F. A. Schaefer

HONOLULU BOARD OF UNDERWRITERS.

F. A. Schaefer ..... President
J. A. Gilman ..... Vice-President
A. R. Gurrey ..... Secretary
Bishop & Co. ..... Treasurers

PACKET AGENCIES.

Boston Packets—C. Brewer & Co.
Planters' Line, San Francisco—C. Brewer & Co.
Merchants' Line, San Francisco—Castle & Cooke.
Pioneer, Liverpool—T. H. Davies & Co.
Canadian and Australian S. S. Line—T. H. Davies & Co.
Oceanic S. S. Co.'s Line—W. G. Irwin & Co.
Nippon Yushen Kaisha, Japan to Seattle—W. G. Irwin & Co.
Pacific Mail S. S. Co.—H. Hackfeld & Co.
Occidental & Oriental S. S. Co.—H. Hackfeld & Co.
Bremen Packets—H. Hackfeld & Co.
Liverpool Packets—H. Hackfeld & Co.
Hawaiian Packet Line, San Francisco—H. Hackfeld & Co.
American-Hawaiian S. S. Co.—H. Hackfeld & Co.
San Francisco and Honolulu—F. A. Schaefer & Co.
Brit.-Am. S. S. Co., Seattle Line—Alexander & Baldwin.
California-Oriental S. S. Co.—Alexander & Baldwin.
Alexander & Baldwin Line, San Francisco—Alexander & Baldwin.

QUEEN'S HOSPITAL.

Erected in 1860.

President ..... The Governor
Vice-President ..... F. A. Schaefer
Secretary ..... Geo. W. Smith
Treasurer ..... H. Waterhouse
Auditor ..... M. P. Robinson
Physicians.Drs. C. B. Wood, C. B. Cooper
Executive Committee—A. S. Cleghorn, H. Waterhouse, F. A. Schaefer, M. P. Robinson, E. F. Bishop, G. W. Smith.

VICTORIA HOSPITAL ASSOCIATION.

Organized April 4, 1900.

President ..... Alfred Willis
Secretary ..... A. L. C. Atkinson
Treasurer ..... S. E. Damon
Medical Supt...A. N. Sinclair, M. B. C. M.
Asst. Supt. ..... H. Taylor
Matron ..... Miss T. Poiser
Directors: S. B. Dole, Alex. Young, A. L. C. Atkinson, A. Willis, Geo. Smithies, Albert Judd.

SAILORS' HOME SOCIETY.

Organized 1853. Meets annually in December.

President ..... J. B. Atherton
Vice-President ..... John Ena
Secretary ..... F. A. Schaefer
Treasurer ..... E. F. Bishop
Executive Committee—C. L. Wight F. W. Damon, Jno. Ena.

BOARD OF HAWAIIAN EVANGELICAL ASSOCIATION.

Originally Organized 1823.

Constitution revised 1863. Annual meeting June.

President ..... J. B. Atherton
Vice-President ..... H. Waterhouse
Corresponding Secretary .....
..... Rev. O. P. Emerson
Recording Secretary..Rev. J. Leadingham
Treasurer ..... Theod. Richards
Auditor ..... F. J. Lowrey

WOMAN'S BOARD OF MISSIONS.

Organized 1871.

President ..... Mrs. C. M. Hyde
Recording Secretary..Mrs. G. P. Andrews
Home Cor. Secretary...Mrs. H. C. Austin
Foreign Cor. Secretary.....Miss Sheeley
Treasurer ..... Mrs. B. F. Dillingham
Auditor ..... W. W. Hall

MISSION CHILDREN'S SOCIETY.

Organized 1851. Annual Meeting in June.

President ..... Rev. O. H. Gulick
Vice-President .....J. P. Cooke
Recording Secretary .....Lorrin Andrews
Cor. Secretaries—Miss C. V. C. Hall and Miss Ada R. Whitney.
Elective Members—Rev. W. D. Westervelt and Miss M. A. Chamberlain.
Treasurer ..... L. A. Dickey

YOUNG MENS' CHRISTIAN ASSOCIATION.

Organized 1869. Annual Meeting in April.

President ..... T. Clive Davies
Vice-President ..... J. P. Cooke
Rec. Secretary ..... R. H. Trent
Treasurer ..... C. H. Atherton
General Secretary ..... H. C. Brown
Assistant Secretary ..... Fred Young

YOUNG WOMEN'S CHRISTIAN ASSOCIATION.

Organized 1900.

President ..... Mrs. E. W. Jordan
Secretary ..... Mrs. B. L. Marx
Treasurer ..... Mrs. Geo. Davies
General Secretary .....Mrs. H. C. Brown
Physical Directress....Miss Lillian Bacon

WOMAN'S CHRISTIAN TEMPERANCE UNION.

Organized December, 1884.

President ..... Mrs. J. M. Whitney
Vice-Presidents—Mrs. G. L. Pearson, Mrs. W. M. Kincaid, Mrs. L. M. Hartley.
Recording Secretary....Mrs. C. H. Austin
Cor. Secretary ..... Mrs. E. W. Jordan
Treasurer ..... Mrs. L. B. Coan
Auditor ..... Mrs. W. A. Bowen

FREE KINDERGARTEN AND CHILDREN'S AID ASSOCIATION.

Organized 1895.

President ..... Mrs. C. M. Hyde
Vice-Presidents—Mrs. W. F. Allen, Mrs. S. B. Dole and Mrs. Jno. Usborne.
Recording Secretary.....Mrs. A. B. Wood
Treasurer ..... Mrs. F. M. Swanzy
Financial Secretary..Mrs. H. E. Coleman
Auditor ..... W. L. Howard

ASSOCIATED CHARITIES.

Organized June 7, 1899.

President ..... S. B. Dole
1st Vice-President .. Rev. A. Mackintosh
2nd Vice-President ... Mrs. Jno. Usborne
Secretary ..... Mrs. J. M. Whitney
Treasurer ..... G. R. Carter
Manager ..... Mrs. E. F. Berger

AMERICAN RELIEF FUND.

Organized 1864. Meets annually Feb. 22.

President ..... W. F. Allen
Vice-President ..... R. Lewers
Secretary and Treasurer...W. O. Atwater
Committee—J. B. Atherton, W. F. Allen, R. Lewers, J. Emmeluth, C. B. Ripley.

STRANGER'S FRIEND SOCIETY.

Organized 1852. Annual Meeting in June.

President ..... Mrs. A. Mackintosh
Vice-Presidents—Mrs. T. H. Hobron, Mrs. A. Fuller.
Secretary ..... Mrs. S. M. Damon
Treasurer ..... Mrs. E. W. Jordan
Auditor ..... E. W. Jordan

BRITISH BENEVOLENT SOCIETY.

Organized 1860. Meets annually April 23.

President ..... W. R. Hoare
Vice-President ..... Rev. A. Mackintosh
Secretary ..... R. Catton
Treasurer ..... Geo. T. Davies

GERMAN BENEVOLENT SOCIETY.

Organized August 22, 1856.

President .....F. A. Schaefer
Vice-President ..... J. F. Hackfeld
Secretary ..... John F. Eckart
Treasurer ..... H. Schultze
Auditor ..... H. J. Nolte

HAWAIIAN RELIEF SOCIETY.

Organized 1895.

President ..... Mrs. S. C. Allen
1st Vice-President..Mrs. James Campbell
2nd Vice-President....Mrs. Robert Lewers
Secretary ..... Mrs. J. F. Bowler
Treasurer (Acting)....Mrs. A. Fernandez

HOOULU LAHUI SOCIETY.

Organized 1878.

President ..... D. Kawananakoa
Vice-President ..... Mrs. Kalanianaole
Secretary ..... Mrs. Manuel Ries
Treasurer ..... Mrs. Pierre Jones
Matron ..... Mrs. E. R. Wilson
Assistant ..... Mrs. A. A. Poole

PORTUGUESE MUTUAL BENEFIT SOCIETY OF HAWAII.

Organized Jan., 1882. Incorporated 1887.

President ..... V. O. Teixeira
Vice-President ..... J. P. Rodrigues
Secretary ..... A. H. R. Vieira
Treasurer ..... A. G. Silva

PORTUGUESE LADIES' BENEVOLENT SOCIETY.

Organized December, 1886.

President ..... Mrs. W. G. Irwin
1st Vice-President ..... Mrs. C. M. Hyde
2nd Vice-President ..... Mrs. Marques
Secretary ..... Mrs. J. P. Rodrigues
Treasurer ..... M. A. Gonsalves

JAPANESE BENEVOLENT SOCIETY.

President ..... Dr. Iga Mori
Vice-President ..... S. Okabe
Secretary ..... T. Ishikawa
Treasurer ..... O. Shioda
Auditor ..... S. Ozaki

CATHOLIC LADIES' AID SOCIETY.

President ..... Mrs. C. du Roi
Vice-President ..... Miss A. Perry
Secretary ..... Mrs. A. E. Murphy
Treasurer ..... Miss G. Carroll

CATHOLIC BENEVOLENT SOCIETY.

Organized June 26, 1899.

President ..... W. P. Barry
1st Vice-President.....F. Betters
2nd Vice-President ..... A. W. Seabury
Recording Secretary ..... Fred Weed
Financial Secretary ..... Fred Rosa
Treasurer ..... Chas. Rose

LIBRARY AND READING ROOM ASSOCIATION.

Organized March. Incorporated June 24, 1879.

President ..... C. R. Bishop
Vice-President ..... M. M. Scott
Secretary ..... H. A. Parmelee
Treasurer ..... Miss M. A. Burbank

HAWAIIAN HISTORICAL SOCIETY.

Organized Jan. 11, 1892. Annual Meeting November.

President ..... Dr. N. B. Emerson
Vice-Presidents—S. B. Dole, W. F. Allen, J. S. Emerson, Mrs. M. K. Nakuina.
Recording Secretary ..... W. F. Frear
Cor. Secretary ....Prof. W. D. Alexander
Treasurer and Librarian .....
..... Miss M. A. Burbank

KILOHANA ART LEAGUE.

Organized May 5, 1894.

President ..... Philip H. Dodge
Vice-President .....D. H. Hitchcock
Secretary and Treasurer .....
..... Mrs. L. G. Marshall

HAWAIIAN MEDICAL ASSOCIATION.

Organized May 24, 1895. Annual Meetings in May.

President ..... Dr. W. E. Taylor
Vice-President ..... Dr. H. C. Sloggett
Secretary and Treasurer .....
..... Dr. A. G. Hodgkins
Executive Committee—Drs. R. P. Meyers, and C. B. Cooper.

HAWAIIAN SOCIETY SONS OF THE AMERICAN REVOLUTION.

Organized June 17, 1895.

President ..... W. R. Castle
Vice-President ..... F. S. Dodge
Secretary .....W. O. Atwater
Registrar ..... W. D. Alexander
Treasurer ..... W. J. Forbes

HONOLULU MICROSCOPIC SOCIETY.

Organized March 10, 1900.

President ..... Dr. H. C. Sloggett
Vice-President ..... Dr. W. Hoffmann
Rec. Sec. and Treas. ..... E. C. Shorey
Cor. Secretary ..... A. Johnstone

AMATEUR ORCHESTRA.

Organized 1895.

Rehearses in the Y. M. C. A. Hall every Tuesday night.

Leader ..... Wray Taylor

PHILHARMONIC SOCIETY.

Organized Nov. 1, 1901.

President ..... W. R. Castle
Vice-President ..... Mrs. Theo. Richards
Secretary ..... Miss E. Cameron
Treasurer ..... W. J. Forbes
Librarian ..... O. G. Birdslee
Auditor ..... Mrs. L. H. Miller
Musical Director..Prof. F. A. Ballaseyus

BAR ASSOCIATION OF HAWAII.

Organized June 28, 1899.

President ..... A. S. Hartwell
Vice-President ..... J. L. Kaulukou
Secretary ..... D. H. Case
Treasurer ..... F. W. Hankey
Auditor ..... F. M. Brooks

PACIFIC (FORMERLY BRITISH) CLUB

Organized 1852. Premises on Alakea Street, two doors below Beretania.

President ..... A. S. Cleghorn
Vice-President ..... Saml. Parker
Secretary ..... Edgar Halstead
Treasurer ..... J. G. Spencer
Auditor ..... W. F. Allen
Managers—Dr. C. B. Cooper, G. R. Carter and W. L. Stanley, with the above officers comprise the Board.

YOUNG HAWAIIANS' INSTITUTE.

Organized Aug. 10, 1894.

President .....Geo. H. Huddy
Vice-President ..... Chas. B. Dwight
Recording Secretary.....Chas. Wilcox
Financial Secretary .. A. St. C. Pliianaia
Treasurer ..... N. Fernandez
Marshal ..... J. A. Aheong
Meets every 1st and 3rd Wednesday of the month, in the Foster Block, Nuuanu street below King.

SCOTTISH THISTLE CLUB.

Organized April 27, 1891.

Chief ..... Norman Kay
Chieftain ..... J. C. Brown
Secretary ..... Arch. S. Guild
Treasurer ..... Jno. H. Catton
Master-at-Arms ..... A. B. Kennedy
Club Rooms, Love Block, Fort Street, Meeting on Friday, 7:30 p. m.

HONOLULU CEMETERY ASSOCIATION.

President ..... A. S. Cleghorn
Vice-President ..... J. H. Soper
Secretary ..... D. Dayton
Treasurer ..... G. R. Carter

ANTI-SALOON LEAGUE OF HONOLULU, T. H.

Organized March 4, 1901.

Superintendent ..... Rev. Wm. H. Rice
President ..... Theodore Richards
1st Vice-President ....Rev. G. L. Pearson
2nd Vice-President....Mrs. J. M. Whitney
3rd Vice-President ..... Franklin Austin
Secretary ..... Richard H. Trent
Treasurer ..... J. B. Atherton

MASTER BUILDERS' ASSOCIATION.

Organized 1901.

President ..... J. Ouderkirk
Vice-President ..... F. Harrison
Secretary ..... J. Langston
Treasurer ..... W. P. Barry
Directors—J. H. Craig, T. A. Pettus, F. W. Beardslee.

OAHU COLLEGE.

President—Arthur Maxson Smith, A. M., Ph. D., Pscychology and Philosophy.
Loye Holmes Miller, B.S., Chemistry and Natural Sciences.
William M. Burns—Mathematics.
Susan Gardner Clark, Greek and Latin.
Levi Cassius Howland, Commercial Department.
Anna Luise Hasforth, German and French.
Chas. G. Bailey, History and Latin.
Katharine Merrill Graydon, A.B., Greek and English.
Mary Elizabeth Lewis, English.

Franz A. Ballaseyus, Vocal and Instrumental Music.
Alice M. Woods, Violin.
Mary D. Ridgway, Painting and Drawing.
Anna M. Congdon—Matron.
Jona. Shaw, Business Manager.
Sarah R. Lyman, Librarian.
Claire H. Uecke, Kindergarten.
Ethel M. Cameron and C. V. C. Hall, Assistants.
Frank Barwick, Superintendent of Grounds.

PUNAHOU PREPARATORY.

Principal—Samuel Pingree French, A.B.
Emogene Hart, Eighth Grade.
Helen K. Sorenson, Assistant Principal, Seventh Grade.
Mary Gray Borden, Fifth and Sixth Grades.
Lillian Brown Turner, Fourth Grade.
Ada Rice Whitney—Third Grade.
Mary Persis Winne, Second Grade.
Grace Fernbach Morgan, First Grade.

KAWAIAHAO GIRLS' SEMINARY.

Miss C. W. Paulding ..... Principal
Assistants—Misses McLeod, Van Anglen, Frost, Myrick, and Neibel.

KAMEHAMEHA GIRLS' SCHOOL.

Principal ..... Miss Ida M. Pope
Instructors—Misses F. N. Albright, F. A. Lemmon, N. B. Forsythe, J. C. Van Nostrand, S. L. Byington, H. E. McCracken, G. C. Barnhisel, M. Barnard, L. Aholo, Lucy Adams, and M. McPherson.

KAMEHAMEHA MANUAL SCHOOL.

Principal ..... Chas. B. Dyke
Vice-Principal ..... U. Thompson
Registrar and Business Agent ..... W. W. Bristol
Teachers—T. J. Penfield, C. A. McDonald, Ira Eskey, C. E. King, I. H. Beadle, Mr. and Mrs. D. Hill, J. D. Bicknell, F. G. Krauss, Miss Alma Kruzen, D. Kanuha.
Chaplain ..... Dr. W. B. Elkin
Librarian ..... Miss S. M. Jacobus
Book-keeper ..... T. E. Robinson

PREPARATORY DEPARTMENT, KAMEHAMEHA.

Principal ..... Miss A. E. Knapp
Matron ..... Miss M. L. A. Gorten
Assistants—Misses E. Thomas, S. A. Smith, E. Kahanu, J. T. Bates and Rosina Shaw.

IOLANI COLLEGE.

Principal—The Rt. Rev. Alfred Willis, D.D., Bishop of Honolulu.
Master ..... L. G. Blackman
Assistant .....F. C. Fitz

HONOLULU ATHLETIC CLUB.

President ..... C. F. Schermerhorn
Vice-President ..... J. A. Thompson
Secretary ..... P. Gleason
Treasurer ..... W. C. Crook, Jr.

HAWAII YACHT CLUB.

Organized Oct. 1901.

Commodore ..... T. W. Hobron
Vice-Commodore ..... D. Kawananakoa
Sec. and Treas. ..... P. L. Weaver, Jr.
Port Captain ..... H. P. Roth
Measurer ..... O. L. Sorenson
Directors—T. W. Hobron, D. Kawananakoa, E. A. Mott-Smith, W. F. Dillingham, D. L. Conkling.

MYRTLE BOAT CLUB.

Organized Feb. 5, 1883.

President ..... A. G. M. Robertson
Vice-President ..... Antonio Perry
Secretary ..... J. H. Soper, Jr.
Treasurer ..... Chas. Crane
Captain ..... W. W. Harris
Auditor ..... G. S. Harris
Trustees—W. H. Soper, A. A. Wilder and W. W. Harris.

HEALANI BOAT CLUB.

Incorporated Dec. 13, 1894.

President ..... W. E. Wall
Vice-President ..... G. H. Gere
Secretary ..... Carl Rhodes
Treasurer ..... E. C. Clarke
Captain ..... F. J. Church
Vice-Captain ..... D. B. Renear
Commodore ..... C. L. Crabbe
Vice-Commodore ..... M. M. Johnson
Auditor ..... S. A. Walker

LEILANI BOAT CLUB.

Organized Oct. 2, 1894.

President ..... David Kawananakoa
Vice-President ..... Ed Stiles
Secretary ..... J. L. Holt
Treasurer ..... F. J. Kruger
Auditor ..... J. F. C. Hagens
Captain ..... Jonah Kalaninaole
Trustees—S. P. Woods, S. E. P. Taylor, P. T. Phillips.

HAWAIIAN ROWING ASSOCIATION.

President ..... A. L. C. Atkinson
Vice-President ..... S. E. P. Taylor
Secretary and Treasurer....A. A. Wilder
Regatta Committee—A. A. Wilder, S. E. P. Taylor, F. J. Church.

HAWAIIAN DRIVING ASSOCIATION.

President ..... C. J. McCarthy
Vice-President ..... L. H. Dee
Secretary ..... H. M. Ayers
Treasurer ..... Chas. Bellina
Directors—Dr. Clapham, Dr. I. Shaw, Thos. Richards, S. Grigsby, C. H. Judd.

HONOLULU (STEAM) FIRE DEPARTMENT.

Originally organized 1851, and conducted as volunteers till March 1, 1893, when it was changed to a paid department.

Officers for 1902.

Fire Commissioners—A. Brown, C. Crozier, J. H. Fisher.
Chief Engineer ..... Chas. Thurston
Asst. Engineer ..... John Glenn
Honolulu Engine No. 1, location, Central Station, cor. Fort and Beretania Sts.
Mechanic Engine No. 2, location, Central Station, cor. Fort and Beretania Sts.
Chemical Apparatus No. 3, location, Central Station, cor. Fort and Beretania streets.
Protection Hook and Ladder Co. No. 1, location, Central Station, cor. Fort and Beretania streets.
Engine Co. No. 4, location, corner Wilder Avenue and Piikoi street.

FIRE WARDS OF HONOLULU.

Fire Alarm Signals.

4 Hotel and Fort.
5 Hotel and Nuuanu.
6 Hotel and Maunakea.
7 Hotel and Richards.
8 Hotel and Punchbowl.
9 King and Kekaulike.
12 King and Nuuanu.
13 King and Fort.
14 King and Alakea.
15 King and Punchbowl.
16 Queen and Maunakea.
17 Queen and Nuuanu.
18 Queen and Fort.
19 Queen and Richards.
21 Queen and South.
23 Queen and Kakaako.
24 Allen and Fort.
25 P. M. S. S. Co. Wharf.
26 Smith and Pauahi
27 Beretania and Maunakea.
28 Beretania and Nuuanu.
29 Beretania and Fort.
31 Beretania and Emma.
32 Beretania and Punchbowl.
34 Nuuanu and Vineyard.
35 Nuuanu and School.
36 Nuuanu and Kuakini.
37 Nuuanu and Judd.
38 Liliha and Judd.
39 Liliha and School.
41 Liliha and King.
42 King and Dowsett Lane.
43 Iwilei.
45 R. R. Depot.
46 School and Fort.
47 Punchbowl and Pauoa Road.
48 Punchbowl and Emma.
49 Punchbowl and Miller.
51 Kinau and Miller.
52 Kinau and Alapai.
53 King and Alapai.
54 King and Kapiolani.
56 Beretania and Kapiolani.
58 Pensacola and Wilder Avenue.
59 Pensacola and Beretania.
61 Piikoi and King.
62 Piikoi and Kinau.
63 Piikoi and Lunalilo.
64 Wilder Avenue and Kewalo.
65 Wilder Avenue and Makiki.
67 Wilder Avenue and Punahou.
68 Beretania and Keaumoku.
69 Beretania and Punahou.
71 Beyond Punahou Street.
72 King and Keaumoku.
73 Waikiki.
74 Harbor.

PUBLICATIONS.

The Hawaiian Gazette, issued semi-weekly by the Hawaiian Gazette Co., on Tuesdays and Fridays. Walter G. Smith, Editor.
The Daily Pacific Commercial Advertiser, issued by the Hawaiian Gazette Co., every morning (except Sundays). Walter G. Smith, Editor.
The Daily Bulletin, issued every evening

(except Sundays), by the Daily Bulletin Co. W. R. Farrington, Editor.
The Hawaiian Star, issued every evening (except Sundays), by the Hawaiian Star Newspaper Association. Frank L. Hoogs, Manager. Semi-weekly issued on Monday and Thursday.
The Honolulu Republican, issued every morning (except Mondays), by the Robt. Grieve Pub. Co. C. R. Buckland, Editor.
The Independent, issued daily, E. Norrie, Editor.
The Guide, issued every Tuesday and Friday mornings by the Guide Pub. Co.
The Friend, issued on the first of each month. Rev. S. E. Bishop, Editor.
The Anglican Church Chronicle, issued on the first Saturday of every month. Rev. A. Mackintosh, Editor.
The Paradise of the Pacific, issued monthly. W. M. Langton, Editor.
The Planters' Monthly, issued on the 15th of each month. H. M. Whitney, Editor.
The Honolulu Diocesan Magazine, issued quarterly. Rt. Rev. Bishop Willis, Editor.
Y. M. C. A. Review, issued monthly, H. C. Brown, Editor.
Sunday Volcano, issued on Sunday by W. H. Marshall, Editor and Publisher.
The Kuokoa (native) weekly, issued every Friday morning, by the Hawaiian Gazette Co. D. Kanewanui, Editor.
O Luso (Portuguese), issued weekly on Saturdays. J. S. Ramos, Editor.
As Boas Novas (Portuguese), sectarian monthly. A. O. R. Vieira, Editor.
A. Liberdade , Portuguese weekly, published on Thursdays, Camilo Pereira, Editor.
The Hawaiian-Chinese News, issued semi-weekly.
Chinese Times, issued weekly.
Chinese Chronicle, weekly, issued every Wednesday.
Sun Ching Bok Wo, semi-weekly Chinese.
Aloha Aina (native) issued daily except Sundays. Weekly issue every Saturday. Ed Like, Editor and Manager.
Ka Makaainana, (native) issued every Monday. F. J. Testa, Editor.
Lahui Hawaii, (native) issued every Friday. J. Makainai, Editor.
Kuokoa Home Rula, (native) issued ———
Home Rule Republican, (part English, part Hawaiian) issued weekly by Mrs. R. W. Wilcox.
The Yamato Shimbun (Japanese) semi-weekly.
Hawaiian Shinpo, issued daily in Japanese.
The Shin Nippon, Japanese daily.
Honolulu News, (Japanese) semi-weekly.
Hilo Tribune, issued weekly, on Saturdays by the Tribune Pub. Co. Hilo. W. H. Smith, Editor.
The Hawaii Herald, issued weekly at Hilo on Thursdays by the Herald Pub. Co. J. T. Stacker, Editor.
The Maui News, issued weekly at Wailuku, Maui. G. B. Robertson, Editor.
The Hawaiian Annual, issued the latter part of December for the following year. Thos. G. Thrum, Editor and Publisher.

LODGES, ETC.

Lodge Le Progres de l'Oceanie, No. 121, A. F. & A. M.; meets on the last Monday in each month.
Hawaiian Lodge, No. 21, F. & A. M., meets in its hall Masonic Temple, corner Hotel and Alakea streets, on the first Monday in each month.
Honolulu Chapter, No. 1, R. A. M., meets in Masonic Hall on the third Thursday of each month.
Honolulu Commandery No. 1, Knights Templar, meets in Masonic Hall, on second Thursday of each month.
Mystic Shrine, Aloha Lodge. No stated time of meeting. Meets at Masonic Hall.
Kamehameha Lodge of Perfection, No. 1, A. & A. S. R., meets in Masonic Hall, on the fourth Thursday of each month.
Nuuanu Chapter of Rose Croix, No. 1, A. & A. S. R., meets in Masonic Hall on the first Thursday in the month.
Alexander Liholiho Council No. 1, of Kadosh, meets on the third Monday of alternate months from February.
Pacific Lodge No. 822 A. F. & A. M., meets at Masonic Hall every second Monday of the month.
Leahi Chapter, No. 2, Order of the Eastern Star; meets on third Monday of each month in Masonic Hall.
Kilauea Lodge, No. 330, meets Saturday, nearest full moon at Masonic Hall, Hilo.
Hawaiian Chapter, No. 1, Order of Eastern Star; meets on ——— of each month at Masonic Hall, Hilo.
Excelsior Lodge, No. 1, I. O. O. F., meets at the hall in Odd Fellows' Building, on Fort St., every Tuesday evening.
Harmony Lodge, No. 2, I. O. O. F., meets each Monday evening in Harmony Hall, King St.
Pacific Degree Lodge, No 1, Daughters of Rebekah; meets at Harmony Hall, King street, second and fourth Thursdays of each month.
Olive Branch Rebekah, No. 2, I. O. O. F., meets first and third Thursdays each month at Harmony Hall.
Polynesian Encampment, No. 1, I. O. O. F., meets in Odd Fellows' Building, Fort street, first and third Fridays of each month.
Oahu Lodge No. 1, K. of P. meets every Thursday evening at Harmony Hall on King Street.

Mystic Lodge, No. 2, K. of P., meets every Wednesday evening at Harmony Hall.

Section No. 225—Endowment Rank, K. of P. meets on the second Saturday of January, July and December in Harmony Hall.

Aloha Lodge No. 3, Knights of Pythias; meets Saturday evening at their Hall in Custom House, in Kahului, Maui.

Maile Lodge, No. 4, Knights of Pythias; meets every Saturday night in Lyceum Building, Honokaa, Hawaii. Visiting brothers always welcome.

Hawaiian Council No. 689, American Legion of Honor; meets on second and fourth Friday evenings of each month in Harmony Hall.

Oceanic Council, No. 777, American Legion of Honor; meets on the first and third Tuesdays of each month.

Hawaiian Tribe, No. 1.—Imperial Order of Red Men; meets on second and fourth Fridays of each month at San Antonio Hall.

Court Lunalilo, No. 6600; A. O. of Foresters, meets at San Antonio Hall on first and third Fridays of each month.

Court Camoes, No. 8110, A. O. F. meets second and fourth Tuesday evenings of month in San Antonio Hall.

Geo. W. De Long Post, No. 45, G. A. R., meets the second Tuesday of each month at San Antonio Hall.

Geo. C. Wiltse Camp, Sons of Veterans; meets on third Tuesday of each month in San Antonio Hall.

Capt. Cook Lodge No. 353, Order Sons of St. George; meets at San Antonio Hall, every Monday evening.

Court Hawaii, No. 3769, I. O. F., meets first and second Tuesdays each month at San Antonio Hall.

Damien Council, Young Men's Institute; meets second and fourth Wednesdays of each month at Harmony Hall.

Honolulu Lodge B. P. O. Elks, 616, meets every Friday evening in the Elks' building, corner of Miller and Beretania streets.

Honolulu Aerie, No. 140, Fraternal Order of Eagles; meets first and third Wednesdays each month at San Antonio Hall, Vineyard street, near Emma street.

American Ass'n. of Masters and Pilots of Steam Vessels, Honolulu Harbor, No. 54; meets first and third Sundays of each month at 7 p. m. in Harmony Hall.

Marine Engineers' Beneficial Association, 100; meets every Monday night at Elks Lodge.

PLACES OF WORSHIP.

Central Union Church Congregational, (Independent) corner Beretania and Richards sts., Rev. Wm. M. Kincaid, Pastor. Services every Sunday at 11 a. m. and 7:30 p. m. Sunday School meets one hour before morning service. Prayer meeting Wednesday evenings at 7:30.

Palama Chapel, Rev. J. P. Erdman, Pastor. Sunday School at 9:30 a. m.; Gospel services at 7:30 p. m.

Methodist Episcopal Church, Rev. G. L. Pearson, Pastor; Sunday services at 11 a. m. and 7:30 p. m. at their new church, corner of Beretania and Miller Sts. Sunday School meets at 10 a. m. Prayer meeting Wednesday at 7:30 p. m.

The Christian Church, Rev. E. S. Muckley, Pastor; Sunday services at 11 a. m. and 7:30 p. m. at their house of worship, Alakea street, near King. Sunday School meets at 9:45 a. m.

Salvation Army, services held nightly at hall corner of Nuuanu and King streets with Sunday services at the usual hours.

Peniel Mission, Irwin Block, Nuuanu St. below King; street and hall meetings every day except Monday. Sunday services at 9 a. m. and 3 and 8 p. m.

Roman Catholic Church, Fort street, near Beretania; Rt. Rev. Gulstan F. Ropert Bishop of Panapolis; Revs. Leonor and Clement, assisting. Services every Sunday at 10 a. m. and at 4:30 p. m. Low mass every day at 6 and 7 a. m. High Mass Sundays and Saints days at 10 a. m.

St. Andrew's Cathedral, Beretania street, First Congregation. Clergy: Rt. Rev. Alfred Willis, Bishop and Deacon, Rev. V. H. Kitcat, Vice-Dean and Parish Priest; Services on Sunday: Holy Communion at 7 a. m. Morning prayer, with sermon at 11 a. m. Hawaiian Evensong 3:30 p. m. Evening Prayer with sermon 7:30 p. m. Holy Communion at 11 a. m. the last Sunday in each month. Sunday School 10 a. m. Daily prayer at 7 a. m. Holy Days: Communion at 6:30 a. m., Morning Prayer at 9 a. m.

Second Congregation, Rev. A. Mackintosh, Pastor. Services on Sunday: Morning prayer with sermon, 9:45 a. m. Evening prayer with sermon, 6:30 p. m. Holy Communion first Sunday in month, 9:45 a. m. Sunday School 9 a. m. Evening prayer, every Friday at 7:30 p. m.

German Lutheran Church, Beretania St., Rev. W. Felmy, pastor. Services on Sunday at 11 a. m., Sunday School at 10 a. m. Prayer meeting Wednesday at 7:30 p. m.

Chinese Congregation. Rev. Kong Yin Tet, Curate. Services on Sunday at 11 a. m. and 7:30 p. m. Evening prayer every Wednesday at 7:00 p. m.

St. Clement's Chapel, Punahou. Services on Sundays. Holy Communion 7 a. m.

Morning prayer, 11 a. m. Evening Prayer 7:05 p. m. Rev. John Usborne in charge.

Christian Chinese Church, Fort Street, Rev. E. W. Thwing, acting Pastor. Services every Sunday at 10:30 a. m. and 7:30 p. m. Prayer meeting, Wednesdays at 7:30 p. m.

Portuguese (Protestant) Mission; Rev. A. V. Soares, Pastor. Services every Sabbath at the usual hours. Sunday School at 3 p. m. Chapel situated corner Punchbowl and Miller streets.

Reorganized Church of Jesus Christ, G. J. Waller, Pastor; services in Mililani Hall. Sunday School at 10 a. m.; preaching in Hawaiian at 11 a. m., in English at 7:30 p. m.

Seventh Day Adventists, Rev. B. L. Howe, Pastor. Chapel in Printers' Lane. Sabbath School Saturdays at 10 a. m.; preaching at 11. Wednesday prayer and missionary meeting at 7:30 p. m.

Japanese Union Church, (Connected with Hawaiian Board Missions), Rev. K. Okumura, Pastor. Hold Services at the Lyceum, at 10 a. m. Preaching at 11 a. m. and 7:30 p. m. Sunday services. Prayer and praise meeting Wednesdays at 7 p. m., and evening school Mondays, Thursdays and Fridays.

Japanese Church. Rev. H. Kihara, Pastor. E. Tokimasa, associate. Hold services in hall on Kukui street, behind St. Louis College.

NATIVE CHURCHES.

Kawaiahao Church (Congregational), corner of King and Punchbowl Streets, Rev. H. H. Parker, Pastor. Services in Hawaiian every Sunday at 11 a. m. and 7:30 p. m. Sunday School at 10 a. m. Prayer Meeting Wednesday at 7:30 p. m. Rev. W. D. Westervelt in charge of English work among Hawaiians.

Kaumakapili Chapel (Congregational), King street near Kaiulani school. Rev. W. N. Lono, Pastor; H. Poepoe, assistant. Services in Hawaiian every Sunday at 11 a. m. and 7:30 p. m. Sunday School at 10 a. m. Prayer meeting every Wednesday at 7:30 p. m.

REGISTER AND DIRECTORY FOR 1902.

FEDERAL OFFICIALS.

Corrected to December 12, 1901.

U. S. DISTRICT COURT.

Hon. Morris M. Estee....Presiding Judge
J. J. Dunne .....
.....Asst. and Acting U. S. Attorney
E. R. Hendry ..... U. S. Marshal
W. B. Mailing ..... Clerk
Mrs. F. L. Osborn ..... Deputy Clerk
W. J. Robinson ..... U. S. Commissioner

Regular Terms:—At Honolulu on the second Monday in April and October; and at Hilo on the last Wednesday in January of each year.

Special Terms:—May be held at such times and places in the District as the Judge may deem expedient.

Miss F. M. Handy..Clerk, U. S. Dis. Atty.
C. F. Reynolds..U. S. Court Stenographer
Miss E. H. Ryan....Private Secretary to Hon. M. M. Estee, U. S. Dis. Judge
Fred C. Handy .....
....Chief Office Deputy U. S. Marshal
Danl. Kikaha ..... Bailiff and Crier
Antone Manuel.... Messenger and Janitor

FEDERAL OFFICIALS—Continued.

INTERNAL REVENUE OFFICE.

R. H. Chamberlain ..... Collector Internal Revenue
H. D. Couzens ....Chief Deputy Collector
W. F. Drake ..... Division Deputy
A. M. Webster ..... Deputy and Guager
H. M. Hepburn ..... Stamp Deputy and Cashier
Lee Sing ..... Messenger

U. S. MARINE-HOSPITAL SERVICE AND OFFICE CHIEF QUARANTINE OFFICER FOR HAWAIIAN ISLANDS.

L. E. Cofer, P. A. Surgeon U. S. M. H. S., in command.
Dunlop Moore, Asst. Surgeon U. S. M. H. S.
R. L. Wilson, Asst. Surgeon U. S. M. H. S.
A. N. Sinclair, Acting Assistant Surgeon U. S. M. H. S.
Frank L. Gibson, Hospital Steward U. S. M. H. S.
Jno. D. McVeigh, Superintendent Quarantine Station.
Jno. G. Grace, Acting Assistant Surgeon U. S. M. H. S., Hilo, Hawaii.
Jno. Weddick, Acting Assistant Surgeon U. S. M. H. S., Kahului, Maui.
R. H. Dinegar, Acting Assistant Surgeon U. S. M. H. S., Kihei, Maui.
R. L. Peters, Acting Assistant Surgeon U. S. M. H. S., Lahaina, Maui.
E. S. Goodhue, Acting Assistant Surgeon U. S. M. H. S., Koloa, Kauai.

CUSTOMS DEPARTMENT.

E. R. Stackable ..... Collector
M. H. Drummond ..... Special Deputy Collector
Raymer Sharp ..... Chief Examiner
Geo. W. Keister .... Inspector in charge
J. B. Gibson ..... Deputy Coll. and Clerk
A. B. Ingalls ..... Examiner and Guager
R. Weedon, E. R. Folsom, F. L. Baringer and C. J. McCracken ..... Examiners
R. C. Stackable, Deputy Coll. and Cashier
J. K. Brown, Jr., R. L. Barnes, A. M. Nowell ..... Deputy Colls. and Clerks
Jno. W. Short, M. J. Scanlon, M. G. Johnson ..... Clerks
J. J. Kelley ..... Bonded Storekeeper
R. M. Macaulay ..... Weigher
Eleanor P. Phillips ..... Stenographer
W. Porter Boyd ..... U. S. Shipping Commissioner
J. C. Ridgway ..... Deputy Coll., Hilo
E. H. Bailey ..... Deputy Coll., Kahului
L. M. Vettleson ....Deputy Coll., Lahaina
J. S. Smithies....Deputy Coll., Mahukona
W. D. McBryde .... Deputy Coll., Koloa

BUREAU OF IMMIGRATION.

Joshua K. Brown ....Inspector in Charge
A. C. Ridgway ..... Chinese Inspector
Chung Leong ..... Chinese Interpreter

HAWAII EXPERIMENTAL STATION.

Jared G. Smith ....Expert and Special Agent in Charge
T. F. Sedgwick ..... Expert and Special Agent
F. H. Counter..Expert and Special Agent

POST OFFICE DEPARTMENT.

Geo. D. Linn ..... Inspector in Charge
W. A. Boutelle...Clerk in office of Insptr.
Geo. W. Carr ....Asst. Supt. Railway Mail Service
Jos. M. Oat .....Postmaster
L. T. Kenake ..... Cashier
Wm. I. Madeira ..... Asst. Postmaster
W. N. Hanna ..... Chief Registry Clerk
Z. T. Banks ... Chief Money Order Clerk
W. C. Kenake ..... Chief Mailing Clerk
W. S. Marchant ..... Chief Distributor

U. S. NAVAL STATION, HAWAII.

Captain J. F. Merry, U. S. N., Commandant.
Civil Engineer, U. S. G. White, U. S. N.
Asst. Paymaster, E. F. Hall, U. S. N.
Carpenter, B. D. Pender, U. S. N.
Pay Clerk, F. F. MacWilkie, U. S. N.
A. L. Merry, Clerk to Commandant.
Lieut. Comdr. Chas. F. Pond, U. S. N., Comdg. U. S. S. Iroquois.
Lieut. H. Rodman, U. S. N., ordered to command Iroquois.

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