The soil is a rotten granite. In many places, soil is in place and new. In other places, it is leached and becomes reddish and clay-like and reminds one continuously of southern California soil. Occasionally, the soil is darker at the surface, and the water supply through most of this section is about the color of champagne, due to the humus in the mountain valleys. As one continues northward there is not much change in the vegetation, which contains many beautiful bulbous plants and also many beautiful, low, shrubby plants. Wild flowers are gathered from the hills and sold on the streets in Cape Town, especially on Saturday mornings. We returned to the Cape by way of Camps Bay and "had tea" at this place.

August 19, 1919. Each day, at least during certain periods of the year, the clouds sweep in from the Indian Ocean side and gradually cover Table Mountain. These clouds sweep across this great mountain like a white mist and have given rise to the local expression "putting the tablecloth on Table Mountain." This is shown in d 1.

d 1.

In the afternoon I saw Dr. Rudolph Marloth, one of the leading Cape botanists. He is an analytical chemist, who works on botany as a hobby. His knowledge or the flora of South Africa and of the relation of the plant to soil and climate is probably as great as that of any botanist in South Africa. His address is 62 Church Street.

August 20. Accompanied H. C. Raven, Edmond Heller, and Vice-consul Charles H. Heisler to call on Dr. Lorenz, the Borneo explorer, who is now serving as Consul-general for Holland at Cape Town. A number of plants were discussed, among which the following deserve special mention: Buchu, which equals Barosoma betulina, is a round-leaved shrub of the Cedar Mountains. The leaves are mostly exported to the United States for medical purposes. It has been recently cultivated on Cedar, Olifants, and Paarl Rivers, and Paarl Mountains. Aloe ferox, grown principally in Herbertsdale and Mossel Bay, is exported largely to the United States where it is used as a drug plant. Aponogeton distachyus, the water uintje, has a rather pretty white flower which is used as a spinach and a starchy rootstock made into a stew called Bredie. This plant is sometimes called the Cape pond weed.

August 22. Spent most of the day at the library looking over Marloth's book from which the following list of desirable plant introductions is taken. The pines are listed since they are very important in the reforestation of the Cape region, and one would expect that they might do well on our southern California coast. Where the genus only is mentioned, there are generally a number of species which should be included.

Pinus pinea (Italian or stone pine) does well in plantings - Table Mt.
P. maritima (Mediterranean or Cluster Pine) does well in plantings - Table Mountain.
P. halepensis (Black or Aleppo pine) does well in plantings.
P. insignis
Leucodendron argenteum (Silver tree).
Protea - many of these should be introduced.
Leucospermum

Orthamus
Diastilla
Portulaca, especially Portulacaria afra, the Spekboom, a valuable drought-resistant fodder plant.
Mesembrianthemum - many species, especially M. spinosum and M. floribundum which equals vijge bosje as fodder plants - others as ornaments.
Anemone
Clematis
Fumaria mundtie - looks like scarlet vetch.
Papaver aculeatum

Perennial grasses.
Stenotaphrum glabrum - coarse couch grass (kweek).
Cynodon dactylon - fine couch grass.
Most important grasses are:
Themeda forskalii - Rooigrass.
Cymbopogon hirtus and
Heteropogon contortus steek grass.
Aristida uniplumis
A. brevifolia T'waagrass.
A. obtusa - fijne T'waa.
Tricholaena rosea - Red top.

Cultivated grasses.
Paspalum dilatatum (water - Breedzaad). Summer rain and light winter frost
Eragrostis abyssinica Teff - has no rival on high veld.
Chloris gayana - Rhodes grass.
Phalaris coerulescens
Cymbopogon marginatus = akkewani. Root used as protection from moths.
Cyperus usitatus = Uintjes (has an edible bulb.)
C. textilis = Matjes gold.
Phoenix reclinata - Date-like palm.
Zantedeschia aethiopica - white Arum. Calla or varkenblaar - or pig lily- roots eaten by pigs when boiled. Plants 4 feet high in places.
Z. rehmenii - Pink form in Natal and Swaziland.
Z. elliotiana - Lemon yellow with spotted leaves.
Prionium serratum - Palmiet - palm-like, blocks rivers.
Asparagus capensis = Wacht-een-bietje.
A. stipulaceus = Katdoorn.
A. africanus and A. crispus - used as vegetables.
A. plumosus and A. springeri - often cultivated.
Aloe ferox = spiny leaf, dry fruit - used in medicine.
Massonia pustulata
Nerine lucida - amaryllis-like - Collected by Burchell.
N. sarniensis - Guernsey lily of England.
Cyrtanthus parviflorus = Small red flower.
C. sanguineus - fire, Ifafa or Kei lily.
Buphane gigantea - candelabra flower, zeeroogbloom.
Amaryllis belladonna
Barbacenia retinervis - Baviaan's-staart, or grass tree - 1 to 3 ft. high.
Moraea Flag-like, known as wild tulip.
Ceanthe bicolor Blue black. From rootstalks.

Sparaxis tricolor
Homeria elegans
H. aurantiaca Pink, known as tulip. Probably already collected in herb.
Bobartia spathacea - tough leaves used in basket making. Biesroei - collected at Hout Bay.
Tritonia undulata - has fern-like leaf. Collected at Hout Bay.
Ixia
Maculata globosa - klossies and Glossies or klokje(bitter bulbs).
Romulea rosea frutang - edible - yellow.
Sparaxis grandiflora
S. tricolor = fluweeltje and fluweelblom.
Babiana ringens

Galixia
Gladiolus grandis = blue.
G. watsonii red pure.
G. cardinalis red yellow markings (common).
G. tristis concolor
G. florenti yellow.
G. alatus reddish.
G. edulis white.
G. recurvus lavender.
G. symnothia bicolor
G. grandis brown
Antholyza merianella A tubular gladiolis.
Strelitzia regia - fine ornamental.

Ornithoglossum thyrsoides, the Chinkerichee, is one of the most important flowering plants of the Cape. It is especially remarkable because of its ability to keep as a cut flower. Flowers cut can be sent to England and will there remain in flower a long time. It is not uncommon for this plant to remain fresh for from one to two months as a cut flower. It can be secured from any horticulturist or florist in the Cape region.

E 2. A photograph taken from my work table, showing the clouds coming down over Lion's Rump.

August 23. Every Saturday morning there is held in Adderley Street, on the east side and near the post office, a sale of wild flowers which are collected from the adjacent mountains, hills, and swamps, and are carried in wagons or in big baskets to this place. Here, some times cultivated flowers are also sold as well.

E 3. Shows the wild flower market. Shows ferns, callas, blue gladiolas, heaths, violets, daffodils, etc.

E 4. Shows a large basket filled with Protea lepidocarpodendron, also wattle and calla-lilies.

E 5. Similar to E 3.

E 6. Shows in the foreground callas with stems 3 feet long and flowers 6 inches across.

These are collected wild in the swamps about Cape Town. The flower sellers were rapidly exterminating the wild flowers and certain restrictions have been placed upon their collection. It is interesting to note in connection with these wild-flower sales that Dr. Marloth found there last week a new species of Protea, one which had not been known to botanists before. On Table Mountain, a number of species are now protected by law, and colored illustrations of these species are now being prepared and these illustrations are being placed in prominent positions , also near the flower market to enable people to identify the protected species and thus avoid their destruction and inconvenience due to arrest for breaking the wild-flower law. Accompanied by H. C. Raven and E. M. Thierry I botanized in the region of this saddle, which extends from Lion's Head to Table Mountain. Here there are artificial forests on the inner slopes, and these are composed largely of pine.

E 7. At an altitude of 100 feet. Shows Leucodendron argenteum,

with a few pines in the background and a large number of Ericas.

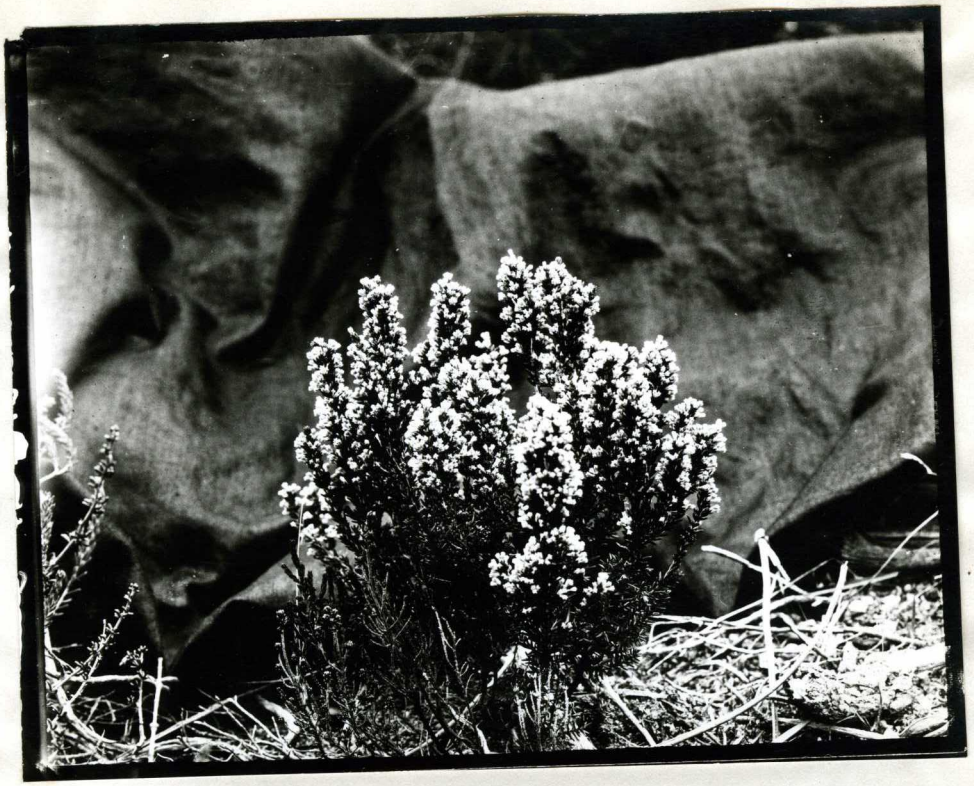
This is fairly typical of the mountain sides, expecially of the southwest slope. The silver tree does not accupy a large area in this region but forms clumps in protected areas on Table Mountain. There is an unusually nice batch on the left foreface of Table Mountain.

E 8. Shows planting of young pine near the top of the saddle.

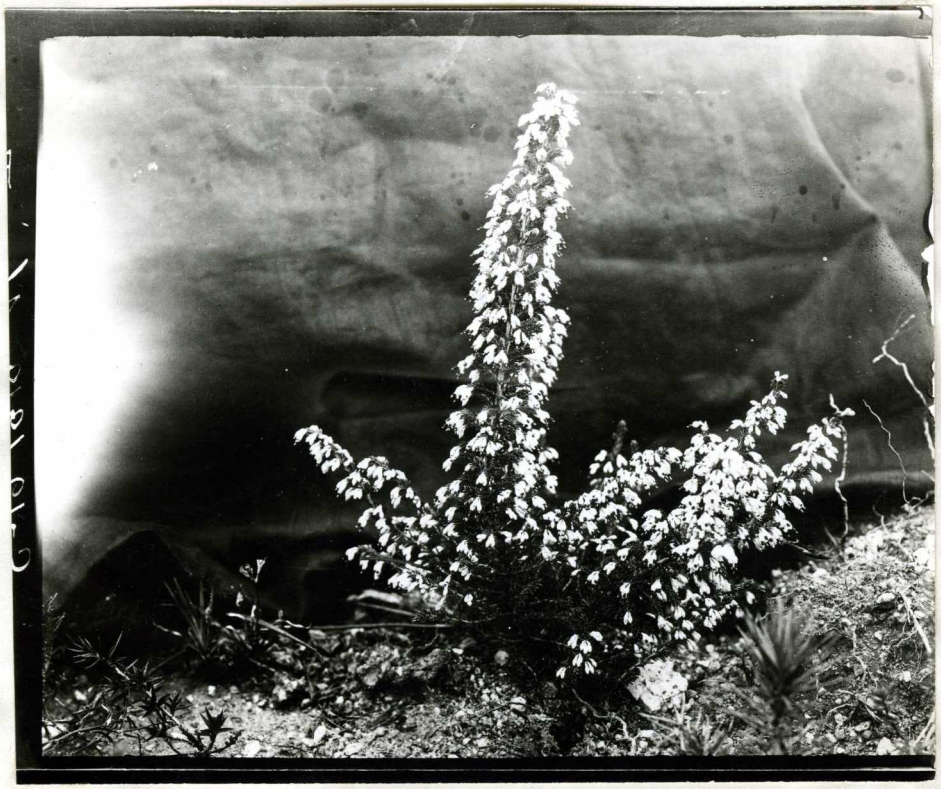
It is probable that this is Pinus pinea. It is a two-needled pine and has a slightly curved cone.

E 9. A detailed view of the interior of this plantation.

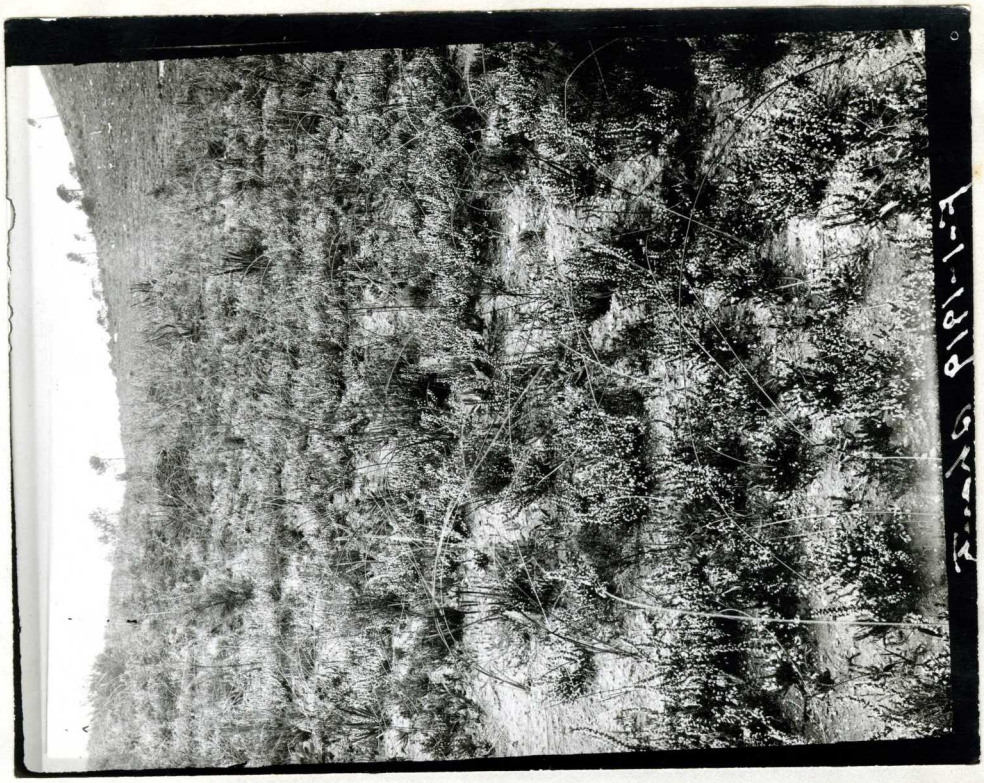
E 10. A general view across toward the Atlantic Ocean from the saddle. The principal tree plantations in the background are of poplar.



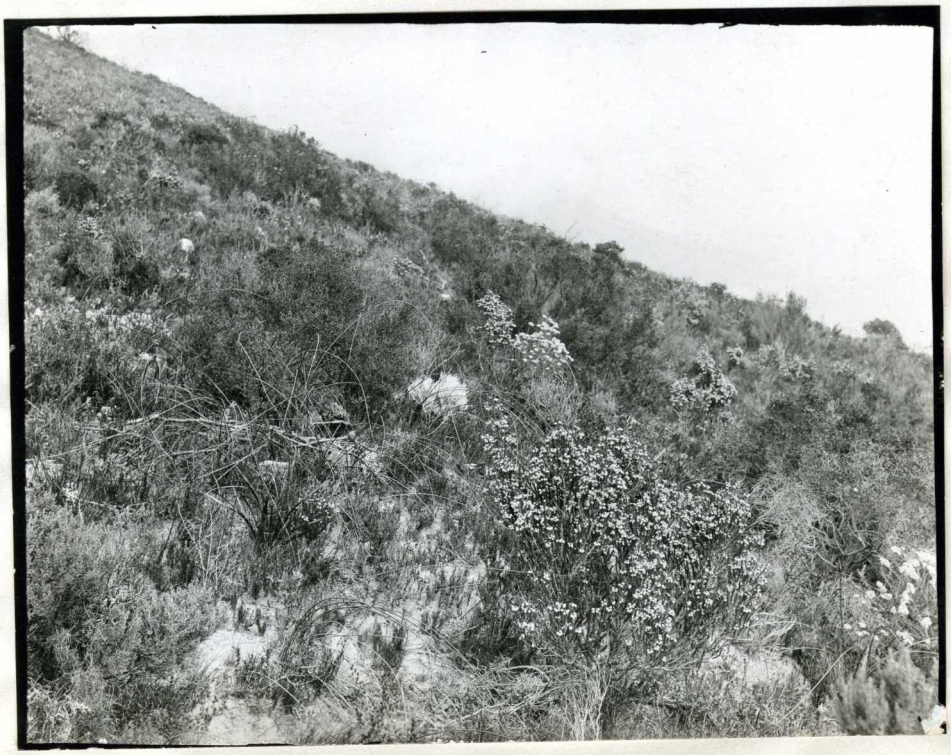
E 11. A beautiful white Erica about natural size. See Herb. 46.



E 12. One of the most common Ericas of the mountainside. Almost natural size. See Herb. 47.



F 1. A general view of the mountainside. Shows in this place an unusually low growth and almost pure stand of Ericas. Herb. 47. Carex, Herb. 54-55, and Herb. collections 71-76. Also the gladiola-like plants were collected at this place.

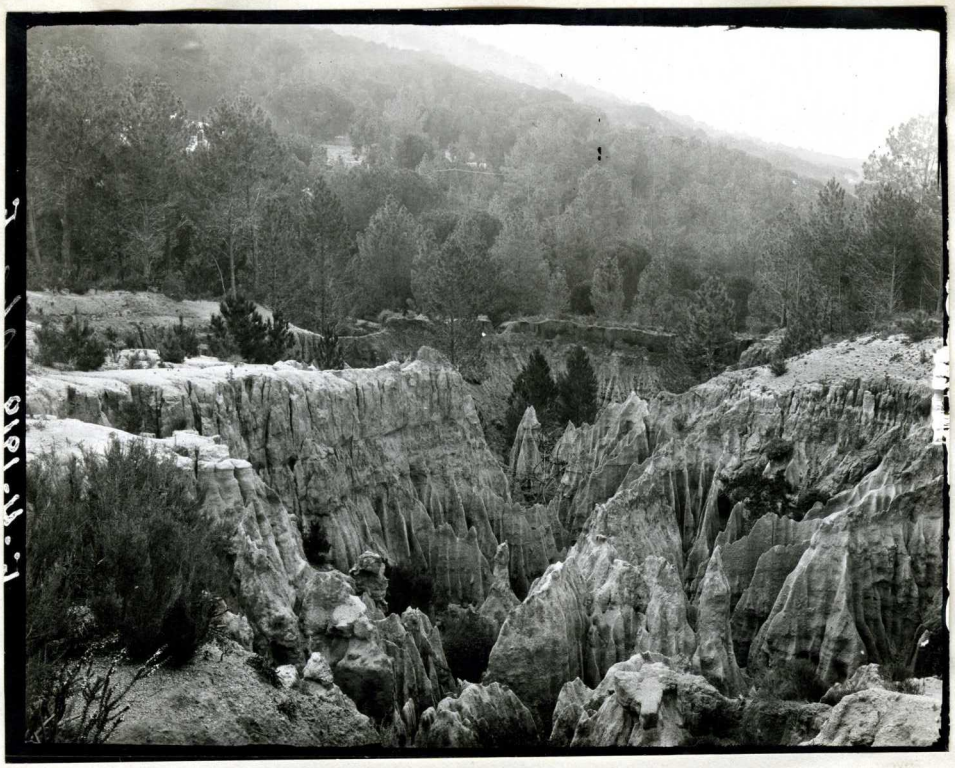


F 2. A general view. Shows a magenta-colored Erica in the fore-

ground, also Metalasia muricata and a prickly Polygola-like shrub. See Herbarium 48 and 49.

F 3. Detail of Massonia postulata or possibly Hemanthus coccinea. The latter plant often has leaves 10 inches across. The plant here shown has leaves about five inches in diameter.

Soil sample No. 1, collected at the surface where photographs E 11 and E 12 were taken. This soil appears to lack lime.



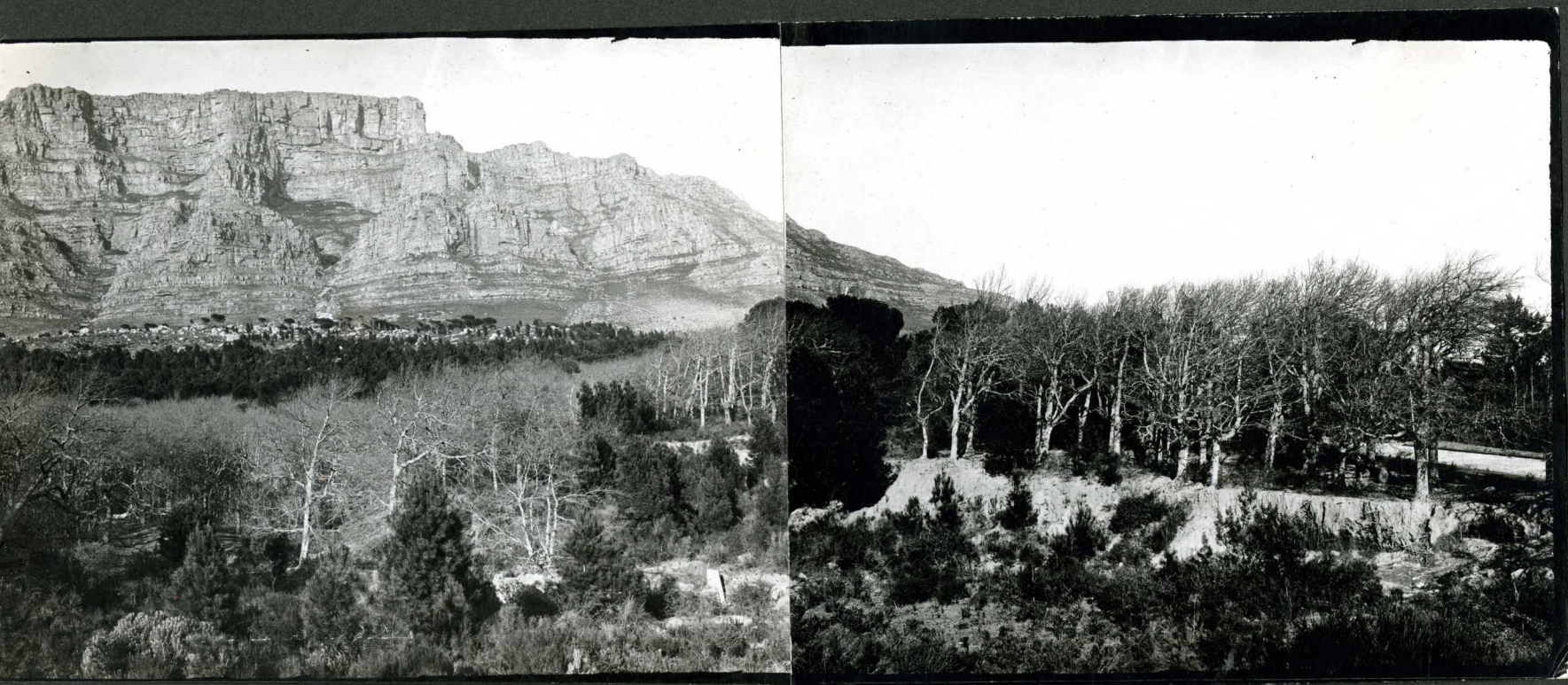
F 4. Shows the erosion of the soil near the saddle, the depth of the talus, and also the bad lands effect.

On this trip, which included the saddle and up the side of the mountain as far as the cliff on Table Mountain, we passed through a low heath with a large amount of Bolartia sparthana. There are also a few larger heaths and Proteas and hundreds of bulbous plants. The more prominent plants at this period of the year are collected here. Herbarium numbers 42-47.

August 24. Went to the top of Orange Street with Raven, where a panoram was taken of Table Mountain.

F 5 - 8. Shows Quercus pedunculata in the foreground, with pines further back and the mountain in the background.

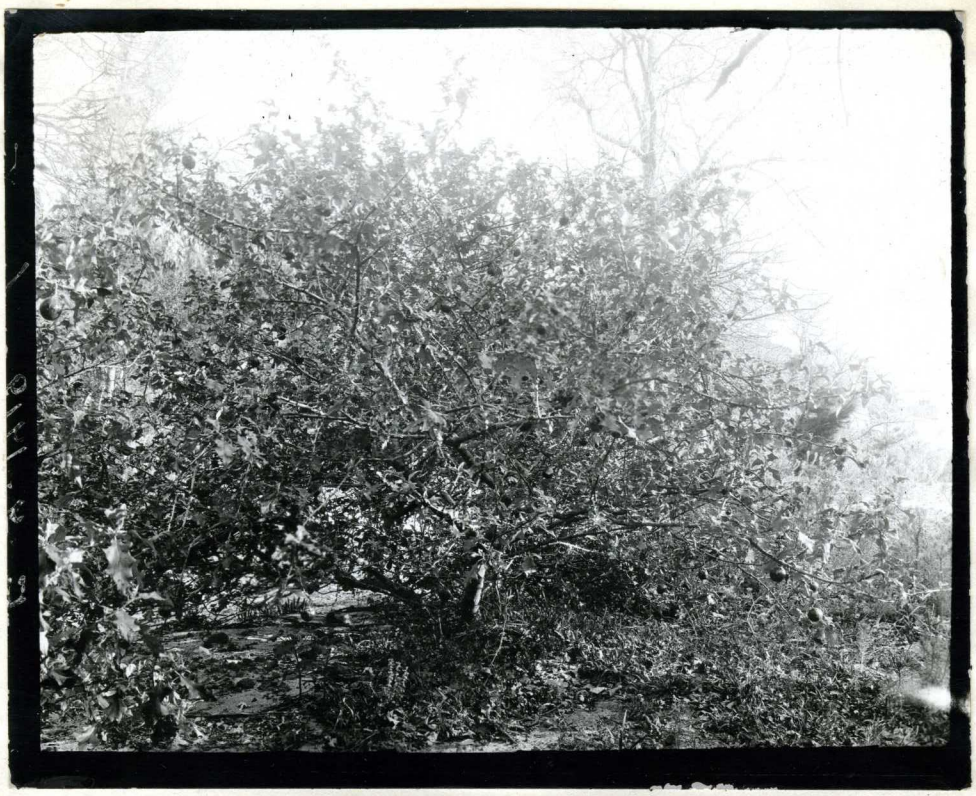
F 5.



F 8.

Here were also collected herbarium specimens 78 to 80, the three Solanum species which were sent in under the following numbers:

22. S. P. I.-48287. Solanum, a large coarse-fruited form; fruit two inches in diameter; and prickly shrub 8 feet high. The pulp of this fruit is placed in hollow teeth to cure toothache, by the natives. The Cape entomologist says it is a pest.



F 9. A photograph of this large Solanum. See also herbarium 78.

23. S. P. I.-48288. A small closely leaved, spiny Solanum, with small fruits 1 inch in diameter. See herbarium 80. Probably Solanum sodomeum hermanni. See F. 12.

F 10. A general view of the forest at the head of Orange Street, Quercus pedunculata with Pinus pinea in the background.

F 11. Solanum, S. P. I. 48287 (1/2 natural size).

F 12. Solanum sodomeum hermanni (1/2 natural size).

After breakfast I visited the Kirstenbosch National Botanical Garden with Malley, Rust, Heller, Raven, Thierry, W. A. Haygood, and H. M. Bridgman. We were met by the new Director, Prof. R. H. Compton, and the Assistant, Mr. J. W. Mathews. After an extended walk through the garden, had tea with the director.

This national garden is a large tract of natural vegetation on the east face of Table Mountain. The plan is to plant here only indigenous South African plants. The funds are not ample at the present time but are added to by the Botanical Society of South Africa, so that it is largely supported by private funds. This is the most attractive garden in every way, and well worth the attention of any botanists who visit South Africa. Director Compton also holds a chair as Professor of Botany in the University of Cape Town. The following photographs were all taken on the garden

grounds.

G 1. A general view in the grounds. It shows Aloe, pine (P. pinea), and the mountains with native Ericas and Proteas in the background. The garden extends to the top of the mountain.

G 2.

G 2. A general view in the garden. The tall yellow-flowered bulbous plant at the left is Bulbinella robusta. Back of it, at the left, is Cyanthea dregei, also Cassonia, Q. pedunculata, and Cunonia capensis.

G 3. Shows a rock causeway just below Pan's Pool, with a papyrus growing at the right. Photo shows Heller, Raven, and Bridgman.

G 4. A detail of the causeway. Shows the unique way of bridging a garden stream.

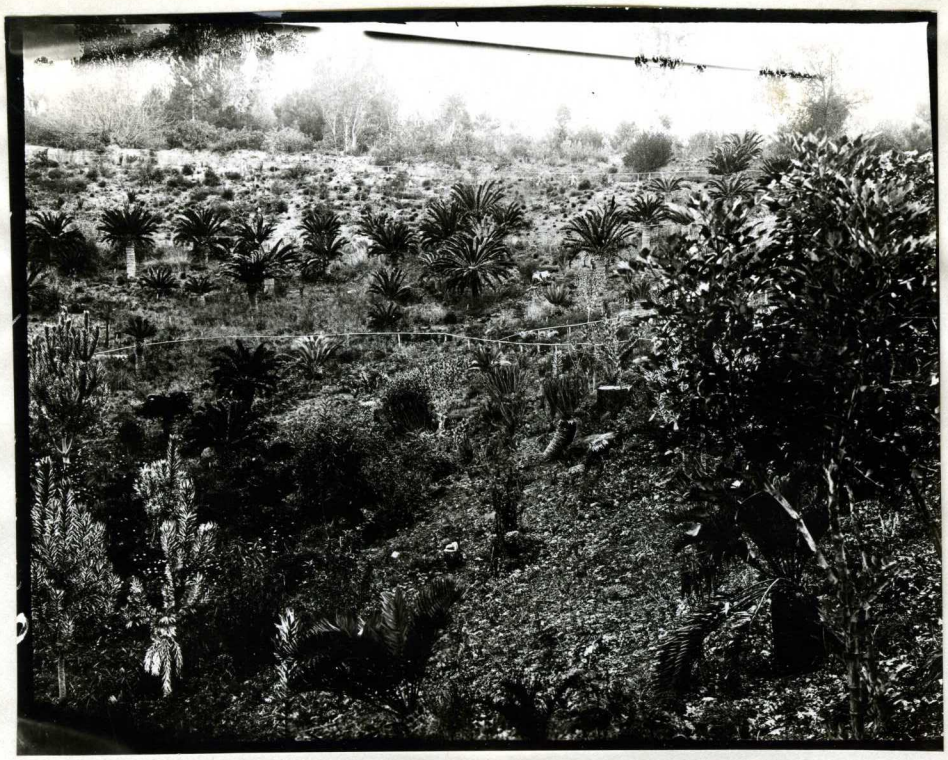
G 5. Same as G 4.

G 6. Pan's Pool, with amphitheater in the back. Planted large to Blechnum punctulatum and Isolepis.

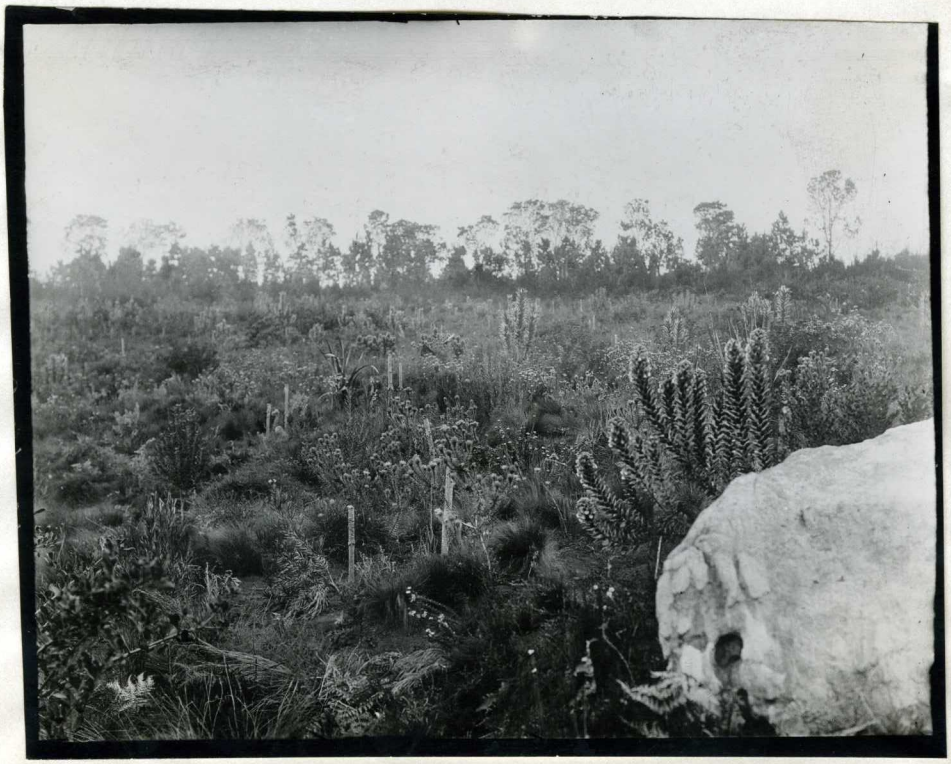
G 7. Pan's Pool from above.

This pool is an old Dutch bath of pure, clear, spring water, 3 feet or more deep. It shows the Cape holly, Ilex mitis (I. capensis), a large and rare tree at the left, which is one of the best trees in the Cape region; Cyathea dregei, and the eastern tree fern, Dicksonia antartica, at the left. This fern is native. Papyrus below. Photo also shows Bridgman, Heller, Raven, Thierry, Haygood, and Rust.

G 8. Stangeria paradoxa, a natal plant. This particular individual has two stems.



G 9. A general view of the Cycad amphitheater. Shows Encephalartos caffir from East Africa (the Kaffir bread tree); Stangeria latiformis (3) at the back, and Allenstini in the upper part.



G 10.

G 10. Mimetes hirta at the edge of the block. Also a large quantity of a small sedge. See herbarium 82.

This sedge covers most of the grounds in the Protea garden. The Protea garden contains a large number of various proteaceous plants. These are exceptionally beautiful.

G. 11. A beautiful Protea from Franshoek Mountains. Serruria Florida.

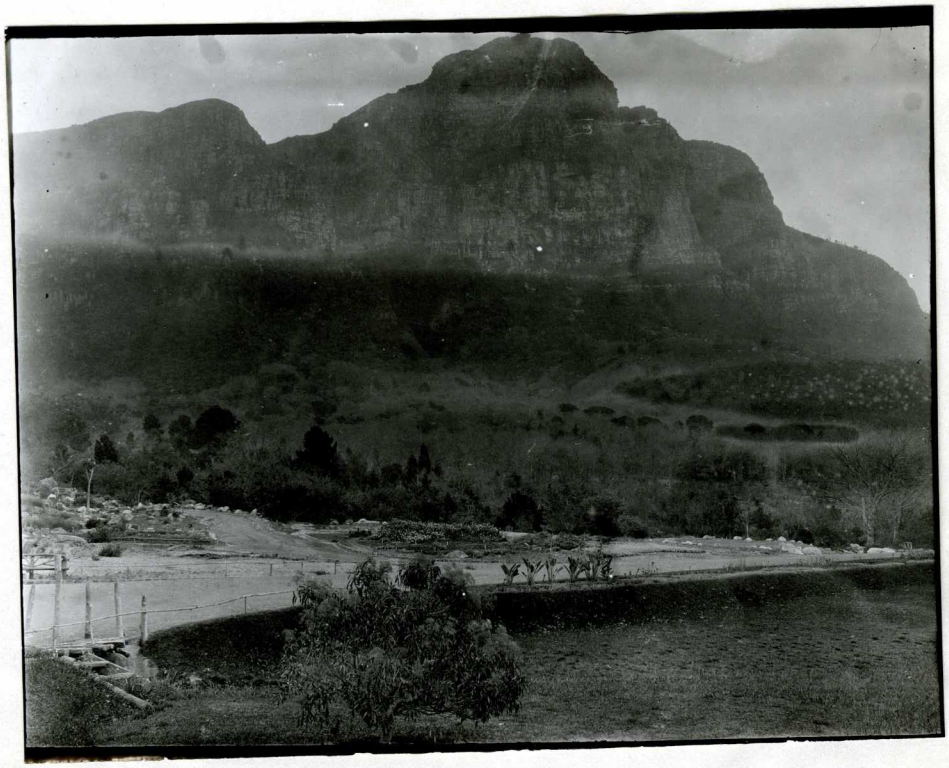
G 12. Leucospermum lineari also from Franshoek Mountains.

H 1. Shows the low growth of Scirpus, Leucodendron argenteum, the white Phylica with Protea grandiflora in the background.

H 2. Protea latifolea, a detail of the flower which is 4 inches across. Plant comes from Swartburg Pass.

H 3. As H 2. A more detailed view, with Director Compton in the back.

24. S. P. I.-48183. Protea latifolea, one of the most beautiful of the Cape Proteas.



H4. Mountains from the garden.

Much of the vegetation on the mountains is native oaks and pines, and the oaks are driving out the native shrubs.

August 25. According to previous arrangements, Director Compton met me at Newlands and took me again to the botanical garden, where I met, in addition to Mr. and Mrs. Compton, Miss Page, an artist employed by the garden, and also Assistant Director Mathews.