

Water Book

No 2

California 1850

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Field Note Book -

Botany, & Geology

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Chas. C. Peary -

No. 2.



1

Description & notes of
— plants —
— California. 1844 —

No 1 Papaveraceae — not described Torr & G. Fl. Cal.

Calyx 3 sepaled, caducous, sepals disposed in a globular head, irregular shaped ~~each~~ edge alternately folding over & being folded under the proximate sepal outer portion hispid with stiff bristles — inner portion a membranous expansion forming a prolonged wing. Petals 6 attached in 2 series, inner & outer, broadly round cuneiform, circumference crenate, Stamens numerous, filaments inserted into the thick torus somewhat club shaped purple towards their insertion, anthers imbricate — Stigmas about 12, radiate on the top of the capsule alternate with the placentae. — Capsules oblong-ovate

~~Romneya~~ *Romneya* is a small tree, externally
 covered with hirsute close bristles,
 Leaves (lower) pinnatifid, alternate the
 segments falcate or long-wedge shaped
 toothed at the extremity, upper branch
 leaves mostly bifid & wedge-shaped
 petioles set with caducous, elliptic
 Stem smooth suffrutescent

Hab. Edges of dried up streams
 near Southern point San Diego Bay
 July & Aug - Stems smooth & glaucous
 4 to 5 ft high in thick clumps
 mixed with the remains of previous
 years growth, stem with a large
 pith - flowers white 3+ inches
 diameter; not juicy leaves with
 a permanent taste like *Aconitum*
 (*Romneya* (Hook)

Opuntia -

Stem. flat jointed.

joints orbicular, or obovate - narrowing at their insertion. Branching in all directions growth principally from the edge of the joints, and in the same plane. sometimes obliquely or at right angles. tubercles

flatish - areolar with their spines disposed in spiral rows crossing each other obliquely.  The rows were never interrupted, on the edges areolae prominent, with barbed

wool in the upper axils, spines, larger flattened at top widening to the base somewhat transversely marked light brown proceeding from the lower edge of the areolae the lower & larger spines mostly setaceous central and lower ones largest, smaller at the sides all stiff & barbed

Flowers produced mainly on the edges of the joints (middle growth)? Sepals in 3-4 rows outer thick greenish broad ovate & mucronate inner oblong-ovate to long-wedge shaped mucronate

Stamens numerous disposed in rows on the way
at the base of the sepals longer than the pistil
Pistil thick round & tapering from the base
redish crowned with 10 green stigmata
radially disposed

Fruit obovate or pyriform, deeply & broadly
umbilicate with bases of the caducous flower
 $\frac{1}{2}$ inches diameter. 2 inches long, redish when
ripe covered with areolae and branches of slender
little -
spines - Seeds many, irregular kidney
shaped with a dark center & colored, or
whitish margin

Hab. Sides of dry hills (lower) joints prostrate
ascending, spreading - joints frequently 8 in
diameter less than $\frac{1}{2}$ in thick. older joints
thickening, and becoming ligneous, weathering
into reticulated, woody tissue - flowering through
the season. flowers larger than *O. vulgaris* yellowish
tinged with red on the outside -

No. 3. sent to Engelman

Opuntia - - - (Cylindraceae) - des

Stem cylindrical. — set with tubercles & clusters of spines, disposed in oblique lines crossing each other 6 to 9 rows. — The main stem becoming brown, smooth & lustrous, branches divaricate, irregularly disposed in many various sized joints, the joints somewhat radially branched — younger joints with prominent, distinctly oblong, tubercles, with deep narrow intervals — barbed wool in the axils, and the bunch of spines, subtended by oval shaped leaves, spines central, mostly perpendicular, outer spreading, reddish brown & covered with a membranous sheath, strongly barbed —

Flowers produced, principally on the upper radial branches, 1 1/2 diameter petals red, outer, broad ovate, inner oblong ovate stamens disposed in rows, filaments shorter than the pistil. — Style round stigmas —

Fruit oboate umbilicate, set with spines & awl shaped leaves like the younger branches proceeding from the edge or near summit of the same years growth. The later fruit often springing from the sides of the earlier, and bunched together -

Seed. as far as I have seen always abortive

Hab. Isolated in waste places, on dry hills in forming ^{and impenetrable} extensive thickets, near dried up streams - often 2 to 3 inches diameter with tree like stem & singularly spreading branches young joints easily separating, and the sharp barbed spines. "shaking" closer than a broom

The main stem weathering into a hollow tube dissected to a coarse net work of of hard ligneous fibres -

Opuntia. no 4 sent to Engelman Cylindraceae. (dis)

Stem cylindric subprostrate $1\frac{1}{2}$ inches diam
 rows of tubercles in spiral nearly perpen-
 dicular rows, about 10. - (8 to 13)? Tubercles
 prominent thin ovate with a bunch of
 ciliate whitish, barbed hairs in the
 axils. Areolae woolly spines in bunches
 7 to 9 mostly disposed round the lower
 circumference of the areolae central ones
 nearly perpendicular, ^{mimbraneous shaggy} lower strongly recurved
 in old specimens lying on the main axis
 divaricately but sparingly by branched -
 Flower (not seen)

Fruit ^{imm} saucer shaped very deeply & broadly
 umbilicated ^{remains of} flowers, rather permanent,
 thickly set with spines, and long ciliate
 wool. set on ^{sides} same year's growth.

Seeds large whitish bony uneven orbicula
 & thick

Have dry hill sides - allied to the last but
 maintaining its peculiarities - as stated, rather
 isolated and apparently not long-lived joints
 rather long & snake-like — &c

do / sent to Englemann

Echinocactus viridescens. (Nutt.)

Plant globose, flattened at base ribs vertical
 strongly marked with deep furrows, ordinary
 number 21. in smaller specimens some odd No
 below. tubercles slightly swelling from the main
 rib. 1/2 inch long, with woolly axils and bunches
 of spreading spines occupying the lower portion
 of the areolar: top depressed woolly uniting
 the areolas of the centering ribs:

Spines diverging, curved with convexity upward.
 28 to 20, bided in the woolly areolar, 4

horizontally,

central larger diverging at right angles
* perpendicular & transverse, the
two perpendicular largest, flattened at
top inclining to their insertion, transversely
marked, very stiff greenish tinged with
red 1 1/2 inch long; transverse ones
more rounded shorter annulated marked
exterior spines disposed in a radiale
manner (like the legs of a spider)
all more or less curved - flowers cuculoid
disposed in the axils of the upper spines
persistent & adhering to the fruit, (fresh
flower not seen)

thrust green color

Fruit glabular or gooseberry shaped
3/4 inch diameter, covered with adhering
lunate shaped scales, greenish tinged with
red separable from its attachment
when ripe, leaving an aperture at base
for the escape of the seeds.

Seeds, small black shining, pitted
somewhat kidney shaped, variously shaped with,

flattened planes.—

Hab. Dry Hill & ridges specimen were
6 inches diameter 4 inches high, I saw some
one 18 inch by 1 foot high. whole plant
weathering into a mass of spines

Flower—greenish. internal sepals. oblong ovate
inserted by a thickened claw in the fleshy
disc surrounding the stamens. crenate ciliate
at summit. exterior gradually becoming
smaller to form the close lustrate scales
of the fruit—Stamens numerous. The external
longest all inclined towards the upright stigma
inserted in the white internal disc sloping
on all sides to the base of the stigma

Stigma central cylindric smaller at base. its
upper part more than half way divided into 12
linear upright bundles of stigmata white yellow—
size of flower $1\frac{1}{4}$ inch longest diameter $1\frac{1}{2}$ inch long
including the ovary length of style 1 inch
stamens shorter than petals or stigma. the latter slightly
shorter than the petals.—

(No 1 sent to Englemann)
(Color light green)

Cereus. - Californicus. (Wttr) Stem, general outline erect, cylindrical: $1\frac{1}{2}$ inches diameter; perpendicularly ribbed. Ribs 15 separated by sharp grooves, linear, somewhat swelling at the summit areolar on the upper part round & bedded with brownish short wood bunches of spines thickly spread over the whole surface interlocking, and (hiding the ribs unless on close inspection) central spine much the longest, perpendicular or inclined somewhat upwards, to the main stem 2 inches long needle shaped not barbed brittle whitish green. Externals ones smaller acicular, spreading in all directions numerous 40 to 50 - areolar and spines at top of stem crowded into a dense mass

Flowers not seen its remains crowning the fruit - Fruit globular, disposed irregularly on the sides or near the summit of latest growth, solitary or several together thickly clothed with areolar & spines

except its lower part - resembling a portion
of the main stem $1\frac{1}{2}$ inches diameter

Seeds numerous black middle sized

Hal. Dry hill sides near the sea, joints 6
to 9 inches, with the main stem, prostrate
ascending 2 to 3 feet growth central with
occasional
offsets, growing in thick masses, when the
old spurs separate in a body from the main
axis, leaving dry hollow wood fibres, -

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Journal continued from Note book No 1

March 18th 1850. We leave the ranch of Don Jose Yuba, and cross the Santa Anna river, about 200 ft wide, its channel is bedded with quick sand. - through which our mules flounder. the water reaching to the saddle skirts, the waggon followed close after, the passage of a drove of mules settling the sand, - the bottom is little depressed below the surrounding plain. - just after crossing the sand is sandy and the plain mostly covered with wild sage, and other arid loving plants. - passing this the depressed plain is composed of a stiff clay and on proximity to the ocean is evidenced by a saline efflorescence - pass several muddy gullies, sometimes with a running stream of clear water in which a succulent plant is floating the edge of the plain is swampy, and the road then rises to

a rolling ground of hard gravelly soil and good road. here some ranches are situated. the plain continues pretty much of this character till we reach the San Gabriel river, marked by a line of trees. The stream is shallow and runs over a hard sandy bed about as wide as Santa Anna. here is a ranch 18 miles from starting point but another ranch being about 6 miles on near Los Angeles, we push on. Camp in sight of the city of the angels built at the base of hills and overlooking a low plain with pools of water. and fenced off set with fruit trees &c.

March 19th We descended the bluff. that overlooks
 the plain & gardens of Los Angeles. and
 crossed a small dashing stream at its base
 which winds through the sandy plain.
 probably a branch of the San Gabriel, the
 Ocean is barely visible. to the South
 the bay of San Pedro. being the port for
 this place but poor harbor - the
 suburbs of the town, is set off with
 live hedges of Cotton wood. and mostly
 planted with vines. in one garden I
 noticed an orange tree in full fruit -
 we took an horseback view of the town
 which is sufficient in all conscience
 as it is miserably shabby for its showy
 name some of the houses are graced
 with verandahs. and bear American
 signs - The town is less compactly built
 than other Mexican towns, the Plaza
 being to one side, the houses are
 mostly covered with mineral Bar-pimento

from the vicinity, and we ascend
 the hill overlooking the town. Shows
 remains of a fort built by Gen Kearney,
 passing out of the town we cross
 an undulating spur of hills projecting
 into the plain and emerging on
 the other side pass over the plain
 course about west, ocean visible
 to our right, a few miles on. The
 road turns towards the mountains
 and entering a pretty defile passes
 over to another plain having
 mountains to each side - but just
 entering the defile is the remains of
 a lime hill, the material being of
 a white slaty character. The base of
 the hills is composed of Sand rock
 and granite succeeds to this in
 mounting the divide. in the defile
 are some new plants. *Perniss* -
 a *Turneraceous* plant. and *man*

shrubbery - entering into the plain is
 a ranch and the road passing this
 to the right continues along the
 left hand range of hills. There in
 their higher points are spotted with
 live oak farther on the hills become
 more rounded & grassy. a species
 of Walnut makes its appearance
 mostly a small tree branching near
 the base with knarled limbs, now
 just putting out its Catkins.

We camp at a ranch called
 En Cino. on the opposite side of
 the plain ^{bridge} towards the mountains is
 the Mission of San Fernando now
 deserted. its grove of olives is to be
 seen from our camp. - going to the
 top of the hill near our camp. is the
~~time stone~~ ^{argilaceous rock} before mentioned lying about
 in the rank grass in large square
 blocks. - near the road, is a warm

Spring bubbling up a sulphureous gas
 like that at Santa Maria (see note book)
 The temperature of this Spring is
 such as to feel quite warm to the
 hand immersed in it. It issues
 in a large pool from a gravelly
 strata. The water is clear, but
 its bottom is covered with black
 deposits. The water has very
 little sulphur taste & smell.
 Distance from Los Angeles 21 miles

March 20 A frost this morning as usual.
 Leaving camp 8 A.M. we pass over the same
 plain with hills to our left in a west course
 just beyond the ranch we enter an oak
 opening. The oaks, resembling white oak
 deciduous foliage, growing at pretty regular
 distances. The trunk short & stocky
 and spreading branches. Leaving the
 plain in a few miles we round through

a hilly country composed of high mamiform peaks. between which on course winds in a gradual ascent. the road passes down some rather steep pitches. and in one ravine there is a plain exposure of the ^{igneous rock} ~~igneous rock~~ of a slaty character and scaling off into small irregular slabs. It is covered up the hill by a high drift at the exposure there is a dip of a few degrees to the north - we next enter upland valleys and plains. in which the live oak & white oak mingle. The ridge of mountain between us & the sea is now shooting up into high ridges thickly covered with shrubby vegetation at its ⁱⁿ summit isolated granite peaks we pass at a quick rate. through similar country. gradually ascending leave a ranch on our left hand and proceeding some 6 miles farther another deserted adobe house. when the road

spans on an upland plain. in
 its lower depressions being marsh
 its soil a stiff clay, here we come
 on another ranch and failing to
 obtain accommodations for our animals
 we encamp in a mixed grove of
 live & white oak ^{with a gray pendent beech} - Distance 28 miles

21st March Ice in our buckets, this morning
 passing across the plain towards the mountains
 on our right, we enter the range and soon
 come on the brow of a steep hill over
 the ridge of which the road passes to descend
 to the plain below. The hill is about 500
 ft. and descent almost perpendicular so
 that the waggon has to be let down by hand.
 passing into the plain below, the ocean
 is in sight bounding the plain to the south
 some rocky islands are seen one large, called
~~Santa Catalina~~ ^{Santa Cruz} - the plain is of a sandy
 barren character. Isoucin. arborea. (Nutt)

& a Chenopodiaceous shrub make their appearance. - grass scanty - we continue over this plain elevation varying some and approach a line of trees on the edge of which we encamp. quite a cluster of new ranches and several good ~~corrales~~ the line of trees is the edge of a small river called Santa Clara

Distance 12 miles -

March 22^d We cross the Santa Clara river a shallow swift stream running over a sand, fed spread out in various channels. The opposite side of the stream is elevated by a saving bank of earth, and spreads out into a triangular plain the sea and mountains approaching in our course. about 6 miles come to the apex of the triangle, where at the base of the hill is the Mission of San Buenaventura - This is the only

Mission we have yet been to. which
 is kept up. its outbuilding, are rather
 shabby. but its Church is kept in good
 condition. its walls hung with pictures
 and its staves, occupied with the
 usual drapery. The building inside is
 over 100 ft long. with a brick floor
 and plastered roof. - quite a settlement
 is congregated about the Mission
 among others. quite a fine store
 kept by an American called Streeter
 The Mission grounds are kept enclosed
 but little signs of cultivation - The
 Olive trees are in good condition and
 still hanging with fruit. There is
 also a large number of excellent
 pear trees now in blossom. a few
 peach trees. some palms, &c. The
 Luna Cactus. a few palms, no vines
 Indeed in corners of the gardens
 fragments of *Asparagus* & *Tropaeolum*

and a kind of Spruige - Irrigation is still kept up. the fine clear water of the Rio Buenaventura being easily conducted by ditches to the lower level of the garden - a priest has his residence in the Mission, and musters a large congregation, which is scattered about the narrow valleys towards the mountain. The Buenaventura river is a fine stream of clear water flowing over of pebbly bed knee-deep & ~~probably~~ perennial the valley it waters is narrow but fertile the mission is on the East side & the grounds border on the Sea beach.

Soon after crossing Rio Buenaventura the road turns down on the beach, being closely hemmed in by high perpendicular hills 300 ft. it follows, thus in 3 different places small projecting plains intervening. these passes have to be made during low tide as high water washes the perpendicular.

Cliffs - the tide was rising, as we passed
 the last stretch and forced us upon the
 pebbly edge - leaving, thus the road
 crosses a fine clear stream and then
 takes to the hills, we encamp on a
 rise overlooking the sea, the brook
 below us winds through a steep
 ravine in which are growing some
 fine plants - *Ceanothus* ?
 a small tree with greenish bark
 thick white fragrant flowers -

Distance 48 miles -

March 23^d We leave our "ocean camp" and
 ascending a higher elevation, see in the distance
 the town of Santa Barbara - a proceeding point
 beyond probably Cape Concepcion: when the
 coast assumes a more northern direction and
 a timbered region commences -

we descend again to a lower level, and
 wind along near the beach, we soon after
 enter a dense grove of live oak. pendulous
 with gray lichen of rather stunted growth
 now just putting out its new leaves
 its dense shade protects a variety of
 tender succulent plants, and in its
 grateful shade crossing occasionally
 small brooks, we wind on before
 reaching Santa Barbara. a branch of the
 road follows along the beach a short
 distance - pass one ranch on our right
 before reaching the town the road crosses
 another spur and the town makes its
 appearance. The sea makes several
 inlets forming an inland bay with a
 breakwater beach. Close into town
 a small vessel is lying at anchor.
 The mission is situated at the base
 of a range of hills overlooking the town.
 The town itself is on a plain a little

elevated from the beach, the same
flat extending westward to the sea
isolating a ridge of high hills.

North of the town about a mile
a high ridge of mountains shooting
up into rugged peaks, its sides
mostly covered with short even
shrubbery - The hills are rising every where
Distance 12 miles

March 24th Sunday, Leaving by 10 rest, visit
the Mission half a mile out of town
lying at the base of the mountains, facing
the south - its buildings in the usual style
are in tolerable preservation, the church
is spacious, with the usual implements
of Catholic worship - the building is
occupied by a padre, a long time resident
there - the outbuildings are less, slightly
than at San Luis Rey -

The fruit garden lies west of the mission on a natural slope. a brook of dashing water from the mountains is easily spread over the garden by conduits connects with an upper reservoir - The olive trees are numerous, and in good condition -

There was also quite a number of Fig trees. Some in fruit - but showing signs of neglect - Apple & pear trees, especially the latter are numerous, and in good condition beside these pomegranates, peaches. the Ficus Pactus complete the present assortment. The vineyards connected with the mission are 3 or 4 separate, one being on the other side of the mountains. I did not see them but understand that they produce well, but are suffering from want of attention - when not properly taken care of apt to be

injured by squirrels. the young blossoms
by cold & the fruit by wolves —

I found the acquaintance of Capt
Bunney. Collector of the Port also
Mr Hill. an American long resident
27 years — was shown a Spanish
book history of the Missions in
California — Day quite hot —

March 25th Passing through the town
we follow a westerly course, up
the plain extending from sea to sea
with high hills on our left to seaward
the high mountain range on our ^{right} ~~left~~
follows nearly a west course its
western termination in a low point
with a butt end, forming Cape
Concepcion — our road passes through
two oak groves, some of great
size. I measured one 11 ft in
circumference — the radii of its

branches extending over 30 ft -
 pass some shallow brooks running
 over sandy bottoms, in 6 miles
 pass quite a cluster of ranches
 on a rich bottom, farther on
 the plain flattens down to the
 sea and becomes marshy in places
 with sloughs. pass in about 9 miles
 on our right the Ranch of Mr Hill
 quite respectable looking, for California
 some fields fenced in with brush
 but I did not see any cultivation.
 beyond this the country becomes
 more elevated & undulating with
 steep gullies, cross a fine dashin'
 stream on which we encamp
 with a fine view of the ocean
 and live oak grove in our rear
 plants, Phlox. — ? Wal, Sand stone
 rocks towards the mountains &
 species of *Aspidium* — ? *Hepaticae*

and an *Equisetum* Distance 15 miles

March 26 - Remain Camped to recruit our animals walk out to the mountains north of us following up the stream on which we are camped - The valley becomes soon narrow and confined between high hills on each side covered with shrubby Live oak & *Gycaron*. edge the stream towards the base of the mountain. Sandstone in precipitous cliffs - we finally take to the hills on our left and losing our path get involved in an inextricable maze of shrubby *Ceanothus*, —

Cercocarpus. - In this dilemma my companions backed out - continued working my way slowly up reached the summit of this first range of hills. the mountain seeming as far off as ever. The next range of hills showed an exposure of the same dry sandstone and similar

shrubbery so that I did not think worth
while to make further ascent. the faces
of the cliffs are hollowed out by ravines
checked up by shrubbery. the intervening
ridges climbing up to the main summit
take to the ravine on the right leading
into the stream we had followed, and
forcing my way down. climbing down steep
jumping places. - in this ravine. ~~xxxx~~ about
half way down there is an exposure of
sand stone, highly fossiliferous. in showing
imperfect bivalves, and a spiral univalve
similar to that found at San Diego this
continues some distance down, the strata
when in place showing a dip of some 30°.
The N. Sandstone similar in character
except not being fossiliferous seems to
lie above & below it; emerging on the
brook once more. it bed filled with
granite boulders. over a thicket which
its clear water rushes. saw some fish

Several varieties of ferns are growing
 on its banks. *Aspidium* - ? an
Asplenium ? a *Pteris*? near *Aquilaria*
Adiantum - — ? a pinnate leaved
Polypodium, similar to *P. Vulgare*
 The blue fragrant flowered *Claytonia*
 is common - also *Claytonia*, - of
 which I obtained flowering specimens
 Saw a small tree with Maple
 leaves: no fl or fr - A pink flower
 Currant. - and black gooseberry
 There is also a Scrophularaceous plant
 something like *Digitalis*. - its surface
 covered with clammy glandular pubescence
 with a very heavy odour - The *Claytonia*
 same as found at San Diego is also
 found here -

March 27- Remain in camp; day hot; take a swim in the surf. name of the place dos Pueblos

March 28. Rise at half past one. To take advantage of the low tide. The full moon helping our undertaking - delayed in packing and mules till 4 o'clock leaving camp. we pass down a gorge, or gulch as it is called by which we come on the hard beach. The tide was rising and we galloped on till daylight overtook us. about 5 miles we have to take up another gorge. to the table land. the mountains here approach the beach leaving but a small plain ^{20 to 40 ft} at ^{some high water} base. furrowed out deeply at intervals with small streams at their bottoms and steep storm descents. - the rocks occasionally jutting out in reefs into the ocean. show a remarkable dip 30° or +. it seems to be an earthy lime or argillaceous rock alternating with mud & clay layers

the dip is towards the mountain range
or N - Further towards the mountains
the rock is of a sand stone character
and the dip apparently increases
so that the mountain side seems
composed of pyramidal planes of rocky
strata leaning towards the central axis
the intervening spaces making the trenches
and their prolonged apices the ridges that
comb down the mountain side. Surmounted
at top by blocky masses - we continue
close along the beach towards the low
point of Cape Concepcion. and about 18
miles. turn ^{north} to the mountains on our
right. shutting out our view of the cape
by a high grassy hill - we take up
the ravine. till it enters the mountains
by a pass. perfectly hemmed in by rocks
on all sides except the narrow entrance
a gurgling stream forces its way over
a bed strewn with large rounded blocks

which the road frequently crosses
 winding in the shade of live oak
 and Sycamore, alder &c. the way at
 length becomes choked up by rocks
 and then opens on a small grassy pe-
 basin. - from this again it enters another
 canon. which with its sudden twists
 up hill & down rocks, blocks, & trees
 make a indescribable scene of confusion
 this soon opens after passing the main range
 into a wider upland valley. the ^{same} stream still
 being on one side or the other. moderate sized
 sand rocky hills rise irregularly on each side
 the shrubbery the same. we at length come
 on a fenced field, and ranch. prettily set
 off with peach trees in blossom, here is a
 small upland basin. crested with hills its
 stream, shaded by live oak & Sycamore -
 its flats bedded with a luxuriant growth
 of *Prodrum*. on which we pitch our tent
 and make our bed. - Plants. *Delphinium* -

— ? *Lithophaena Pyralis*

I noticed, on the summit of a hill near camp. the fossiliferous Sandstone before mentioned seen also in blocks in the ravine — its range here seems to be extensive — The name of this place is Canoes. Distance to day 22 miles — Here we met and had some conversation with Gooley one of Fremont's men, interpreting voyageurs from Manfusa Gold diggings

March 29th We empty ourselves out of our mountain basin, by climbing over the handle following up the brook on which we encamped northealy. then mounting over a ridge of hills covered to their summits with wild oats, descend to another basin, by a very steep clayey hill crossing the basin, we follow up another brook, and mounting another high ridge look down upon the mission of St ^{Yves} ~~Yves~~ situated on a flat, fronting a river bed

with high broken mountain ranges in the back ground. descending into the valley by another very steep and tortuous hill, winding like a spiral stair case - descending into the valley we soon come, and pass the river - running a westerly course emptying N of Cape Concepcion. the stream has a wide gravelly bed but the stream is now confined to the right bank. a swift current running over a pebbly bed. The mission buildings occupy the flat bottom of the valley, soil of a sandy character. The mission is a pile of buildings seemingly in good preservation the people occupied in the Lent festival. There were no gardens about the premises I suppose being farther up the valley we follow down the valley a mile or so and take up a branch to our right which gradually ascending and narrowing, passes by a ravine to the top of

another ridgy hill, still higher than
 any we have crossed. The descent
 is sharp on the other side. The
 road lined with live oak shrubbery
 noticed a shrubby ^{Pyracantha} ~~Lapine~~ - the steep
 and gullied descent leads into a
 valley which taking a sudden turn
 to the left, widens out into an open
 plain. passing down this we reach
 the O'Hamos ranch and encamp
 Distance 24 miles - The country
 since passing the first mountain
 range has been more extensively
 wooded. The hill sides generally
 scattered with oak. - The deciduous
 leaved oak is common on the wide
 plain valleys, hung with gray lichen
 pine is seen for the first coming
 a distant ridge on right
 Day wears

March 31st - (Sunday) Remain Camped - The ranch belonging to Mr Dana. is quite extensive occupying several leagues: to sea-ward. the dry sandy plain extends unfit for pasturage or cultivation but affording a fine variety of wild native plants - Eastward below our camp. is the valley running N & S. the other side undulating and bounded, about a mile by a range of high smooth & vertically furrowed hills with a rounded outline. a brook runs on the western side & the lower part of the valley. is of very fertile soil. and easily susceptible of cultivation - the whole valley affords fine pasturage. with abundant growth of Eractium called by the Californians. Poléa - The day has been fine and agreeably tempered with sea breeze -

April 1st Leaving Dana's ranch, we follow the
 sandy edge of the valley, which finally levels
 down to the same plain and we pursue
 our course over an undulating country
 scattered with live oak. There is exposure of
 granitic rock in several spots on the edge
 of valleys. The soil becomes gravelly & hard
 we pass a nice flowing brook ^{also a view of the basin} and remain
 on our left of fencing - farther on we come on the brow
 of a deep bottom and stream called Arroyo
 grande - the bottom is of a marshy
 character & thickly wooded with poplar, willows
 &c. There is also a species of Cornus, like
 stolonifera - also a singular Louiceaeaceous
 shrub - we passed on the road specimens
 of the Metellia. cerasiformis - We had
 much trouble in passing the Arroyo
 getting stuck in mud holes, and had to be
 lifted out. passing out we come upon
 the ranch of Mr Price, an Englishman and
 his grounds are admirably adapted to cultivation.

as they may be irrigated at little trouble
 find in the marshy bottom. near the Negundo
 Californicum - a tree much resembling the
 Negundo in the states but smaller - also
 a species of Trillium - ?

Encamp near the ranch. obliged to grind our
 own flour. learning to make tortillas &c
 Distance 12 miles -

April 2^d. Leaving the valley of Sonora grande, we pass
 over the hill bounding it on the north. at the summit
 of which is an exposure of conglomerate rock we
 descend into a narrow valley lying in our course
 and following up to its origin mount over a
 gravelly hill which commands an extensive view
 of bare & wooded peaks. with the Mission
 of San Luis Obispo in the distance on the
 left an arm of the ocean is visible. a
 precipitous cliff of blue granitic rock is also
 conspicuous on the ocean side - a pretty
 senecifoliaraceous plant with yellow blossoms

is passed on the gravelly summit —
we descend on a plain surrounded with
bare hills, rocky points projecting on their
sides. the plain is spotted with a
species of *Castilleja* differing from any before
seen. the plain itself is cut up with deep
trenching streams with gravelly bottoms, in one
of which our waggon upset — reach the Mission
12 miles from starting point. it is not stylish
in exterior or interior. its front row of
rooms with the usual pillared porch
is occupied with shops &c. could not get
inside the Church. The gardens are mere
wastes with remains of stone walls, rows
of fine olive trees, and a few peaches & peaches
a fine stream of water passes in front
with a deep trenched bed — having laid
in an extra stock of provisions, including bread
at 50 cts alb and flour 25. &c we follow
up the mission stream turning short to the
right — we follow up this stream

as they may be irrigated at little trouble
 find in the marshy bottom. near the Negundo
 Californicum - a tree much resembling the
 Negundo in the states but smaller - also
 a species of Trillium - ?

Encañal near the ranch. obliged to grind our
 own flour - learning to make tortillas &c
 Distance 12 miles -

April 2^d. Leaving the valley of Arroyo grande, we pass
 over the hill bounding it on the north. at the summit
 of which is an exposure of conglomerate rock we
 descend into a narrow valley lying in our course
 and following up to its origin mount over a
 gravelly hill which commands an extensive view
 of bare & wooded peaks. with the Mission
 of San Luis Obispo in the distance on the
 left an arm of the ocean is visible. a
 precipitous cliff of blue granitic rock is also
 conspicuous on the ocean side - a pretty
 serotularaceous plant with yellow blossoms

is passed on the gravelly summit —
we descend on a plain surrounded with
bare hills, rocky points projecting on their
sides. the plain is spotted with a
species of *Castilleja* differing from any before
seen. the plain itself is cut up with deep
trenching streams with gravelly bottoms, in one
of which our waggon upset — reach the Mission
12 miles from starting point. it is not stylish
in exterior or interior. its front row of
rooms with the usual pillared porch
is occupied with shops &c. could not get
inside the Church. The gardens are mere
wastes with remains of stone walls, rows
of fine olive trees, and a few peaches & peaches
a fine stream of water passes in front
with a deep trenched bed — having land
in an extra stock of provisions, including bread
at 50 cts alb and flour 25. &c we follow
up the mission stream turning short to the
right — we follow up this stream

gradually winding more to the north. having
 a range of high hills on our right on
 which pine for the first smokes its appearance
 growing on a loose drift soil. the underlying rock
 being a kind of igneous, seemingly vitrified like a
 light blue slag - passing on to the termination
 of the valley we mount to the divide. and
 descending on the other side. I had the luck
 to be thrown from my mule. Spraining my
 right wrist - concluded to walk the rest of
 the way - on this side the pine makes
 its appearance on the side of the road. being
 a thin, ^{6 to 8 inches} trunk with long leaves. I heard the
 buzz very large, - found here on the hill
 sides a drooping bell-shaped flower - also by
 the side of the stream. a number of bushes
 of the *Mutellia. cuneiformis* (Torr) The
 country has more of a wooded aspect as
 we open on the plain of Santa Margarita
 large white oak pendant with lichen are
 scattered over the plain. camp near the

deserted Mission buildings - the ground on both sides of the mission is a depressed plain very fertile & easily watered - a beautiful stream flows east of the Mission running to the Northward. just E of our camp it runs over a bed of white shelly rock dipping to the W. on one side it is seen covered with a soft sand rock
 Distance 21 miles -

April 3^d Leaving the pleasant and picturesque scenery at Santa Margarita, we continue our course winding over a ridgy country. in which the pine is the characteristic timber, a species of *Ceanothus* - lining the road sides - this character of country continues the soil being gravelly with boggy places in the lower depression in one of which we got stuck - The shelly rock is exposed in several places on the top of the ridges, white & chalky - its decomposition gives character to the gravelly soil of the ridges

some new plants make their appearance a
red flowered species of Sarcocolla, so

Pass a valley ^{with a deserted ranch} in which a fine stream
is flowing an exposure of the shell rock
makes its appearance. the stream passes to
our right winding round the edge of the
we come upon the bottom of Passa araba
and following it down its course being nothing
pass another deserted house in good repair
with a tiled roof. a few Bear trees. showed it
to be a dependence of a Mission farther
on we cross over the pass called Passa
aroba. the stream being on the opposite
side of the bottom, its course very intricate
& tortuous, with steep caving banks. This is
a very bad pass in high water but we
make it without any trouble the water
not being more than knee deep. on
the opposite side of the stream is quite
a collection of houses. one with tiled
roof in which a variety of business is

going on, including a store, bakery & blacksmith shop. - leaving this shoring settlement, we follow down the stream, it being on our right hand, we pass along a ~~small~~ plain scattered with white oak pendent with gray lichen, the pine disappearing. the soil is dry gravelly from the disintegration of the shell layer the bottom of the stream on our right is grown with willow &c. the bed of the stream sandy. - continuing on its edge, occasionally descending to its bottom level - the scenery in the distance is less bold, the distant hills being little elevated above our level. The stream which we are following down is a branch ^{of the upper part} of the Salinas, emptying into Monterey bay its northern source being somewhere near the ~~branch lower down is called~~ Macamonto. where a difficult crossing is made. we make about 4 o'clock

the deserted Mission of San Miguel -
 its buildings being very extensive and in
 better repair than ordinary - its court yard
 is spacious, and its Church. large & substantial
 most of the roofing is taken away and
 the painted walls and sacred precincts
 are disfigured by the scrawled names
 of Americans, who have passed here
 The grounds show a few remains of pear
 trees. fig., the vineyards are poor, much
 over run & destroyed - Distance 25 miles

This building was the scene of a very
 tragical occurrence. some 18 months ago, a
 family of 11 persons being all murdered
 by a party of 6 runaway sailors - the
 marks of blood still spot the floor of the
 bloody chamber. which for this reason has been
 deserted till now, a grocery shop is being
 established there, all the perpetrators of
 this horrid deed met a deserved fate being
 either shot or drowned in making their escape

April 4th Leave the Mission of San Miguel
 turning to the west. we ascend from the
 valley to an undulating table land. the
 ground arid & gravelly. a plant resembling
 dandelions being common. passing on
 about 6 miles we descend into another
 valley and cross a stream running to
 our right a branch of the stream we
 have left behind called Naciamento -
 this is a clear swift stream and in
 high water with a wide bed. its deeper
 parts requiring swimming. now confined
 to a narrow pebbly channel. knee deep
 leaving this we pass over another divide
 and come upon another branch of the same
 1st stream flowing N.E. its bottom is sandy
 its course tortuous. and we follow up
 on its right bank 8 or 10 miles. when
 we come on a ranch. lately deserted
 but now being occupied by Americans
 squatters - a little farther on we

cross the stream, which goes by the name of San Antonio, and then follow up its left bank, till we come to the ranch De Etoos where we encamp. Most of the country passed over to day was barren. The soil being a dry gravelly. The rock exposed is the calcareous ^{rather} rock before noticed, in one spot on the right bank of the San Antonio is an exposure of rock like basalt. The growth to day has been almost exclusively white oak and another oak of smaller growth bearing very long acorns, - plants of an arid character.

The ranch where we encamp is on the edge of a white oak plain, a lower depression. Towards the river is most rich soil and at its upper edge is a line of spring ground, with a fine gushing spring near the house. - Some signs of cultivation, a fenced field

of wheat. The day has been hot and
the march long. Distance 30 miles

April 3th Leaving camp. we pass north, leaving
the San Antonio river behind us. and passing
over an undulating country in which pine
again makes its appearance, the soil dry
and gravelly as before. we gradually ascend
a divide. and from its summit look
down again upon the broad valley of Salinas
on the descent notice again the Quercus
shrub. passing down a steep descent
we pass into the valley. and the view
opens before us a wide plain extending to
the sea. the soil still gravelly & barren
we pass a deserted ranch San Bernardino
and then come upon the plain the
deep bottom of the Salinas. thickly
wooded with cotton wood & so is on our
right a line of rounded hills on our left
we follow along the steep rising bank

of the river bottom and soon come upon
the Ranch El Pozo. where we encamp.
Distance 24 miles -

April 6th From El Pozo, we proceeded over the
valley plain. Taking a side cut, towards the base
of the left hand hills, the plain has several
descents to a lower level, and from the last, we
come upon a stream emptying into Salinas
with a wide valley the bed of the stream is sandy
with a pebbly channel the stream now low is
divided into a number of sluices, and the stream
is little depressed from the land, bordering.
The range of hills on our left, now comes close
up and near the river bank in 15 miles we
come to the Mission of Solidar, rather shabby
and dilapidated. here the road takes a short turn
to the right crossing the Salinas river. (the direct
road to Monterey 40 miles continues on the left bank
of the river.) The crossing now good is in high
water out of the question. the current being

swift & the bed wide. with several deep
 channels - rising the shallow bank. we
 come upon a plain. the mountains were
 receding to our right. the river coursing
 near the base of a high range of mountains
 whose tapering northern extremity forms the
 Pt Pinos of Monterey bay. - the plain
 on which we proceed. is of a richer
 character than the corresponding on the
 other side. the pasturage good. we Encamp
 at a ranch 2 miles off the road on the
 banks of the Salinas. Distance 25 miles

April 7th (Sunday). Obligated to separate from my
 companions. I engaged a vaquero to take my
 cargo. & self to Monterey - After the usual delay
 in accomplishing any thing by Californians
 agreeing to pay \$16.00 for my transportation
 my baggage shipped on a mule. & self
 mounted on a California grey. we took
 our departure coursing along the night

bank of the river. over the same lush, grassed plain mentioned yesterday - crossing from point to point, as the river makes its sweeps, we come in about 12 miles to a wider indented curve than common and make for a ranch lying inside on the bank of the river. here we cross over the bed contracted to about 200 ft the bottom sandy, and the water about breast deep to our horses, ascending the bank we course through the bottom woods with live oak & notice a species of *Asculus*. - soon we come on a cluster of ranches and rain coming on - by the urgent wish of my vaquero I consented to stop for the night; here then see me seated on a three legged stool before a pot of boiling beans young ones spawling over the dirty floor and pulling at my coat-tail while I write
 Distance 15 miles - to Monterey 12 miles

April 8th Make an early start. the weather
 still dubious. — our course nearly west
 leaving the river behind us. we make
 up a narrow valley. bounded by Sand hills
 reaching the upper part. we pass over
 a country of sand hills. covered with a
 mossy growth. notice a dioecious shrub
 with pendent spikes ^(Juncus elatior) & Coriaceous leaves
 a species of *Ceanothus* ^(C. dentatus) with blue flowers
 also common. and a creeping
Archostaphylos ^{promilla}. This character
 of country continues. till surmounting an
 ascent we see the harbor & town of
 Monterey. the latter set off with Pine
 hills in the rear. and several ships
 lying close to shore. — we wind through
 live oak timber and soon come upon
 the lower pine growth. different from
 the one seen on road. trunk stouter
 and cones smaller. Coming upon the
 town we pass a sandy flat. separating

the bay from an inland body of salt water.
 the town is built on a pretty rise facing
 the East, and has a better look than any
 town I have yet seen in California.
 Take quarters at the Custom house with
 my friend, Randall. Collectors, &c

April 9th arranging plants & drying papers
 the day fine, -

April 10th to 12th Monterey, is the pleasantest
 place I have yet seen in California. The
 scenery is picturesque, the weather fine, and
 the inhabitants sociable. The vicinity of
 this place is the best botanical locality
 I have yet seen, but pretty well explored
 by Douglas Murrell & others - Plants, *Vaccinium*
 - - *Lithospermum* - - , *Asclepias pinastifolia*
Liliaceous plant. - *Hoosackia gracilis* -
Oregania Chilensis? *Arctelia* -

April 13th —

April 14th (Sunday) Attend church for the first time in California. Rev^d Mr Whaley — Missionary of the American board —

April 15th Start. on the revenue cutter, under Capt Pierce, intending to go to Santa Cruz at the northern edge of the bay distant 22 miles — coasting along Pt Pinos. we make a short shoot. for our destination the wind freshening from the W W as we proceeded. our little craft pitched on the waves, and disordering the stomachs of the land lubbers of our party. the usual bilious tribute to Father Neptune was liberally paid — Dr R. resigned to his fate. lay in the lee skupers. till the spray roused him. — The Prof. — M. quoted his experience of 25,000 miles. voyaging "never was sea sick before". Capt. D. of the army put on a forced composure but had to take his turn at the ship's side.

while I wrapped my self up in a fishing net
and kept myself miserably comfortable.
finally the wind freshened so much the
main sail was obliged to be reefed - and
the waves swept our deck fore & aft
to go into the head up Cabin was out
of the question, so we lay shivering and
gagging till it was concluded to break
ship & return to Monterey. our course
changed, our craft flew over the waves
and soon we dropped anchor in our old
ground, glad to have our feet on terra
firma once more. —

April 16th Surveying with Prof. Moore.
April 17th Fresh wind from N W. rendering the
weather cool. Thermometer. Was 5 P.M. 54°F the
N W winds springing up in the after part of
the day and the frequent morning fog combine
to make the weather quite cool. on the seaboard
Plants. *Rosa* . . . *Syrinchium* ? *Psychotria*

a small visceous shrub with cordate
coriaceous leaves. &c —

April 18th Cool as usual - in the evening
attended a city ball, at which the elite of
the place were assembled including some
50 ladies —

April 19th 20th Cool weather —

April 21st (Sunday) Steamer Panama, arrived from
Panama, bringing news from States to 13 March.

April 22-23-24th - Writing letters. A picnic is
held on the 24th in a pretty pine shaded valley
outside of the town. - The entertainment
consisted of boiled mussels, which are found
abundantly and of large size on the bay
shore - a bullock was slaughtered on the
occasion, and its quivering flesh stuck on
long poles before the fire. London etc
helped to swell down the repast, with
the usual variety of unspiced luzurnes

less indebted than such occasions in the States are to the culinary officers of the ladies who squatted in groups, according to colour under the shade of live oak, their rebozos resting on their shoulders leaving their charms of face fully exposed - The games of amusement had rather a characteristic turn, waltzing on the green, blind man's buff - and to crown the novelities, tossing in a blanket and leap frog, the time passed off pleasantly enough - Plants, *Heuchera*, *Miscanthus*, and a beautiful liliaceous plant with drooping ^{*Cyclanthus*} infertile flowers, - Strawberries were found ripe, being the wood strawberry found in the States, not *Chilensis*, as I first supposed -

April 25th to 27th On the 27th take a walk to Pt Pinos, whose rocky promontory forms the S. Western boundary of Monterey bay, sheltering the harbour effectually from the S.E. wind. The pines extend to within a short

distance of the point. when a series of sand hills commence, the ocean surf dashing against a number of broken rocky points— These rocks which pretty generally bound the wave washed shore, are a felspathic granite the feldspar weathering into rough crystals, it is frequently traversed by seams, of feldspar— the rock is of a variegated brownish grey and is frequently seen in the vicinity rising in rocky knolls. (plants—
Erythronium grandiflorum (Nutt) Bahia—

April 28th (Sunday) —

April 29. — Day Cloudy — A ship from N.Y. direct 165 days — The bay is alive with screaming sea gulls, attracted by an abundance of Sardines, which line the shore in extensive shoals. the boys wade out in the surf with a sheet and gather them up by the bucket full

the same fish put up in sealed boxes, cost
 \$2. a dozen at San Francisco - There is quite
 a recession in prices on the coast, and consequent
 loss to shippers - lumber can now be bought
 at San Francisco at very prices - 16 to 30¢
 per thousand. a year ago it brought \$5.00,
 the market is glutted with all kind of
 produce, vegetables alone fetch an high
 price - the great number of ships now
 due in San Francisco will increase this
 glutted state of commercial affairs.
 Many ships, including some at this
 port are abandoned, all hands having
 decamped to the Mines, The result of
 this state of things must be disastrous
 to the present Commercial Prospects
 of this country -

April 30th ———

May 1st —