Plants from Oregon
1. Pines from 10000 to timber line
2. Pines from 9000 to 18000
3. Small yellow composite (mostprefs highest)
4. White rose-like flowers common in fir woods
5. "with long stem (up to a
6. "Common plants in the lakes
7. "Church of Mexico
8. Scirpus occidentalis
9. "Sagittaria maritima
10. "Nymphaea gracilis
11. "Nymphaea mexicana
12. "Sagittaria variabilis

Plants from Moline, Ill.
1. "Small sedges
2. "Spotted sedge
3. "Juniper 400 - 1400
4. "Violet 9000
5. "Para" or "Juniper
6. "Kuskusum 9000
7. "Lilac (or "Juniper"

Vol. III
Oct. 8, 1892
E. W. Nelson
U.S. Dept. of Agriculture
Washington, D.C.
Oct. 8 - 1892

Several small orchards of apple
pears occupied plots of ground
in the midst of the village. But the
trees were planted so close to
gether that the branches
intermingled and made
up in tall slender
narrow
growth more
than cultivated
plants. The luxuriant growth
of wild fruit the
trees contained showed how well
such fruits would do with proper

cultivation.

In several yards at the outskirts of the
village, the Indians were busy thun
ning wheat with hoes drawn about over
the ground. A regular thrashing

Road to Naches, Michouacan

At National museum
in May 1972, photograph
larva of species of Cicala from
Puebla with the remarkable
arborosecent fungus Synebria
(Fromia) Stolbocerae growing up
from 1 to 2½ or 3 in. from back of
upper side g) thorax.

The first week of October, 1892, when enroute
between Alamosa, Pecos, and Michouacan.

The author was delighted with the succession
of wildflowers which grew out in
succession from season to season.

Gradually, as the slopes of the
meadows and woods were
covered with the most delicate
of colors and flowers,
the author
admitted that he had never seen
such a vast expanse of color in
September.
Elevations from Geog. Survey

Jalapa
Keramanta 2553
Apizaco 2400
Vol. Popocatapvil 5452
" Orizaba 5699.7
Pt. Rotile (ft 14,047) 4281.5

Elevations from Geog. Survey

Jalapa
Keramanta 2553
Apizaco 2400
Vol. Popocatapvil 5452
" Orizaba 5699.7
Pt. Rotile (ft 14,047) 4281.5

Following the trail we passed on our left a farm field when a farmer was scratching the soil with one of the primitive plows and turned up into a beautiful open pine forest. The ground on this divide is covered with low growing grass and trees. As we came to the border of the forest, a beautiful scene of a park surrounded by forest and hills.
I heard an odd bird note & a shot to the left & a short look revealed a pair of Spiranidae's shining black-pickers near the top of a long dead pine. My assistant was in the rear with the shot-gun & my companion Mr. Minton (J.P.) was quickly on the ground & stalked the birds within easy shot & fired at the nearest one. Bird left the tree appallingly fast & my shots made it through the high tree tops & I shot it with a charge of 5E. So I brought it to the ground. There were the first living orbs I had ever seen of that species, & they are fine birds. Near sunset we came to the border of the forest...
The name of a fine Basin-like open valley in which lies the Indian (Waramo) town of Nahutgin and several villages.

The valley is very fertile surrounded by many low heavily wooded hills rising to the altitudes some 800 ft., its being surrounded by still higher peaks the climate is cool with winter frosts occur.

A small corn with small shaped jointed kernels something like large pop corn does well here. — a

large portion of the corn are black. Wheat also does well here as does sunrapples. In fact any crop suitable to a temperate climate. This district was once
a noted robber range the
peaceable inhabitants still bedding
out at night.
Only a few years since the soldiers
raided one of the neighboring villages
and captured twenty-five men
accused of being robbers—all
of whom were sentenced to
prison or more summary
punishment.
The valley is largely devoted
to the cultivation of corn,
long stone roads are left
smoothing the fields at right
angles so that at their intersection
a person can command a view
to the border of the fields. In such
places roads do not command the
the house are raised platforms on 2 or 3 upright posts, some 10 ft. from the ground. From these places watch is kept day and night over the field to keep out the predatory animals, dogs, coyotes, opossums, &c. Frequently a small straw hut

with a sloping thatched roof is erected on three posts to shelter the watchmen. In addition to these, small huts are usually found on the borders of fields to shelter watchmen.

The night shut down on us as we rode down into the valley which looked like a deep black pit.
as we descended into it. At length we came into the narrow coble-paved streets of Nahun Tin and walking about for sometime in the darkness finally found a man who guided us to the house of one of the Protestant Converts here. My companion on the road having been Mr. Reddington who is a Methodist Missionary on a visit to this part of the field, soon brought us to a wooden frame before a house from which came fitful gleams of light from a small fire on the ground inside. As soon as we arrived a group of known men and women came out...
andelaed us heartily to quickly
and out one move house for
us to occupy. However, some
others living near insisted
that Mr. W. & I should occupy
their house so that our
assistants remain there in
the first house we went to the
new quarter. We found the
houses used for living purposes
made of beam plank with plank
floors & usually plank platforms
about 3 ft. from floor for
deping upon. A smaller building
of planks to one side or in
front of this house across the yard
has a dirt floor with a fire place
in the centre. This fireplace is surrounded by 30 or 40 stones and on one side is the earthy pan on which tortillas are cooked. The rest of which is supported by stones at its edges with a place for putting firewood. There the cooking is done and in another pot placed on the coals.

After a time, our supper was prepared and a small table placed near the fire in this kitchen to which justice was done to some meat, tortillas and coffee. I was much pleased with the frank, good-humored hospitality shown by these poor people, who seemed to take a
heartly pleased in trying to make us comfortable. Soon after we arrived at the platform assigned to us under a howling wind, it was declared necessary by the hosts to warm up by the fire, which I resolved to accept. Early in the morning I set about engaging men to take me up to the summit of the hill where I proposed camping for a few days. In a short time I had agreed with a man with a pack animal to take my stuff up to the hill. I also arranged with a local hunter to go with me and hunt large game for me. The men then disappeared as I supposed to get
ready for the trip. I waited until nearly midnight, finally sent for the man again. The packer was reluctant to ride but eventually consented.

that he objected to making a long trip but was willing after an hour’s effort that I managed to get the mules started in earnest to pack up. Then I learned that the mule that refused to go because it was hot with a Protestant the Bishop would not communicate with (the Bishop changing to be in the town at that time).

With the exception of the articles carried on me I then loaded the remainder of my goods was packed on the backs of mules.
...of men who carried their burdens up the steep mountain side without difficulty.

It was still early in the afternoon when I pitched camp under some pines at the border of a grassy glade near a small spring. The tent being put up, I sent my assistant out to set some traps while I arranged the camp and prepared some specimens I had in hand.

The people who had come up with us left before dark leaving us to ourselves.

During the night or in the early morning as long as we stayed occasionally we found...
The most hideous howls, Mr. Howland tells me, were heard in the cornfields, scattered over the steep mountain sides in the forest where cleared acres were cultivated. This was to keep the wild animals out of the corn fields told by the people from the village. The effect of these wild cries was wild in the extreme. The authors of the noise looked wild or toothless as they came to visit our solitary camp at dawn at our work in our little Wendish. Few of them could talk Spanish but they conversed together in German. On the third day of our stay we
I'm visited by a couple of mounted armed messengers from the President of the Council in the town of Makat уг. They bore a formal letter and despatched with it. I had learned that strangers were said to be encamped upon the community lands and as their business was unknown, I commanded theady 105-100 men to come and investigate the matter. I explained the object of our visit to admonish them that I had a letter in my baggage left at town from the Gov.
of the State recommending me to the local authorities. This was entirely satisfactory and we were troubled no further. This visit was a precautionary one as it appeared afterwards that the lands were held by the community under the direction of the Ayuntamiento or Council elected in the village. Under certain laws of the country unoccupied lands held in this way by communities may be surveyed, demarcated and bought of the Government. As a consequence the communities of Indians who held lands under such uncertain tenure are very suspicious of the presence of
Some weeks prior to our departure from vendors, I have heard of instances in which arrangements have been made for attempting surveys in such places. In this locality, I found

deer to be very scarce owing to the incessant noise kept up by the watchmen in the fields. But was gratified to find the great


Irving hill (Campe, impenalis) common.

Our camp was at the foot of a very sharply rising ridge covered with an abundant growth of pines.

Every morning at dawn the great horned nighthawks could be heard as they gathered in flocks about the summit. I found that they
make a practice of this work by picking on
mounds found by chipping away
the tops of rotten logs on the hillside.
Then as the sun descended they flew out
and spent the day wandering about
among the scattered clothes and
pines over a partly cultivated
trough lying a mile or so across
the adjacent hillsides. They were
not particularly shy and would
often alight on the branch of a tree
for a moment during our stay.
They seemed to be much attached
to one another and if one was killed
its companion would not leave the
locality. They were extremely tenacious of life and very difficult to
kill or cause damage.
Our camp was at about 8000 ft. We found an Arinola, a June, Argus, stones, Cherub stones common as well as the Geomy's common to the high pine belt. A large Sylphita was found in a cornfield also a Brogon. A few spumilus were found here ranging up to 800 ft. They are large Spumilus found in the woods. Arinola roam open by here. Having completed my work at the camp I picked up a descent to the town. We hiked it took a front on the way down. I lost on the slope of a canyon which was so steep covered with pine woods that my shoes soon became so slippery.
that I felt: repeatedly could not progress
by making a sliding run from
one run to another diagonally down its slope.
In several instances where missed
my goal by falling I would bring up
some distance down the slope pretty
strongly shaken up. After an hour
of this I reached the point on an easy trail.

In the midst of the second growth
pines near the summit by the border
an old field I had found a magnificent
white tree much growing up among
the foliage of a pine. Making
streets of an old match box
the strange presence of this flower
is an illustration of many flowers
which is characteristic of Florida. I
saw large fine white magnificient trees near
the growing in wild luxuriant
nature.

In other

village. The bush on the hill had

planted the rice by the people who

cultivated the field.

From this same hill came an ancient Copper ax (the same pattern as those in use today) which I bought in Nehattia.

I bought several carvings of the patterns in common use among the people. The smith works with a mile

bellow charcoal forge, a pair of scissors,
twisters, hammer & one or two other small tools.
implements producing remarkable skillful results.
The houses at Nahautlu and like those in the village already described.
During my trip in the hills, one of the neighboring villages had returned from a trip to Uncafan bringing from there a stack of wooden traps of various sizes lacquered and painted with flowers.
The Indians of that locality.
Several were bought by me. It was on his way to Monluc with them.
The Friars of this district are peculiarly oppressive to judge by the tales I heard.
Still I got most of my information from a missionary. I found that this is not the best source to go for such notes if one wishes to be reliable.
The Valley of Nahatzen is a long, irregular basin among the wooded hills. Its drainage is to a small stream flowing down to Incespan. The hill rises to a height of from 900 to 980 ft. about this basin was covered by fine growth of Pines montagnes. On north slopes of the higher hills are some Abies religiosa x Alnus. At abundant kusins of rank growth under their shade.

On Oct. 15th we returned to Patagonia taking a boat large of frame with 12 paddlers from the shore of the lake near Nahatzen.
The trip across the lake was an enjoyable one with the changing effects of the evening skies on the surrounding hills making a most fairylike scene as the rich colors of the sunset lit up the eastern shores while, with purple light, slowly fading to the deep black of the night on the forest-clad hills.

It soon became so dark that we were isolated on the water. The swaying white clads forms of our paddlers moving slowly in unison seemed to emphasize our isolation. Finally the lights of the hacienda stood up over men soon ashore.

The Council of the Yuma Indians on Lake Pajaro is of peculiar shape
Instead of the sheer being from bottom to top it is reversed so that the top of the canoe is several inches above the bottom. A cross section giving an outline about as follows:

They have a long sheer at bow and at stern one at stern.

They are dug out by single trees and are 30 or 35 ft. long and carry a ton or more of freight. The measurements are as follows:

Commencing at bow taking a measurement every 3 ft. with walls from 2-3 inches thick.
Width at top: 15 in. 17 in. 18 in. 19 in. 21 in. 21 in.

[Diagram of a boat's cross-section with dimensions marked]

Depth perpendicular inside:
- Top: 21 in. 27 in. 28 in. 29 in. 30 in. 21 in.
- Bottom: 10 in. 18 in. 17 in. 17 in. 12 in.

At both ends the canoe has the thickest plank timber about 4 in.
In stern the bottom is nearly a foot thick & a small narrow seat is cut inside a foot below rail for steerman.
Small round-bladed paddles with blades from 8-10 in. across & almost round of slightly oval or oval of a shoe & handle about 6 to 7 ft. long.

Many of the Taroa people live off fishing.
They go out fishing in small canoes with a large dip net some 8 ft. across with a slender handle about 15-17 ft. in length. They thrust the net down to the bottom and hold the handle in an upright position for several minutes, then slowly lift the net with any fish in the bag that may have swum into its vicinity. In this way a limited quantity of fish are taken daily. The handle crosswise the hoop of the net is lashed to each side giving the wooden frame stability. They are shaped thus (O) or thus (O) with a wooden near the handle.
A few Lonesdaleleenas are seen on the lake, about the border on the dense growth of submerged plants; at any season of the year, they may be seen Jecanes, with many spots on the paler. The Jecanes have a curious habit of raising their wings high over their back, after holding them thus for a short time, and then deliberately showing off the handsome yellow markings of their quills. This is a very shallow lake with no outlet, but only separated from the drainage of the river flowing by Monla by a low ridge a few feet above the lake, evidently of volcanic origin.
About the shores of this lake at Patagonia, the cattle make a practice of wading out in the shallow water to feed on lily pads or other plants. It is common to see several walking about feeding in this manner with the body entirely submerged or only the upper half of the animalted head above water.

so that the lake is of recent geol-

This is a very rich locality

or for the genus Leptus as no less

so that the lake is of recent geol-

They are still more and

and the Coon "Odocoileus"

regarded as "VRBEC". The species of this group are

mammals are common.

The birds are still more rich in unexpected forms.

In July I found 5 species of humming birds in the forest with particular

mammals are common.

The birds are still more rich in unexpected forms.

In July I found 5 species of humming birds in the forest with particular
In fall or winter about Beijing the Delicia furfuracea is the main food plant for humming birds. It is in blossom for months and grows on the hills.

In summer in the old capital Lithospermum laxum is the main food plant for these birds along with Delphiace canina.

An American engaged in the lumber business at Lhasa informed me that the Pinus monticola which is the lumber tree here will yield about 4000 ft. per acre.

In the lake Nangpo a numerous variety of circulation and vegetation include 2 or 3 species of Pinus, 2 or 3 species of Alnus, Salix, Fraxinus and Alnus make up the main tree growths.
The Tarascans are the ancient holders of this soil and today exist in the state of Michoacán to the extent of 200,000 individuals. About the town of Patzcuaro they have numerous villages supplying the market with fish, all kinds of garden vegetables, apples, pears, peaches, and the roots of the varicolored grass which are exported for brush-making. To make rush mats, a variety of articles from the fibre of the maizhe. On market days at Patzcuaro they come swarming across the lake, men, women, in hundreds of canoes and occupy the shore of the town with their wares which they
pack up the provisions between
the lake and town on their backs,
men and women alike carrying heavy
loads, each with their paddle in
hand. They carry their backloads
by tying their burdens on their hips
with a cord across the chest in
place of on the forehead as the case with
some Indians. They are usually
headless but many have the common
conical straw hats.

The men have nothing distinctive
in their costume, wearing a
white cotton shirt and trousers with
sandals or not.
The women wear a white Chemise
with short sleeves and commonly ornamented
with crossed pattern of embroidery.
in blue or red on shoulders

A heavy petticoat

of home-manufactured dark blue and white striped cloth is worn. This

is a long strip of cloth about 3 or 4 feet wide, which is wrapped about

the waist hanging down near the

ankles; the surplus, which

is girthy, is made into a

series of folds 3 or 4 in. deep, and

bunched against the back—

all held in place by a long worn

fet with fringed ends usually of

blue or black and white color.

worn in a pallium-like a

series of grecques.

The number of folds given for one

cloth in the fall of the petticoat is said
to evidence the wealth of the wearer.
A hand-woven sheet somewhat
similar to the petticoat in pattern
is thrown in folds about the head
or over the shoulders, completing
the costume. They wear the
rarely seen open jacket
already mentioned, but on their
hairstyle in a couple of short queues.
Each of these with ends joined
at the back. As a rule, they
are barefooted.
As a rule, the Tarans of this district
are short, rather stout, with long
black hair, rescues are dark.
My Hair with grey, coarse, and
heavily modelled with a dull
stolid look and showing visible...
in speech or gesture. The Apache carried on long un-
successful wars against the
Tarahumara in ancient times. Their principal town in
former times was at Pina-
zuñi, on the shore of the
lake where exists a con-
siderable town of this people
now. In many of their villages
the community is pure-blooded
although in most places a
mixture with the Mexicans
can be traced. Many of the
pure-blooded people know little
or no Spanish. They retain many
of their old superstitious beliefs, although
nominally Catholics.
From Puebla to Mexico City, I stopped to secure a letter from the Governor to the local authorities.

Near Toluca on the way, I saw 23 yoke of oxen with its driver ploughing a field of 10 acres. A man on horseback stood at one side watching the work.

Toluca: Passing Lake Tepoz, Mr. Brogle told of the old species of corn peculiar to that locality, “maiz coyote,” or the “mais coyotl” of the natives. The corn grows commonly about the foothills near Queretaro. It forms a mixture with the common
cultivated species. It reaches a height of 6 ft. on cultivated ground but is much smaller on wild land when it has to battle for its own existence. Its most striking peculiarity is in possessing one or more rows in the axil of every leaf from base to top of stalk.

Having received a letter from the Governor's office in Tolucu I went on across Tolucu Valley to the Station School at an alt. of 10,300 ft. on the pass between Tolucu and Mexico. This is a miserable little settlement of woodcutters on the summit of the mountain. After some trouble I found a small hut in which we arranged our
Salzer Oct. 21 - Nov. 7, 1897

maternal and began work on
October 21st

The weather during all our
stay in this locality was cold and
damp with numerous cold
rains during the first week.
Every morning the clouds shut in
over the mountains ten en-
closing us in a heavy vapor
that made the grass branches wet.
At 8 or 9 o'clock the clouds
would dissipate or drift away
to reform again in the afternoon.
Whenever the sky cleared
a sharp frost occurred.
The town in which Salzer is located
is an open park-like sloping miles
across surrounded by heavily wooded.
hills and rising from 200 to a
foot higher. The park-like
open country is covered by
a belt of cloud and mist and
by many strings near its upper
border. The flow with the main
east to the west into Sierra
Valley. The smoke of the
charcoal pits rises somewhere
about a mile above the forest.
showing pales against the sombre
foliage of Abies religiosa.
Birch montagnard, which on
the most abundant trees.
Notwithstanding the cold, raw climate
on these ridges, mice abound.

here in greatest abundance.
And several species rocces growth.
including Soror, Herberta, Anicola, and American. Several species of Arctoma, Sciurus, and species of Geomyces make up the main list of small species. I was surprised to get a specimen of the common Dipus as well as a Nephitis or Conopotes. These mammals were most abundant on the wooded hillsides when the timber did not form too heavy a shade so that a good growth of smaller plants would flourish. From 900 to 1100 feet, to be the most populous and Bird were more scarce, as the summer residents had migrated.
Small flocks of Otocons & Anhinds with large numbers of a
large species of Amecephala
frequent the passes.
From a high ridge heavily 11,000
ft. a couple of windmill towers
were brought me by a hunter.
From the summit at this point
a fine view is to be had out over
the Lerma or volcua valley which
has an altitude of 8,830 ft., and
containing the large, shallow
grass-roughed Loma tepe,
the head of the Lerma or Rio Grande,
the longest in the republic.
Beyond this to the north rises the
Vol. E (Zolace/Quinnticoll, melba?)
1581 ft. high.
In the east the slope is longer to the Valley of Mexico which is about 700 ft. lower. On the summit of Salazar in the open field was fought one of the early battles of Mexican independence and the spot is marked by a monument.

These mountains are noted as being the former haunt of bands of brigands. The highway from Mexico to Atotonilco and even to little traffic as possession of it today it is necessary to keep a company of soldiers at Salazar who patrol the road at several points daily.
The people living at Salagon Station occupy small, filthy wooden huts and earn a living at the passing of the passenger train. The women sell pulgas and a variety of cooked food to the passengers and several professional diggers gain their subsistence by the charity of the passengers.

In addition, a number of men are working here loading cars with pine wood trunks.

There is quite a business in selling out trunks from pine timber which only lasts a very short time when laid. From Salagon I made a short trip back to San Luis Potosí and searched some areas of Prosopis fulicata and Calliopsis speciosa.
Nov. 7, 1892, Salazar - Returned to Salazar today learned that last week while returning to camp my assistant had been set upon by 5 robbers who met him in the road at dusk knocking him down with a stone to the gun, robbing him, and having small articles he had upon his person. He saw 3 men coming toward him in the road as they drew near saw that they intended mischief, so he dropped his gun into position at which moment he was seized from behind retching. The next morning after the robbery the men ran off into the woods. Early the morning of the 7th of this district passed Salazar in the train over notifying stop of the robbery.
That evening I received a telegram from the doctor saying that he had
from caught a chill and recovered. The next am. (18th) went to see
with Goldene to make our depositions in the matter. Then we found nearly all
the articles stolen. The depositions were told
that Goldene must remain here under
charge of the Dr. Called in by the local
judge until the cut in his forehead
had healed. My protests against this made
proceeding only brought a string of threats,
or the intimation that if I came back
in a week he might be permitted
to leave. At the end of a week I
was there again but was again put
off for another period. At end of this
latter time when awaiting Goldene's
arrival in Mexico I telegraphed at
they refused to let him go without paying
the 20 for his services.

These had been forced upon him by the
Judge. Neither asked or required by us
I considered this a palpable injustice
and once laid the matter before the
Chief of Police (Mr. C. A. Dougherty)
and he laid the matter before the Secy
of State here (Mr. Amis) who
said that while the law authorized
a wounded person being kept
within jurisdiction the Judge it
did not authorize any bills for services
to be enforced against the victim.
In a couple of days Goldman was
permitted to leave for his arrival in

She told me that the local authorities...
Mr. quite decided that he should
pay the bill of the Dr. for
they would
permit him to leave town rather
indignant when he showed them my
lettergram telling him not to pay the
Dr. Two days later when they had
heard from the city of late he said
that they suddenly became more polite
in returning him the article, told him
that they had nothing to do with the bill.
that he could leave when he
liked. Two other men who robbed
the man who robbed
Goldman, confessions claimed in
they were the only ones engaged in the
offense! While I was in Kansas city
the 8th attending to this matter I
heard several recent robberies in
that vicinity spoken of and the
Porfret told me that two others had taken place on the balcony into the same day. Gelmian was robbed. One of the victims, a miserable poor old man, was in the judge's office while from time to time he had been robbed of a few little articles he had bought at market. The robbers had struck him on the head with a machete, cutting his scalp open. All of this on the main public thoroughfare between Toluca and Mexico shows how absolutely essential to our national security is the patrol. Guards of soldiers that are seen almost everywhere. This same week the papers in the city published an account of a gang of armed robbers attacking some merchants o
the road about 9 miles out of the
Cildog a few yards more than a half
The travelers took off there heads
by a short distance with their guns.
Although the country is in
a state of high quiet as compared
with its former condition yet there
are robbers going on continually
not a little of which ever gets to the
ears of the public even here in the
vicinity of the occurrence.
The authorities are not communicable
and only cases that are notorious
from their boldness or other causes
come to the notice of the public.
At most of the foreiners live in towns
or when they travel go in a way that gives
but little risk of molestation they are
not aware of the really dangerous state of the country. My work requiring residence for weeks in the mosher district, solitary events among the hills lay the matter in a different light. The continual warnings that are given one by the Prefects whenever we go of the danger a single person is in when going about in the country shows the true state of affairs. The authorities do all in their power to insure safety, but it is difficult to curb the spirit of revenge that decades of bandit life has inculcated in the half savage inhabitants of Indian villages in the hills. We have seen human life would not weigh for a moment against the value of a day's drink.
indulgence if the great a
speedy detection was arranged.

Jacaobaya - Nov. 1892 -
While waiting for the release
of my assistant from his virtual
imprisonment in Lima, I visited
the museum of the Geographical Ef.
Com. at Jacaobaya under charge
of Prof. Fruttis Perez.
They have a much better collection
than the Natural Museum - better in
every way & more complete
with large series of skins of
birds which, unfortunately, for
the collector, are worth more than some mon useful
Prof. E. Burq has studied in
the U.S. Nat. Mus. in Europe
of a losing in consequence, some
much better work than has ever
been attempted by any Mexican
naturalist. His specimens from
the locality, date 1853—marked on
a label, whereas in the National Mus.
Birds, mammals, insects, etc.

simply bear the legend "Mexico."
However, the naturalist then at point
Prof. Herrera appreciates the
value of such data although
the specimens placed in bis collection
without them.

Jacutara is a port or lplaced on high ground west of
Chapultepec, or should have been.
the location of the City of New
when rebuilt by Cortes, but for
a curious blunder in the part
of the Conquistadores who re-
built the city on the old marshy
foundations with a beautiful
site at the border of the marsh close
by. Indeed when the new city
suffered disastrous floods, from the
waves of the lake, about it in later
years the Spanish Kings suggested
its removal to the higher ground
but it was then so late that the
vested interests in property was
too great to abandon even in
the face of flooded streets.
Today the descendants of those
short sighted founders attempt
at work expending many millions of dollars upon the most enormous system of local drainage in the world to try to preserve the city from the danger of minor floods. As the land on which the city is built is the site of the old marshy lake, its inundation by the accumulation of detritus or vegetable growth's decay it is natural that it should afford a habitat from one to two or five feet above the surface. This is abundantly evidenced by the ditches full of stagnant water that borders the city in all the suburbs.
There is considerable difference of opinion regarding the effect of this drainage upon the city. Some claim that to draw the water out of the soil on which the heavy buildings stand will cause the foundations to sink. The great damage which has occurred that the buildings will not be affected. Others rate the drainage, if a success, will render the city much healthier by enabling the improvement of the sewer system. The city is becoming rapidly modernized, the new quarters along the western border of the town are building up with handsome brick fronts.

This page seems to be part of a journal or notebook entry.
that show an attractive
union between the old style of
architecture and the more modern.
It is an evidence of the greater
piling of society for life projects
that prevails at present that
many fine houses are now built
with large windows on the streets
which are only protected by a
light iron railing across their
lower half to an arabesque
rail, when hitherto every
window has had a strong iron
railing from top to bottom.
The city is beautified by a fine
Alameda and a beautiful
avenue on the Paseo de la Reforma
which leads straight out to the Castle of Chapultepec on the west of the city. There are several markets in the city where one may see a curious interesting conglomeration of people from the pure-blooded Spaniard to the various degrees of the mixed race down to pure-blooded Indians who still wear their characteristic costume & speak little or no Spanish. It is a common thing to find Indians living about the valley with neighbors who do not talk Spanish.
and their own tongues are used habitually among themselves. There are various tribes about them, the Nycteris, Atomics, etc.

At the market of San Juan de Dios, a number of women of the Otomi tribe in their characteristic costume of hand-woven cloth may be seen selling tortillas or other small articles.

At the market of the Mercado S.E. of the main plaza by the border of the Canal in the middle of the poor
quarter of the town, surrounded by hundreds of palque huts, with gaily ornamented fronts. interiors, there is a great gathering place of indians of afe descent from the valley who bring in herded ducks by the thousand from the marshy lakes of the valley when they are second killed by the ancient method practiced before the conquest. Fruits, vegetable from the cool tule lands and down the slopes to the tropics are also sold him on mule backs under the shade of other mts. spread umbrella-like woods.
frames. At the same time, the vendors of all manner of cooked good do a thriving trade. Tortillas fried in oil, chili sauce, or rolled filled with a chile salad, meats of various kinds. Sheep and goat heads boiled or roasted with the hair still on just as they were cut from the carcass are a favorite morsel. Many rows of women are busy on the pavement picking ducks or chatting over the sale of their wares. In the Plaza of both buyers and sellers is often ostentatious.
At the same time that it has a fascinating picture quality, naked infants sprawl about blinking in the sun or strapped to their mothers' backs. Irish dogs growl and cry about to snap up stray3gy.

At slack moments the women squatted by their wares gossip with one another or search for some in the hoods of their sacks. Amid the bustle there is a constantly moving crowd of purchasers bearing baskets or bags for purchase in the calls of the vendors.
The interior of the market is divided into stalls, is more orderly, while less picturesque. At the same time, the show of prints itself is an attraction.

In all the adjacent streets are great numbers of pulque shops, where men and women drink pulque all day long. At night the streets are blocked by a teeming mass of the lower classes who become drunk upon this wine of the natives, as they call it. In front of these shops, the outer walls are usually hastily painted with various...
Fanciful names such as La Coronación de Pacho, La Reforma del Fortín, El Sueño de Xochitl, Gabinete de Asco, El Invierno, La Hija de los Leones, El Árbol de Paraíso, La Carreta Roja, etc.

My often with gaudily colored symbolic painted figures. Within there is a wooden counter with chalices behind on which are drinking vessels some of glass, clay & ground. Frequently the wall behind this bar has various...
colonial scenes painted

Shops of various kinds are usually known
by some name, one of the
most admired being
that borne by a meat
shop when pork was
gold. This is the suggestive
legend, over its front,
"La Trinchia."

Turning to the higher class of
society it is interesting to
note the almost universal
adoption of foreign fashions.
Both, officially or not, men
wear silk hats, and the derby
is also in vogue.
The old broad-reined sombreros, tightly fitting trousers with velvet, ornamented while attracting little attention are going out of use rapidly in town, as mainly worn by visitors from the country, often by coachmen & wealthy people who keep up this costume for effect. The ladies are nearly all dressed in hats of bonnets & it is unusual that the mantilla is in use except among elderly ladies who cling to old usages. As the result of the ladies in Guadalajara, so him.
The cane is carried by all who wish to be considered in the mode. How the cane most affected is one with a large head or knob and is held by the middle with the head down and behind and small end up and projecting at an angle of 45° in front of the owner who walks with short jerking motions of the hand that is likely to cause some apprehension for one's eyes along crowded streets.

As a rule the smaller and more insignificant the beast the larger the cane and knob until at times I have seen
greatly entertained by the amount of wood carried by some self-satisfied youth of very slender physique.

There is a considerable colony of Americans in the city. They are mainly railroad men, and as a class the same men that one finds throughout the newer and more hilly

advantages.

There are a great number of beggars everywhere in the streets. Deformed or crippled beggars can gain a licence on application to the city authorities, but they
law prohibits undiscerned
begging and arrests as continuous
are made of such beggars but
still they persist.
The lottery ticket sellers
are also a swarm on the main
thoroughfares and impose one
on every hand to purchase
tickets. Their billets are
undiscerned and each was
a number. They are men
women children and many
cripples gain a livelihood
by this means.
There is a shameless practice
among many of the beggars
who are abundantly able to
work that is not likely to cause
much sympathy.
It is noticeable among the
lower classes of the table-land
region that there is but little
evidence of self-respect among
them. They cheat, lie & try with
utter shamelessness to seem
to feel that to get a penny
by such means is a commend-
able action. This must arise
from the state of ignorance
they now occupy of ignorant,
helpless children.
In a recent report of
Superintendent of the State
Treasury, he states that “owing to the cheapness,
Labor and commerce in Mexico cannot expect to draw itself. Foreign immigration has gone to the U.S.A., but must educate its Indian population to become citizens of intelligence enough to build up the State. This is a fine conception but presents a Herculean task before them. The efforts of the government, however, are directed toward popular education and every friend of the country must wish their success worthy of the enlightened designs of the rulers.

The last of November I rented a couple of rooms at the town of Jalpaan, 9 miles south of the city of Mex., at the foot of the river Juxco, and moved out thither to make that locality. The town is located at the border of an extensive lava bed known as the "Red Congal." It extends from the Volcano of Juxco down to the slope, out upon the plain or valley to the town of San Angel some 10 miles or so. Its surface is extremely rough and broken, with deep pits and cracks in it. Thence to the surface has little soil.
various plants growing up among which the largest is Schinus molle and Opuntia elata. Others are Pisonia salicifolia, Uremaria parvulana, Stevia pinnata, S. calycifolia, Nolaena frangipani, Hout. Chilenesis microphylla, Stemmenia subpubescens. To me, L. coccinea, Yerba Buena, P. glauca, Piquiera tinnervia, Senecio salignus, S. petroindicus, A. fulgida, A. antarctica, S. ubannei, S. monica juliana, Anus acuminata, Populus alba, P. nigra.
The mammals found among this area of broken rock were a couple of species of Octomy, a Nectoma, Cinctus, and a reptile, Spilogale. Along the eastern border of this bed is an almost equally extensive bed of fine volcanic sand which extends down the slope from the vicinity of the volcanoes and upon the flat coming to a depth of from a foot to several feet, the old lake bed deposit of vegetable mould. In this sand at the border of the plain, an great numbers of a small yellow Perognathus, a small Dipodomys, and Hydropotes. Also Peromyscus and D. macus.
Halfpaw, like all of the small towns in the valley of Mexico, is largely made up of Indians and mixed bloods. The market day is Sunday, when the people who bring in fruit, vegetables, etc., are all Indians, some from various parts of the valley, others from Mexico.

Among other things for sale I saw one man who had some 30 or 40 spindle whorls of baked clay. The spindles were about 15 inches long; the riga or lead pencil was thrust through the hole; the latter being pastured about 1/3 the distance up from the
Conus punctata
Notonecta glauca interto
Species of bugs found in the
lakes of the valley.

Out of a spindle, among other
things, for sale were great
quantities of a species of
Water Bug
which is caught in the shallow
waters of the lakes and
canals, and brought to market
here and elsewhere about the
valley by baskets in sacks.
With the adult insects
ran, at the same time selling
the small grubs with eggs
of this insect in almost
equal numbers.
The people told me that the insects
are sold for bird food, but that
the eggs are cooked in water,
then eaten as a delicacy.
Son buen para nuestro, ert
issues of the Indian market
man put it.

The nights mornings was
short of forty all through Nov
of St. John. The leaves
of Alenua acuminate, Pita
rubus of negro full by the
middle of the month siert
in this east.

Common
people wear dress in the
usual cotton cloth chest
asrape & on several occasions
then my assistant or two up
an hour or more before day-
break several men were found
each time sitting in the cold
branches of the Patacheta
closely stopped in their
acetates waiting for the rising
sun to warm them up.

The houses of the poor class
are chilly; often damp for the
owners are out early in the
morning to take a warning
from the earliest rays of their
In the city of Mexico as well as
in the smaller towns the
houses of this class are, as a
rule, mere dungeon-like
adobe boxes with only a
heavy plank door for admission
daylight. When the owner
has advanced ideas, he may
have a window cut in the wall
with wooden bars across.
These houses have 3 or 4 floors and are very often damp from the moisture of the soil as well as from the constant wetting that the people are in the habit of giving them. While at Totoltepec I made a trip up to the village of Ajusco which lies at the base of the mountain of the same name. The village is a rambling affair of adobe houses roofed with pointed shingle covered roofs. The people live by cultivating fields of corn on the level sandy, very poor soil up to an altitude of 10,000 ft and by cutting wood on
The hogs are bred to large size up to about 1,000. At this place, but little else is found that does not show the effect of poor soil. The people of the village and vicinity, an Indians, have not a good reputation. They show their interest in our work by trying to follow my assistant or several occasions while he was sitting by. Their track was seen when they had followed the trail on the hillside. They often started to go up but not in a suspicious manner on the hill. One day, I threw the...
Snuggle up his gun in their faces when you look to their hub.
Above the village of Ajusco at about 10,000 ft. I was
surprised to find displaced phillips not uncommon in
the sandy ground close up to the
main base of the Mt.
The country was much drier
than at the same altitude
at Tlalpujahua.
The volcano of Tlalpujahua is a
cooler situation at about the
same alt. as the village just
at base of the mountain
for its which rises some
2,000 ft. above it is not-made up
at all. This is another example.
of the fact that it noted at the Vol.
Japan. The silver mines
of Japan is the main mount;
not a volcano. The volcano lies
on the southern base of the main
mount at an altitude of about
9,000 ft. This built up a cone
to over 15,000 ft. Being still
a couple of thousand feet
bellow summit of main mt.
At 15,000 the Vol. comes out
at north base of mt. The
energy was mainly spent in
pouring out the great lava bed
which flows down to the land of
gang, with the ashes that lie
along the eastern border of the upper
part of the lava bed.
In further illustration of this
outstanding characteristic of volcanoes
is the fact that Iztaccihuatl
is not a volcano but is
a rugged mass of porphyry
rising to an altitude of a little
over 17,000 ft. With the cone
of Popocatepetl lying just
at the southern end of
the long high porphyry ridge
which Izt. is the culmination.
The crater of Pop. has built
itself up by successive eruptions
from a considerably lower
elevation than the peak Izt.
much higher
We returned to Tlahpan just before Christmas and found everyone preparing to celebrate the night. For nine nights before Christmas the Mexican families celebrate what is called "Nacimiento de Jesus Posada." A kind of altar is built up on a table at one side of the room and covered with moss, fir boughs, forming a bow of green. On this are scattered little images of various domestic animals beside a glass bowl of water with figures of the wise men and the magi. Candles are kept burning in the evening. Each evening a small cradle-like box with an image
a small porcelain doll representing an infant was carried about the room by the women. Children of the familyd the procession led by lighted candles, and a song called *pasada* was sung. Short hats are made in front of door while the event is kept up. Then the procession moves on around the room. This is supposed to represent the futile efforts of Joseph to find an inn (Pasada). On Christmas the making of Pasada is wound up by the placing the virgin child in the box. The box is decorated which represents the stable.
This is followed by the making, distribution of presents to the
flocking of a large gilded
ornamented clay pot of
candies which hangs from
the ceiling.
The main Plaza of the city
becomes the work place of
Christmas carousels.
The whole streets are crowded
with wood and canvas booths
while hundreds of temporary vendors encircle their display.
A huge, absurd paper dolls made to
represent various classes of people—dry
men marching about with
tows of thin flags along a pole.
nailing at each end on the shoulders of a Dancer. Others carry one or two dolls at the end of a long pole held high in air.

The brilliantly ornamented Beads jars are carried in the same way. Fruit, nuts & curiosities from all parts of the country are here in profusion & toys without number.

The vendors are continually shouting their wares to a crowd of thousands of spectators & purchasers with eager wide eyed children of all classes of society fill the space about the fair until it is only by considerable effort that one can get about. In the evening the scene is
Still more fascinating as it is brilliantly lighted with lamps, a jet of fire burning on iron branches or on the ground, throwing a fantastic gleam over the strange assembly. The music is good natured & all seem imbued with the spirit of the occasion.

The open air venders are all of the poorer classes of Indians, agile & nimble, deal in jujitsu, peanuts, sugar cane, paper dolls, sweet cakes, candies & anragg'd, ditty & umbrella. Their half naked children sprawling about on the pavement by their sides or snatching

Thousands of people and numerous children gathered about the stands, shouting and cheering the multitude of toys on display. All were good-natured and happy. In the evening a band playing in the center of the plaza added another feature to the night.
On Dec. 17th occurred the annual pilgrimage of Indians to the Shrine of the Virgin of Guadalupe on a hill about 3 miles north of the city of Mexico. I found the plaza de las Americas lively with hundreds of people embarking on the street car for the village of Guadalupe. Taking one of the cars I joined the throng. A broad road leads from the city straight out to the hill of the Virgin. It was thronged with wagons, on foot with numerous mule carts loaded to overflowing. These ran round with a tilt such as under the lifted edges
many bright rays found out at the costly scene as they
remained close alongside. Everyone
had the gay air of a holiday maker
and jokes and laughter were
heard on all sides. The pilgrims
were dressed in their holiday best
The men in snowy white mack
usually by brillianty colored
scarves. At the border of the
village of Guadalupe all teams
are stopped, three or four has
to work a slow passage through
a dense but good-natured mass
of people. The town combined
with colored clothing hanging from
windows and the streets main
street extending about the base
of the hill, on the brow of which is
perched the church, or shrine of
the virgin, is filled with booths
for the sale of fruit-nuts, ice
cream, made from snow of the
volcano, small eating booths
preparatory, a merry-go-round
with its hand-organ, numerous
villagers of hazy pictures consisting
of gliding colors of the virgin
other garments, vendors of
clothing, jewelry, fan, papers with
host of the little silversmans
various parts of the human
frame or of domestic animals
in transit on the shores
the saint or virgin to whom for
an service for relief.
Around the foot of the hill — about the church, whenever a novel event sheltered from the crowd, some Indian women squatting about little fires cooking for their family — a small array of clay pots about them showing that they had brought along all of their household goods. Scattered everywhere in the crowd squatted other women with a small clay Brazier in which burned a charcoal fire, before which they made cooked and served various poppy dishes dear to the taste of these people.

About the door a chapel built over the spring at the foot of the
ill struggled a dense mass of people with little claypots
they all trying to get a supply of their holy water to
take home with them.
A little beyond this, instead a
Crowd gathered in a circle, on
approaching found that about
dozens of Indians, men, women
and children, were executing a
dance in honor of the Virgin.
Several of these Indians
were dressed in tunic and trousers,
sandals with a high headgear
of plumes stuck around the body.
A stiff cap sat all around
with little square mirrors that
shone in the sun's bright.
The plumes were dyed red, green and yellow. A number of the Indians had a quiver of panther skin with bow arrows thrown over their shoulders and arrows in their hands.

The dance was in time to a small drum and consisted of stamping the feet, turning facing about from time to time and certain changes of places to effect obscure figures. It was under the direction of an old man who also took part and is undoubtedly a survival of some ancient rite not long exercised before the bloody altar of the god whose shrine was
on this hill.
A little later, when the dance was
concluded below, these dancers
mounted to the broad stone
pedestal platform before the entrance
of the shrine, then forming
in a double line extending out
from the door of the chapel they
performed another dance.
These performers were all
of rather strikingly Indian features,
somewhat curvilinear and
had a clean earnestness of
expression characteristic of
the deep just panache
such as might well have been
worn by the thousands of their
ancestors who went down into
darkness under the blazon of
the Spaniards while trying to
capture the latter alive for an
offering to their god.

The Catholic church is a
Third mother to all paganism
as long as it shall be disguised
under the name of some her saints.

Inside the chapel a constant
procession of the faithful went
on with folding knees and
fearful voices. Turning on
the floor, the glass cots to images,
from the walls the starry
picturesque view of the city
vally with its surrounding fields.
And the longing multitude
throng in to make a pilgrimage.
Tibetan notes: The man keeping froze wanted Shrink bodies because they
Eish was very good for bad blood. In bundle,
giving calves makes Shrink bodies
because the meat was good money for syphilis.

I was told that a couple of Spaniards hunting near
Aguas de Cesar were scarce, more robbed by the
Indians who came up pretending to wish to
take their game and seized the men and took their
property. The Indians here have the name of being
worthless but sixty, committed.

On the, snow clouds gathered about 10 o’clock, I
saw some dark clouds drift in
from the valley, but later bright blue clouds drifted in
from the west. At the same time, the sun changed from the
western, to the south, to the eastern. The
clouds at first were gray, and then they
became white and drift off west.

The snow was deep and drifted, making it
hard to walk, and the shadows changed
quickly, making it difficult to

Dec. 27, 1892, Monterrey -

Morales. After various
delayed this morning we set
off on horseback to cross the
mountains to the state of

According to our custom in
travelling over dangerous roads
I must always have my rifle
conveniently at hand while my
assistant rode about 20-25 yrs
ahead with a couple charges of buck
shot in his gun. In this way
we hope to make any attempt
to take us in rather difficult work.

We soon left the valley of mines
and ascended to the broad summit
of the Ojusco range. The road then took a nearly
due south course across a
rolling country, partly covered
with handsome groups of pines
and with a series of grassy
parks or slopes. Along the road
we passed in travelling five
miles across the summit, six
permanent picket stations of
from 3 to 5 or 8 or 9 soldiers.
These pickets are on hills close
to the road, so situated that almost
all of the road is in view from
one station or another.
This is to prevent the bandits from
infiltrating this district, since
the wide stretch of wooded country
on this mt. made it at points
place for robbers, at one tim
now, as in nearly every part of
the country I have visited, it
is only by the constant presence
of soldiers at suspected
points that the robber can keep
in check as much as they can.
Should the soldiers be removed,
the country would at once
return into its former state
of lawlessness.

On the southern border of the mt. top
a stone cross is to be seen, with
the name of Cortez, ancient
merchants, in Mexico. It is
known as the Cruz de Mora.
From it we descended a few miles through a beautiful pine forest to the little, unkempt village of Kvitgilea, where we put up in a room, occupying the usual tomb-like room lighted only by opening the door.

In this place as put in several days working in the surrounding country, which is very mountainous. Kvitgilea is situated at an altitude of 8000 ft., in the high hills, but just west of the village rises a high ridge which has, along its east slope, up to 9000 ft. a magnificent sheet of water with some medana.
a great variety of underfruits and deciduous trees.

The vegetation of this hill is like an intensive point thrust up through the pines. Below, at about 6000 ft., the pines end abruptly and the road leads out over the grassy slope to the small city of Cuernavaca, capital of Morelos.

On the west valley of the side of this range, Ajusco, the Country is very

volcanic, but on the southern slope, although thin and also various small craters. Some lava tube the main formation.
On arriving at Cuernavaca I presented my letter, introduced from the Seco, station in Mexico to the Governor. The latter was absent so I looked up the Seco station. The latter was professor of some value in his expressions of desire to aid my work in any way that lay in his power.

Then I put him to practical test by asking him whether he could aid me to secure a guide, horses for me to visit the ruins of Teopicalco. This was another matter. He replied by asking if I could not secure them myself! So I replied that probably I could, but I preferred you, sir, as the more responsible person. You are a stranger, with a small party. I then sent a messenger to look up a man to horse to escort me to the neighboring town. By the morning the next day, about 5 o'clock, my guide, one of the thinnest, poorest looking animals, it had born my misfortune to ride in Mexico, was ready to start. I warned him to look about him that no damage should be done to the horse. He denied this claim. I then set out on my way, with the guide, who was to conduct me to the nearest town, to get my supplies.
he had deceived me, then set out to
find a series of underground rooms in
the hill below the ruin that an American
from Cuenavaca sent to Tacubaya. When
I returned the same dishonest treatment
as before at Cuenavaca when I asked
for assistance from the local authorities.
I also found the common people morally
trusty and honest in dealing with
persons in their manner towards
me as a stranger that I have encountered
no where else in Mexico. For this reason
I was frequently attacked by the mob
and I left the State with no pleasant
memories of its people.

I found it by chance near her
living behind the huge carved
back to the altar in a church.
Under the guidance of the Socistas
I hunted out some of these
letter with care, and as I
had many of them already, I took
no more.

Cuenavaca is a rather picture
place as it is built on a
grand terrace two deep grades.
The old castle of Cortez stands on
the rim of one slope and is
a large square building now
occupied by the local authorities
for various purposes.
Aside from the fortress-like
character of this building,
it has few striking features. It lends itself in the forming of a beautiful picture that I would not give out upon several bright evenings during my stay in this town.
From the corner of the red palace, across a reflecting pool shining and the long-tile-roofed houses covering the slopes of the small valley like quills, one eye passes over the waving fields of a fine palmera field on the opposite bank to range across miles of dust, rolling plains, thills, to the dark, pine-covered base of Popocatepetl and hence...
up to the gleaming white crest of this mighty peak.

Just at twilight, while the fading light of day brightens with a vanishing glow all the salient points of the landscape and the Soda Butte is taking on its sable night tints a few stars trembling with uncertainty, the beauty of the Smoky Mountain is marvelous to see and its loneliness draws me back here every afternoon.

The combination of a gracefully spreading palm with a background of a sun-capped volcanic peak recalled an picture that I remembered...
embellished on geographic
graphs.
Many memories connected
with this town for Ben Cotz
made a favorite resort in
this was initiated by Max.
in his unfortunate filibustering
expedition.
From all I could as learned
was not favorably impressed
with the officials of this state,
although the Gov. was not. I
only saw the sea when a state
whom I found singularly devoid
of country. Presenting to him
my letter from the Secy. of State in
Max I explained among other
things, being a stranger there,
I would be greatly indebted to him if he could inform me of
some one who had horses to
hire— a good guide to take me
to the ruins of Jerusalem.
To this he replied by asking if I could not find them
myself. To this I made an
answer that I had expected no assistance, I need
from the authorities; I need not
have presented my letter of
recommendation. He thereupon
agreed to find the outfit for me.

I sent out one of his mess-
gens for the purpose. The result
was that the man provided
was one of the most skilled...
A Mr. employed in the country
my home was one of the worst hosts
I have ridden. The guide led me
at the point to the drinking
one of the most interesting parts.
Coming after the almost universal politics
with which I have been nipped and stung by
the governor of various artists
I was very disagreeably impressed.
by the inquisitive character
of the officials of this state.
During my stay at Yakutat
advice later I add.
cause to complain of any similar
treatment on the part of smaller
officials. Combined with the fact
that the Indian inhabitants I found
Morristown a state of comfort there.

(Orv-trip Cont.) 43
the asthma hot; Cals; lars.
This was shown by the fact
that the Cumuli that all
during the morning hung
had formed and spread out along
the upper surface of the cloud
stratum at the 00 the 2 00
seemed
limited by some mysterious
power to that altitude as it
gained power from the rising
columns of air and, bursting
upward, arose in gigantic
Columnar masses of white
clouds, bounded clouds, rapidly
flowing until they first
over-topped the summit of the
hills itself. It was fascination
to watch the creation of these.
an enormous aerial masses one after the other until upon all sides, they towered up in an array of gigantic beautiful forms. They did not form united masses but were to scattering that large interpaces. Cloudless air from below to their summits were left through which could be seen in beautiful contrast to the clear brilliant color of the sky.

Then I descended once more into the atmosphere of the earth and the branches of that upper world once again unwrapped
and colored by the steam that
hanging over it all.

14-footed out to the south from the
base of the cone is a red lava with
its border all round higher
than its center which is
a basin-like depression as seen from the side with the
The border of this lava the
rises very abruptly, like a step
broken down wall all
around. When we passed around
its base and at the foot of
Black Mt. it is about 200 feet
high. Its shape is about
as follows:

Look photo of this from 'til a photo.
The eastern side of this valley had evidently been
worn down by a glacier that
occupied a basin just along
its eastern border. Another
glacier, flowing down its
western border, had flowed
to the s.e., separated from
the first mentioned one by a
high, sharp, very rugged
ridge (also rd. 7). It is down
into the narrow basin of this last
glacier that the long, steep slope of
large stones leads along which
we make our descent.

The afternoon had become quite
pleasant by the time I reached
the base of the peaks and the clouds
The remaining one other night in our cave-shelter, on the morrow
The 21st April
descended to about 1480 ft. to a
potato-ranch clearing on a slope
among the pines.
Then, in the hunt for Indian game
we spent six days working the
birds and mammals. The Indians
living here are simple, diet
good natured, but who, although
living in equal, equality, that would
be watchfulness to one born to
another fate, unnaturally
happy contented. This cabin had a broad view across the pine forest and upon the tableland of Pembina. Malvace loomed up in the dark beyond, a clear day, blue. Looking back across the slopes of Jared hill one’s eye was drawn to the magnificent snow-capped “Shining Star.” During our stay at this cabin the 2nd day after our ascent came a fierce storm of hail, rain with it, or the peak down to timber line a curtain of snow. Before we left, a second storm occurred of similar character, accompanied by rattling thunder and few lightning flashes.

See last two pages of this book.
Game of all kinds except mice
and birds was seen—Squirrels 2 PAY's Lynxes—The commander of the southern end of the platina,
Lyrcidae— Coyotes were the larger animals.
Broad-tailed—White-tail—Hummers
Flickers—Red—Quail—Grackles
Mallard—Corps—Vv. small
Seeking—Vv. cross bills—Vv.
White-fronts—Ravens—Jawas were
Vv. from a great distance—Vv.
Of the Western Vv.
Cloud notes

The round backed cumuli hern side over the plains, ran out at a height of 7 miles but grew thin horizontally and much of the country was covered by them at 10-11 a.m. during all this time they kept along the level of 1500 feet altitude.

From 11 to 12 I was almost startled to see that they had suddenly shot up huge columns 2,000 to 5,000 feet high above the 1500 feet level exactly like the column of steam ascending from a smoke stack in standing water on a cold sunny morning. This small rounded form slightly larger top suggested a similar force from below.
It is at the time that these cloud columns form that the whirlwinds carrying high dust columns begin their fantastic marches across the sandy plains. Believed that the two are related; same cause is the same effect.

The day that I ascended P.E. after 9:00 a.m. a S.W. wind was blowing. The day the dust columns were not observed.

The other two days they were seen.
Leaving Cuernavaca in the morning I rode across the country for about ten or twelve miles to the ruin of Xochicalco. The route was across a sloping plain of scanty soil and much lava broken by numerous steep sided canyons. Scattered over the surface of the country were many large boulders of small size. Several large white sided jack rabbits ran over which made use of their dark back patches in a curious way. When undisturbed they hopped about among the lava rocks, their white sides flashing in the sun but if alarmed they faced away from the danger and ran so
to present their backs from instant death. Then they would quietly steal away, 100 yds or so, and one would be surprised to see his game suddenly begin zig-zagging among the rocks at a distance from where he supposed he had marked it down.

This is a curious case of instinctive protective coloration in the same animal.

Yochicale is one hill rising on the slope over looking the low country to S., W., N., W. and I passed through an Indian village whose inhabitants are undoubtedly the descendants of the builders of the mounds on the hill. They now occupy grass thatched huts with curious clay sturhousas for corn, quaint life
involved once and thatched with steep conical straw roofs.

The sides of the hill on which the temple is built are terraced with the slopes from one terrace to the other cut down to a steep regular incline, faced with a wall of irregular stones. Some of the terraces were probably used for agricultural purposes or for drying grain. This is as shown in one place where it was seen to be done. The temple at

an extreme top of the hill commands a magnificent view. It is a rectangular structure enclosed in the center of a levelled square court surrounded by the ruins of an old wall.
The temple measures 50 ft. along its E. W. faces midway from ground to top of standing wall. The N. S. faces are 65 ft. long. One top two feet in the center with a cross wall bluwn show that the temple had two interior rooms at base.

The only entrance to temple was by means of a broad stone stairway leading to summit. The steps are 15 in. high x 12 in. broad. This stairway occupies all four faces except for 13 ft. at each end. The low surrounding wall of rubble that enclosed the court was only a few yards from the temple wall.
with part of the new blocks partly
on mole. Had an entrance or
gateway in front of the stairs
leading to top of temple.
The upper part of the temple wall
has been partly destroyed to furnish
material for a dam at a reservoir
built for irrigation below it hill.
This vandalism is not permitted by the
present government. We were informed by
a local official that was charged with the
protection of the ruin. This protection
is a nominal affair however since
several large oak trees growing on the summit are fixing
their roots between the blocks of
crude trembling them down.
I made the following measurements of the ruin on one of its most perfect faces. It had the same plan on all sides.

The entire facade of this structure is crowned with large...
grotesque figures carved in high relief on the stone, which is carefully dressed & fitted with smooth faces and made large blocks. The stones of the top course are 24 × 28 considerably longer than wider though 3 to 4 ft. long are common. A number of photographs taken will show the character of the figures. In Humboldt's travel he gives a large plate supposed to represent one face of this ruin but it is wholly fanciful and does not convey the slightest idea of its real character. These are said to be extensive cisterns seen here.
in the hill beneath the ruin, but my
guide misled me so that I failed to see
them.

On a hill about the same height
as one with the temple a few feet
formerly a low gap in it,
and another hill with a lane leading
from the gap below the hill, at
the summit of which there is
a walled enclosure. This hill must
have served as a fortification.

I was feeling the effect of the intense
sun at the time of my visit while
not exploring this hill.

After my return to Ceresco, one
day, I had a horse to change
which kept me in a few hours, but
we rode very rapidly.
This was due to the long hard ride in the intense scorching heat which is not healthy.

One day by pure accident on the road from Cucurucu I was just at the banks of the town when a white cocked January flower was shot to fill into the hedge by the roadside. While I was watching it a woman came hurriedly out of the small house just inside the hedge to beg me to kill the bird. I asked what she wished to do with it, she said she wished to eat its heart for a remedy. Whether I would give her the heart or not she opened it out into heart and the woman taking several
a small cup with a little brandy
put the little with it. She said it was
an excellent “medicine” for pal-
ipation of the heart from which
she suffered and was prepared in her thanks. I left the remain-
her can and my companion to some
hot caustics about three miles out
in town. Then I foundropes
of a bridge ordered built by Santa 
Breis, of the Canon wall,
and the fellows of this Canon near
this point an some high braces 
for a bridge ordered built by Santa 
Breis, of the Canon wall,
Jan. 10th 93

From Cuemwaca I find saddle animals and proceed in a southeasterly direction about 12 miles to Aquala. The route led across the pass of the plains from Cuemwaca 12 miles passing various small Indian villages built mainly of wattled mud and adobe. The country is stonier and boulders from which wells are cut abound about the fields. Midway in the course we crossed a large lava bed which is several miles wide and proceeds from the valley at base of mountain about 6 to 8 miles to the north. The rough rocky surface of the lava stream would
 begins very passes grass, but for a rickety made trail. Its surface is covered with a dense thicket of Sage and Capitatus. It burns with access, covering other brush plants. The surface of the coarse rock retains moisture much better than the hard soil of the plain. Hence the abundant growth of the rhythms that is commonly found in such places.

At the base of the trail I was startled for a moment to see a man with muskets under a tree by the trail. But a moment later, saw they raise presents.
Country guards prowled
neighbouring villages. The rough
slopes of these hills were
often frequented by robbers
to catch a victim since it
was impossible to go past
such places once frequented by
robbers. It is now common to find guards
posted.

Leaving the coach I crossed
a series of limestone hills that
from a low N.W. ran helter-

del. To the east side of this range
we descended abruptly
in the valley where Tullef
lies at an altitude of 1500 ft.
This is a large village of a few thousand people, many Indians or Indian descent. The place is full of orange orchards surrounded by sugarcane fields. It is hotter than Germania with its length, less alt. The orange trees are beautiful, and the fruit is in great demand. The eggs are laid by a fly which pierces the skin of the orange and deposits a larva there, which later becomes a fly. The orange suffer from the same pest.
The flies are so numerous in some orchards that the entire crop is ruined. I saw the flies at work. They deposit their eggs on the lower or shady side of the fruit as it is becoming yellow. These young orange and red Indian jellies take them to all of the homes of this region as well as the cities. One fly takes from one to two months. The fly is one of a flat triangular-winged species about the dimensions of a common house fly. One of the orchard men told me that he thought this fly was destructive on stone and beetles. Corn, alfalfa, and flax are

...
the orchard.
The vegetation & birds about
Yautips are morenego
improving characteristics &
Curves, but there is but little
change in mornis. The firm
I contracted at Curves become
worse here until it began
to ruin me down rather alow
I finally decided to return
the city of New York & no up
Reached Albany Jan 18
for the next 11 days amount
then. On the 30th had received
sufficiently to go out to ima-
see at 58 corner of flat
6th at base of Flat. dept.
where my assistant has
Feb 8th 73. Yesterday left Ameza for Guajista. Spent a large part of the day hunting horses. Took me to Tabla del Volcan at 5. 30. 73. This was finally accomplished on the 9th. Then proceeded to our.
destiny. Jutita del Volcán turned out to be a miserable little Indian town among the pines at 7,000 feet, on the south slope of the volcano. There was no house when we arrived, no time to pack or to corrump the local court, or to staff the offices. We opened our effects and sat to work. For the next 4 days we lived here, having our meals brought in by a woman from one of the houses of the vicinity. Had it not been for the official letter I carried, it would have been very difficult for us to have got along here among
to the indifference of the people. The only exception was the local judge who, although he was a fairly intelligent fellow, was not particularly interested in learning about the outside world. He asked various childish questions about my country, and among other things, he told me it was strange to hear such things as pneumonia or cancer. He couldn't understand what sense there was in burying the dead so that they couldn't eat.

The villagers recalled the fact that all 'Yankie' (Yankees) lived on raw meat and fish.
tall man (officer). To this I replied that I was a Yankee, but less than left out the
same fraud as he did as he had seen. But then he objected saying that I could
not be a Yankee for he knew that they wore all very big
who live on raw meat forte had been one or that servant
was very big. To this my com-
panions assented and evidently
discountenanced my claim to being a member of the most
civilized nation. They decided
that I was a Frenchman after
due consultation. When asked
how what countryman I was if
not a Yankee.
From the 1st end of the block where battery was located we divided off into a calaboose squad room. The flaccid was on guard near all the time. At 3am the new guard came in and relieved the guard of the day before and then at first sign of dawn 2 of guards armed with muskets & carbines went out in 3 different directions along the road & spent the day in patrolling & watching roads through the forest to the limits of the Community line at border lands & to neighboring villages.
The larger towns have their police regularly employed, but the small towns are forced to do voluntary guard duty. The community own or need every able-bodied man among the villagers in one list. The community is then divided into several sections which are given their regular day of duty; an republic to Fronkland as noted.

These "vaccinators," as they are called, are met in all sorts of outofthe way places and undoubtedly do much to make anything difficult.
They are told to treat accountably for the good order of their districts by the higher authorities. Their uniforms are nonuniform but the ordinary costume gets laboring classes so that it is a little unpleasant to come upon them in out of the way places. riffics occur despite them at night occasionally, and my assistant had a narrow escape near this place. He left a trail descended into a narrow woods I came on the mt. side one afternoon & was startled to see 3 men follow him come into a wood, one with a stout cudgel, the other with a large knife in his hand.
My assistant at once faced
him, warning him of the
promises told him to stop which
he did, very promptly, began to
abuse my men with all the
epithets he could command.
I told the latter part reluctantly,
but quietly moved off leaving
the discomfited foe on this
track. It is a regular trait for
these mountain Indians to
proceed toward their villages
as a hunter has, the moment
they get within reach to seize,
the hunter, rob, maltreat,
or kill him. The next day
while among at this place a
pilgrimage of the Indians,


Yacala
Yacala and Tumbla Bega,

a fiesta 80-miles, a saint line,

southeast of Merida.

Tons of people and their belongings filled the streets, and the men, women, and children

carried a little doll and a box of candles to burn before the alta.

At night, the plaza of the public

building was made silent enough for the

candles to burn properly.

The nights were sharp and

astounding, yet they were charming.

A thick mat was covered with a thin

sheet, and we were able to sleep com-

fortably. At early dawn, we turned up

off the trail of our own volition.
a heavy load these people, in fact, most of the Indians in the country, for a short time that they seem to keep up indefinitely. They carry a backload of garden work and fruit to market 20 to 25 miles in this way, daily, whenever they can. I have seen them returning in a contrived frame of mind with the entire proceeds of the trip consisted in little notes to be left off at the next post office. One night the crowd in front of our quarters united in singing a hymn in praise of the saint they were to visit, or the effect was mild and poetic.
The voices merged into a rhythm that had the effect of a chorus. This was followed by a short silence, and then a more extended period of singing. About 1000 people gathered in the church, the aisles were crowded with people, and the voices filled the room. The music was a fusion of traditional and contemporary styles, creating a very unique and captivating experience for the audience.

After the performance, there was a reception held in the church hall. Refreshments were provided, including coffee, tea, and light snacks. Many people gathered in small groups to socialize and discuss the performance. The atmosphere was lively and engaging, with people of all ages and backgrounds enjoying the event. The evening concluded with a final round of applause and a brief speech by the organizer, expressing gratitude for everyone's participation and dedication.
The most amusing part was a large framework covered with wheels, on which a group of actors, young fellows, and some women, gathered, making head for the crowd, leaping and throwing dice in a wild romp, among the crowds of people standing about. The sound of the dice being thrown and the shouts of the players were heard. The crowd in general, in the midst of the black and red lighting, was quite a spectacle, and the people were all dressed in the most colorful clothing.

On the evening a fantastic carnival was given in the churchyard. The most amusing part of the night was the gathering of the women and children near the church, throwing darts and yarn into the air, and the sound of the darts being heard as they hit the crowd.

On July 15, I engaged a steamboat on the river and sailed up to the Mecos, a town about 70 miles from the city. The next day I had a severe attack of the illness that I had mentioned. On the 18th, I had a severe attack of the illness. I left quiet at Mecos and returned to the city.
On July 22nd we left a cave with pack outfit and ascended to about 11,000 ft. on the Potosi trail. We camped under a rock shelter on side of a deep canyon. I started the pine skins. (For not getting account of Valley Gap. See notes written during that trip in another book.) (cf. pp. of this copy).

See other notebook here.

Chakahcumala—Mr. Olgana

—April 18, 1893—

The morning was occupied in arranging with the men buying ropes, etc. etc. for the trip up the peak. At 10 am we went out to go but the men charged to have the rope on hand yesterday failed to show up. I had the pleasure of exercising some of the necessary virtues of patience. About noon it became evident that it would be impossible to get horses to start today so I had my outfit carried.
back into the room and
sent the men, I had
back home instructed to
rise early tomorrow
morning. Although I
started in by seeing the
jail officials yesterday morning
and getting his word that
he would send and get the
outfit, I do not seem to
be much advanced toward
it. The day is the finest
one since I have come —
clear, calm and bright —
the snow peak stands
up brilliantly white in
the sunshine.
April 19, 1893 - Mr. Oriauro

Left for the Jef duties

Told him of my failure to secure

it, but promised to have a couple

of saddle animals on hand for me at

7:30 this morning.

My men were on hand at 6 a.m.

I started the camp out of the

saddle animals. At the time agreed

upon the two saddle animals formed

by the Jef duty on hand. They were

about the corral and started them

used in the country but we were

not in a position to object as much

and set off with two of my Indian

companions keeping us company

on foot. We found it necessary

to employ 1 man - 2 guides to
made the ascent with us, one
man to look after the horses
and another to keep charge
of camps & our outfit during
absence. All the Indians
who live in a small pueblo
a few miles east of San Andres
at base of foothills. The two
guides whose men have worked
gathering sulphur on the peak.

The road goes outside of town
and passes for miles along a winding
road bordered through sandy fields
with Starting Wheat.

Poor thatched huts of the Indian
people were scattered along
in irregular conjunction.
from the barrio de San Francisco, about a league from San Andrés. A line of white groups of Nácente buildings were to brown and reddish points of pine winter not yet cut away. As we left San Andrés we ascended a sharp slope, the bluff-like drop from a higher break. Im this area to be seen sections of deposits of basaltic and volcanic sand that had been blown out by the volcano. Other layers of a grayish yellow and brownish material alternated
and a

sandy soil brought down by
the elements from higher lands.

This layer of white pumice
is almost wholly free from
foreign matter, and varies in
thickness from 2 to 3 ft. in
Chalchic.

Out my exact limit in
the distance as failed to
determine a layer of fine

and a
Bluish black wdc sand which is only about 1/4
thick near Chal but near
the base of the pit it is from
10 to 20 ft thick. This layer
lies near the surface of the
ground and was deposited
after the contour of the country
became practically the same as
it has today. It follows the
slopes of the hill down to the
washers and divides the
plain and all the
side of the pit to about 1500
ft. Beyond this I saw
no exposure when it could
be traced probably due to
Glacial alluviation abov
at point.
Above this black layer is
the surface soil varying from
a foot or two up to 20 ft.
or more according to the
situation. This surface
soil is a fine yellowish
sand at the top with fine
silt mixed from the juices
of stones below. This is
apparently the result of denuda
tion and transportation of the higher
peaks.
A few miles out of Chaco, we
crossed a small cemented
aqueduct carrying the brillian
clear water of a large spring.
near the foot of the Mt. down to the Ganges Chal. In the vake of bushes (corb waller) along the roadside there was great numbers of birds evidently drawn here by the water in the open plains.

We drinks from the sparkling stream ran on meeting up among the standing wheat fields and soon reached the border of the pine timber at about noon. Up this point the geosis & dolomays of the plains follow the cultivated. But we at emptly with the border of the unbroken forest.
after the end of the fields,
At first, the road led into a more gentle slope covered with slender pines joining an open forest. The ground was covered with fallen needles, but of grass and other small vegetation there was almost none. Most of the lower branches of the pines were dead and the almost total absence of birds or other signs of animal life gave the wood a sad loneliness. Here and there a junco skittered up into a tree or one sang its short unmusical ditty from a branch overhead.
Having passed the gradual slope, we came to the much more abrupt rise of the main bank. There dark firs and hemlocks filled the curiously swollen, thick back. Among these firs, a plentiful growth of Sequoia gr. is found, and on a scattered, half naked Indians digging it up to obtain its stiff roots, which are sold to make short brushes. In some cases also, in some fields in cleared places among the firs, the latter form often attain a thin frame.
Two guides were joined by a couple of his sons who led us to a small spring in a shaded cañon. When a couple of trees had been dug out for boughs for the accommodation of the cattle, By this time we had built a tent and with the Pickney unhurriedly hammering away overhead on the dead trunks of the fir, made a noise quite out of proportion to their bulk. Moving on up the 49 smuggled that was very late to along
Here we left the fox at about 10.000 ft. and turned a defl.

glacier with heavy moraine almost
completely blank.

Still up over the slopes until
at about 11.000 ft. we entered
the col and a draw

which developed into the
lower end of an ancient
glacier bed as an advance.

Then was the terminal moraine

...
that towered up to the clouds to our left.
As we continued, the trees grew scattering and dwarfed to those in exposed places often leaned to the rock as if to escape the fierce winds that must roar across these high slopes. Here the hills rise smooth, grass covered, above the tundra, the broad, bluff-like end of a great lava stream hangs alone as we wind around it.

The sight of a hawk soaring above the juniper-clad face of the lava slope struck me.
was rather surprising. A few small lizards scurrying over the warm pieces of lava blocks near the trail with scatting traces of mice, rabbits, a couple of birds were the only signs of life. The grass growing in scattered bunches with sandy bars, sandy inter-spaces was the main vegetation, only in occasional places were we able to see a few species of cacti. We passed the night with the howl of coyotes continuing in the distance and fell asleep to the sound of the wind whistling through the rocks. We camped at the rock shelter.
Formerly used by the Indians who were employed together at the north of the crater. The small spring of water which comes out here was the source of attraction. The altitude was about 13,700 ft. On the east side of the mountain was a few small hot springs. Our animals were turned down into the canyon to graze. I saw Arctic blue jays, robins, juncos, willow ptarmigan, and flickers were seen. Amongst rocks I caught a meadow lark and a sora, Cricicola, Oregonicus, and Schwins. Amongst the tall grass on
sides of the canyon. As soon as night set in the clouds that had hung over the mountain all day began to break away, but a high wind rushed through the stunted pines creating the canyon walls and filled me with considerable anxiety for tomorrow. As the sky cleared the stars trembled, flickering and then I had seen them before at this altitude and I feared a high wind tomorrow. They men around me that it was an impossibility to climb the hill if a heavy wind should be blowing as it would sweep one off the steep slope.
Then they began discussing among themselves, for my benefit, the various animals claimed to be on the summit. Allegedly a skunk
my guide at Reoso, that a
groundhogs and a white mouse lives
about the summit of Mt.
Then a white squirrel was located there, finally one
of the men began to tell of a
white shark but this was too
much and they began to
d 讥
d me. Soon had my bed down under the
shelter of the two black hang-
ning rocks. The men drifted
up about the fire on the saddle
blankets, their chatter soon

April 20th

Closed... The fire flickered low and across the canyon I could see the dark swaying arms of the pines as they tugged at wind in the lashing of the wind—the stars flickered and glittered mockingly. Then I forgot everything in sleep.

At 2 a.m. I stood on the rim out where slowly did the moon rise and it was four when we finally got off. The wind was gone and the stars shone from a black void as I picked our cautious way out from the bright ridge into the inky depths of the canyon.
Finally we mount zitt and leaving the trees behind wound silently up across the sleady slope towards the peak. Before we was still a great dark mass floating out the stars for hour the zenith. As we reached the open slope a chill made the air enough to be unpleasant. We plodded slowly along our horses by their fragment slips and breathing hard that we soon getting me.
Finally, a pale gray tinge in the east, over the shoulder of a rugged spur of lava showed that the sun was near the horizon.

Then the figures of our men became more distinct—the pale yellow patches of grass covered by distinguishing patches of the snow, side of the volcano to come out of the enveloping darkness.

The gray east throw its cold, mysterious light over the landscape until it had the same dead, ghastly effect that one gets on an arctic landscape at summer midnight, when the sky has lost all color.
The high ridge, with its ragged outline, shorn as the sun now seemed almost to hang us as we tended along its base. Ahead gleamed one small snowdrift, the lower ones quite hidden. As we reached this the sun had risen, and all was now bright. From the peak of its summit, as we stood, with the scattered boulders, when the

22
of great size on the middle
spit otherwise unbroken
surface, was once a glio
and leading down ending
somewhere near our camp
place.

Passing up the old trail of the
sulphur gatherers, we rounted the upper end of
the high, comb-like lava ridge
and dismounted by a huge lava
foolde deposited here in the
gap by the dying glaciers.
Other similar boulders ran
all about but most of them
shrived into incunable
fragments, all with conchoidal
fracture, by the weather.
The dead gray of the dawn began
to be enriched by a saffron hue
now as we began to move up the
sandy slope leading to the rugged line
of dune lava up which our course
day. Soon a warm glow of color
tipped the snowy peak and
the dark summit of Block Mt.
to the south warmed up to a
Rich brown. The dead world
seemed to breathe again. A
paint note of a jay was
heard in a cheerful note
from up to the 15000 foot
mark. Near the
grass ceased entirely
But several mule deer
held their own even up to
At 15,000 ft. a Chukar Partridge was seen flitting from rock to rock, the highest point at which I saw any bird on this pene. At 15,400 ft. some hundreds of feet above the last lake of grass or flowering-plant I was surprised to find the rocks op quite a number of Sittomys lencopus, in the fire absolutely bare, volcanic sand lying about huge boulders. From above...
leading away to other
boulders on all sides.
What these little tracks could
be doing up here was beyond
my ability to imagine.
This is the highest point
ever reached by any mammal
in Mexico. It is also
the highest place in the
distribution of most
mammals. It is similar to the little
white-footed field mouse all
the eastern states. After we
began climbing among the
long line of loose rocks and
boulders, we finally
reached a hillside
with a
sloping
surface.
From here, we could see the
entire landscape below,
including the
mountains in the
distance.

The air was crisp and
cool, and the
sunlight filtered
through the
blue sky, creating a
beautiful scene.

We continued climbing,
slowly making our way
up the rocky hillside.

As we reached the top,
we were greeted by
the breathtaking
view of the
landscape.

The sky was
a shade of blue
that seemed
to
merge
with
the
ocean
horizon.

The
sun
glistened
on the
crystal
waters
below,
creating a
dazzling
display.

We
sat
there
for
a
while,
silently
admiring
the
beauty
of
nature.

Finally,
we
decided
to
descend,
slowly
making
our
way
down
the
steep
hillside.

As
we
reached
the
bottom,
we
turned
towards
the
nearest
settlement,
where
we
were
welcomed
back with
open
arms.

It
had
been
an
amazing
day,
spending
time
in
the
world
of
nature,
and
we
were
already
looking
forward
to
our
next
adventure.
like points of the lava ridge
leading up to the summit the
way becomes very steep but
not at all dangerous.

For up above us shot out the
knob-like, gray masses that
just below the summit known
to the sulphur gatherers as the
outlook - mirador.

As usual, the leather-bunqned
Indians were in advance
evidently regarded with no more
contempt the lack of ability
to keep up with them. For
every fifteen or twenty yards
of advance I found it neces-
tary to stop and regain my breath
—time not lost, though it
I noticed on this meadow, near city quarry, that the vegetation was without the effect of
some gauzy white chimney in the U.S. No red snow about this. The
trunks become shrivelled upside.

much struggle to an end.

Thoughts and dreams after the
melted thickets of low bushes
in the dark line in most
gives no felicity.

The town during January at night the
light from chimney and also one
lgt. at town house and the dark after.

I gave me the opportunity to look
abroad on the panorama
which the rising sun was changing
in appearance at every
moment. As day dawned
I noted that the lower hills
about us seemed obscured
in fog or clouds so that it
appeared to extend out over
the valley. At three or four
with my greater elevation to the
side I was now able to see that
what I had mistaken for fog or cloud
was nothing but the great dust
structure overlying the earth.
At eight o'clock only cirrus
clouds might be seen
for away toward the horizon.
At nine o'clock I had
reached an elevation a
little above 16,000 ft., and
found, what I had noted
both on Paps. & Jt., that
the heavy dust smoke rising
from the lava, was at depth, limited at
about 16,000 ft. Above
spread a sky of the most intense
turquoise blue, I have ever
seen—except on the summit
of the other two peaks.
This brilliant sky extended
down unchanged in brilliancy
almost to the very horizon of
the dust layer. Far away
to the west—glistening white
When my former circling this stage limitation of the earth's dust air at 16000 ft formed an upper horizon and broken except by the white, rounded clouds a cumulus in the distance. Looking down through the atmosphere on the face of the earth, certain details of the larger features of the landscape could be made out exactly as one might see the bottom of a pond through slightly murky water.

Below this limit at 2000 ft is the place of all earthly life. In this region nature the realm of storms sumõn points. Like snow, islands of clouds rise the peaks of the 3 meter in

in the sun I could see the crests of waves sweeping towards the clear air above the layer of dust. But with all their bases below to them conceal one another in the misty gray down brown sea.

When I ran over the surface of the dusty sea I began to see newly forming cumulus clouds and their upper borders rising along the surface of the sea like the foam of water on a river. At 10 a.m. the upward current of warm air from the plains to the

a little group of no companion lends peace to the sea air until one journeys far away to the Arctic regions, or high up along our N. W. Coast where a single fellow is found in Pt. Elias.

to climb along the high sides I was disappointed to see ragged gray clouds begin to form near the mountain. They awoke along its sides below us as though by their own volition. The air accompanying them had not yet come to effect. They clouds now rapidly multiplied and on the surface of the dusty sea was forming a host of beautiful cumulus. Their upper surfaces touched, and dived and shot away, but the smoke through, down to the almost blue black under
surfaces. Thousands of
just overhead now began
to form a lace-like gauze of clouds that could
not have been less than
20,000 ft. in altitude.

When we were within a few hundred
feet of the top, we left the rains
of lava along which we had been
proceeding our way and worked
over the sun-scorched surface
of the thin layer of snow
that encircles the Crater.
Then the mist-clouds, fragments
that had been chasing one
another about the base of the
peak came swirling over about
the summit and the wind
blew fiercely. A severe
headache that had been with me
all the morning now began to
become especially painful with
a nausea of vomiting and
severe sickness that made the whole
part of the ascent very difficult.
Several times I was forced
to stop on the steep snow
slope heavily on my
alpenstock to avoid a dan-
gerous fall due to sheer
weakness or loss of control
of my muscles. This would
pass off and I would work
on a few yards further.
As I had no trouble of this kind on
either of the other peaks I attribute it
to the fact that I had been cutting
from a severe cold for a week
previously to this ascent and in
consequence was in poor
physical condition to meet
the situation.
The men were awaiting me sheltered within the lip of the crater. Orcharding on a narrow slope of sand and fine scoria mixed with small fragments of sulphur which descended a few feet below them they dropped into the abyss of the crater.

The approach to the crater is abrupt so that one is on its verge without warning and the effect is rather startling.

The crater is a huge chasm some times greater than that on Popo. It much more effective for that reason. It must be 150 ft deep from the side on which we approached - the sun
Not is lower on the opposite side. It is about 60 x 50 ft. in diameter, its largest dimension in an east west direction is irregular in outline being broken by bays. The contour of its upper edge is also irregular the highest point on the rim side being several hundred feet above the basin wall. The drop is perpendicular from the top down to the basin floor at the bottom. While I was at the summit there was a constant dropping of fragments from the high wall of the crater thus making a smok
rattling sound as they struck among their fellows. At one point of the wall it is not very far down to the talus & my men said that when they were sulphur gathering here some years ago one of the men was shot down by ropes & gathered much fine sulphur for it. While they returned to the base of the pit with it he remained to get more & a piece of a sulphur and blew so hard for three days that he one dared go near the pit. When the gale ended they turned up to the body of the water calling the name of the man below. They were surprised to hear him reply & much voice & feeling to hear them.
the popes they don't win up. He
was very talkative but some-
man and bit sulphur gath-
ering at the bottom near I con-
on after that.

The walls of the crater appear
as the tripod palm and the
boca caldera. On this is
mixed when I can't with
a considerable present
of sulphur in small amounts
masses. The sulphur gushes
from the surface at points
just outside. It has the tendency
Therian and the side reached
it down to the cave where I

came out. It was refined and
a crack. Way to break the product.
down to an Alloa where they said it for 3000 a half. In the morning we woke about 7 and a half. The main summit is at the SW edge of the volcano, just above where we reached its base. It rises in a slight knoll just back from the rim of the crater, and is surrounded by a large rent in the wall which some years ago has brought up fire on the flank and planted famously. While I lay ill a tree taken on the ashes at the mouth of the crater, the wind came tearing and rushing about over the summit now surging down behind.
The clouds, sweeping over the summit, had a strange, dry, dusty odor as though they were made up of something beside vapor. I noticed this odor each time that the clouds enveloped us, after a temporary clear spell, all the time I was on the summit. The clouds were pale gray in color, no sign of mist or other precipitation came from them.

It was a piercing wild scene and up from the depths came the constant rustling, dropping stones, and in my ears the wailing sound of my heavily laboring heart that seemed to refuse to rest with the remainder of my body. At intervals the cloud would break away, the gentle wind would come out but only to be hindered a few moments later by the decision of a gusty wind.
Below, on every hand, the clouds had multiplied until the earth was hidden to the west by a dead gray-white sea in silky smoothness over the land below.

My men told me that many towns may be seen down in the hot low region. Can you imagine a strake of silvery light balls of the Gulf; today they do not exist—form an on a desert island in the middle of the high, thin air.

Soon, after noon, we began the descent and, after passing our cautions way down our the shores to the low grade of sand and all stones, the dark cloudy...
travelling. When there is a
layer of soft fresh snow
on the sides of the mts. the
sheep make about the cove "muy
(Corridas) from somewhere to
they take a fresh meat of
the meat - after a good run -
about their shoulders they
run through the snow away
they go for a short time of
through the cove as his
eternal small slopes, was by
at 12 or 15 that a step among the
the sliding of the snow material
Photographs on Copra depots.
1. Oldest Crater 7
2. Old forest and snow cloud.
(Glacier meadow)
2. Glacier 3rd Sal. of Copra.
Extending 2 to 3 hrs.
3. View from side of plain.
To Lake, with Maluruch.
Arizaba Photographs
Apr 26 1913
1. Peak glass ridge, S. face seen.
2 & 3. Ascending ridge below seen on S. slope.
4. Clouds at 16000 ft.
5 & 7. Crater.
8. Clouds at summit.
9. Glaciers boulders in basin at S. base of peak just foothill.
10. Gen view of peak from S.
15. Timberline S. side peak.
16 & 17. View of peak from forest.
8. W. side.
19. Side, Alice, 150 yd. from upper corner of dells.

And finally on one end.
How half of unheated slab of 
ime. A roof of shake held in place
by blocks on wood on a framework
of poles labeled with a few blue
wood filled with nails. This upper
ends resting against the stinger.
Dirt floor, fire in middle and outlet
smoke except in cracks in the walls. Roof 6' left the eave black from the smoke. The fire wood
A tube at, horn n. mattock made up the tool of the man.
A small wood, tin, clay samovar.
2 small Clay bowls, six small clay
pots, large kettle.
We found about 8' W. a 4x4 meal made
of the culinary outfit. 3 or 4 small
ramein baskets formed dinner plate.
A large slab tumor on one side hold
as general receptacle. In the corner
A single rough wood made up the furniture.
Photographs
Apr 20, 193
1. Peak from ridge, S. face, close
2. Ascending ridge of lake on S. slope.
3. Clouds at 16,000 ft.
4. Crater
5. Clouds at summit
6. Glacier boulders in basin at S. base & peak, just above timberline
7. Summit line S. side peak.
8. View of peak from Joiner 800 ft.
10. Side, 3 big trees, close up, ridge of dust

Ind. Family on Origin-
low court or many thin slabs of lime. A roof on pillars, slab pleasant
by block, in wall of framework
of poles latched together with mending
cord. The walls on 1 side set on
end with floor and in a shallow
basement filled with earth. Other
parts busy against the flanger
front, floor of mud in middle and outlet
for smoke except the side cracks
in the walls. Roof 6 ft. high, shells
black from the smoke of the fire
wood.
A table of, hop telock made
of the looks of the man
A small bowl - a clay sauce
A small gray bowl, six small clay
jugs and pots.

About night, a 45 day's meal
up of the culinary outfit. 25, small
mush broth, and a shelf house.
A nice plate made on an old farm
as general maybe a fork or two,
Slight rough cloth made up the furnish.
On the bank ground, upon a fragment
of gammad horror less than a board of
bark, about the waters of the river,
and with a fish net, the natives made up
their food, with an occasional meal of
ground pepper.