Climbing the Tallest Wireless Tower at Radio, Va.

TWO Washingtonians Mount Ladder of Tower Rising 610 Feet in the Air—A Search for New Thrills Is Well Rewarded—The Two Smaller Towers—On the 200-Foot Landing—A Wonderful View of Washington and the Surrounding Country—Climbing Against a Brisk Wind Made Trip a Dangerous One—Some Facts About the Arlington Station.

WILLIAM W. GREENE AT TOP OF THE TALLEST TOWER.

A FEW weeks ago two Washingtonians, William W. Greene of 1115 Rhode Island avenue northwest, and L. G. Asbury of 14 Grant place, climbed to the top of the tallest tower at the Arlington wireless station, at Radio, Va. They are believed to be the first civilians to accomplish such a feat. Permission is not easily obtained, for official reasons and also because of the extreme element of personal danger involved.

The station occupies about two acres of ground on a fine hill some 150 feet above the river level, and commands a grand view of Washington. After being shown all through the splendidly appointed building with its wonderful machinery, the two adventurers, having presented their letter from the Secretary of the Navy, stated the main purpose of their visit to Capt. W. M. C. Bullard, U. S. N., in charge. "Go to it if you want to, boys," said Capt. Bullard, "but it's your own risk."

Accordingly they set out for the largest of the three towers, some 610 feet in height. The two smaller ones are each 450 feet high, but somehow the big one looked best.

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Every one of the three towers has at the top two immense, bow-shaped steel frames, long and narrow, somewhat like the wings of a great bird, and each tower is connected with each of the others by twenty-three heavy wires strung tightly from the frames. These steel frames are called "antennae" and are securely fastened some distance out from the towers so that they swing in midair and are plainly visible from Washington—from which distance they resemble aeroplanes circling the towers. The wires from the antennae of the towers, collected together far up in the air between the two 450-foot structures, are strung straight down to the building in a long, tubelike festoon. This circular string of wires coming down out of the sky makes one think of an elongated butterfly net.

The outside measurements around the base of the largest of these mighty steel quadrupeds are about 100 feet from corner to corner of the four feet or bases, and it therefore covers some 10,000 square feet of ground. It is supported, however, only at the four corners, and the four lower extremities of the framework of the tower, which actually rest on the enormous stone bases, seem surprisingly small to support so colossal a mass of steel. Running up through the center of the structure is the ladder, or really series of ladders, for the space from the bottom to the top is provided with eighteen small landings in the shaft, so to speak, besides three large landings which extend clear through from side to side like a sort of cross-section of the tower.

"As we reached the foot of the tower and gazed up at its lofty summit glinting far away in cloudland," said Mr. Greene in speaking of the climb, "we drew a long breath, threw aside our coats and started up the ladder, round by round. For the first hundred feet there was no particular incident, but when we were up about 150 feet from the ground the first distinct thrill was felt when we looked back earthward. It seems so big, and you realize that, while you are already a considerable distance in the air, you are only just beginning the long climb. The higher you go, the bigger it seems, until you reach the 200-foot platform, which is really the 'waist' of the mighty steel giant, holding securely the narrower superstructure above.

"We stopped some little time on this great 200-foot landing, which has the largest platform space of all and afforded us a magnificent view—cultivated fields, farmhouses, churches, the buildings of Fort Myer, dusty roads stretching out ribbonlike in various directions, the winding Potomac with the city beyond, and, most striking of all, the woodlands with autumn foliage in all its glory of red and gold. On this big landing we became so absorbed in contemplation of the beauties of nature that lay panoramalike at our feet that we lost any suggestion of uneasiness that had possessed us, and were conscious of a feeling of security in the protecting arms of the great steel colossus. This largest landing is protected by a railing around the edge and contains considerable space.

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"Resuming our climb, we soon found the size of the tower growing noticeably smaller, and also that it swayed quite perceptibly. In making such an ascent it is not advisable to look down unless one's nerves are steel, for even in spite of self-possession most people will become dizzy and lose control of themselves. The best plan is to look only at the ladder and the structure itself, or else let the eyes rest now and then on the landscape at a distance. The average swaying of this tower is not more than eight inches at the top, while that of the Eiffel Tower in Paris is something like twenty inches.

"Up and up we went; smaller and smaller grew the tower. Already the houses had assumed the appearance of dog kennels, the fields and woods looked like a relief map in a physical geography, and human beings appeared like mere insects as they made their way almost imperceptibly along the roads and over the farms. As we climbed higher and higher it seemed as though we were actually leaving Mother Earth behind altogether, and our minds became filled with thoughts of Jacob's ladder and the nursery tradition of 'Jack and the beanstalk.' By this time our hands were exceedingly grimy from the dirt and rust of the ladder and almost numb, too, from constant climbing and the keen, piercing wind which saluted us as we ascended. But despite these handicaps we were forced to take a firmer grip on the rounds of the ladder lest the chilling blasts sweep us from the tower.

"At last we reached the second large landing, where we rested and warmed our hands in our pockets. As we stood there shivering in the chilly breeze two white pigeons, like celestial visitors, fluttered on the landing, seemingly disturbed and frightened at that high altitude. They were so bewildered that we were even able to take them in our hands. They seemed glad of a friendly touch, and we were less lonesome after our little visit with them.

"As we worked our way slowly upward through the narrower top portion of the lofty tower, hundreds of feet above the ground, we became conscious of the fact that we were clinging like flies to an exceedingly slender framework. We could sympathize with the sensations of the steeplejack as for the first time he mounts into space on his frail support, or with the workman high up on the skeleton of a skyscraper. We could see very little at hand that was tangible, and the sky looked so very big and vast and all-encircling; and as we ventured to look down there was only a thin chasm of steel beams and girders, apparently rising out of nothingness and merely floating in the air. For an instant our heads swam, our senses reeled with the strange fascination of it, and we all but loosened our grasp on the precious rounds of the ladder. But it was only for an instant—the next second our courage had returned, we had grasped the iron rungs more firmly and taken a new breath and a new foothold. We dared not speak to each other at this critical point, but seemed to be in communication all the time by a process of telepathy.

"Silently we passed from round to round, and then, all at once, we were poking our heads up onto a sheer, flat platform, above which appeared only the blue sky and a small flagpole. 'Well, we can't go any farther,' exclaimed my friend, 'this is the top!' And sure enough, as we crept cautiously through the aperture we found ourselves at the top of the great tower, 610 feet above the ground. A little platform about fifteen feet square, with a four-foot railing around it, like the quarterdeck of an airship—and that was all. But, the wonderful view from that platform! As we looked out with unimpeded vision there burst upon our gaze a scene so vast, so rich, so varied, so wonderful in perspective that it completely lost us to all thought of our position or danger and will remain forever indelibly graven upon the memory. Above, beneath and all about us only the empty ether, while the enormous antennae, so close at hand, seemed like the arms of the mighty giant, stretched forth as if beckoning to other lands thousands of miles away, defying time and space.

"Long and silently we looked out, entranced, upon the big world before us, that never had seemed bigger or vaster, drinking in the picture, and all oblivious to the biting wind. We gazed in awe as the consciousness came over us that we were in the very presence of the great, weird, invisible power that has reached out like a Nemesis and seized with its long, trembling fingers many a fugitive speeding away from justice, many a criminal far out on the pathless ocean; that has saved from awful peril the passengers on many a storm-tossed ship; that has flashed important code messages as if by magic from one mighty government to another; that has sent its messages of joy and sorrow half way around the globe.

"The tops of the 450-foot towers lay far below us, and how small those towers appeared! For miles and miles in every direction we viewed the landscape. Washington lay before us—the new bureau of engraving and printing with its beautiful columns; the Monument, the Capitol, the gleaming dome of the Library, the Post Office Department and the various other government buildings mapped out as if on a chessboard. Georgetown and Alexandria, Fort Myer, Clarendon, Falls Church and even Fairfax were spread out under the slanting rays of the afternoon sun. Arlington cemetery presented an odd appearance: its fine old trees looked like tiny Christmas toys and the many noble shafts and monuments were mere white specks. The river was but a narrow silver ribbon.

"But soon we were reminded by the increasing chill of the air that it was time to 'come back to earth.' We found the descent much easier and less thrilling than the upward climb. When we reached the 200-foot landing we stopped a moment to take one more look at the landscape. But the brilliant colors of the autumnal foliage had faded now, the fields and roadways were almost deserted and wreaths of smoke were floating up from the chimneys of the houses. Far away on the western horizon the sun was sinking in a marvelous aureole of fleecy clouds, and old earth lay peaceful and inviting in the hazy glow of the declining day."

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The Arlington wireless station has its headquarters in a substantial, oblong building, on the second floor of which Capt. Bullard has a comfortable suite of offices, with about a dozen clerks and office assistants, besides some thirty young fellows who are electrical experts and attend to the work of receiving and sending messages and caring for the apparatus. There is a small repair shop and also a laboratory, but most of the repair work and experimentation is now carried on at the Washington navy yard.

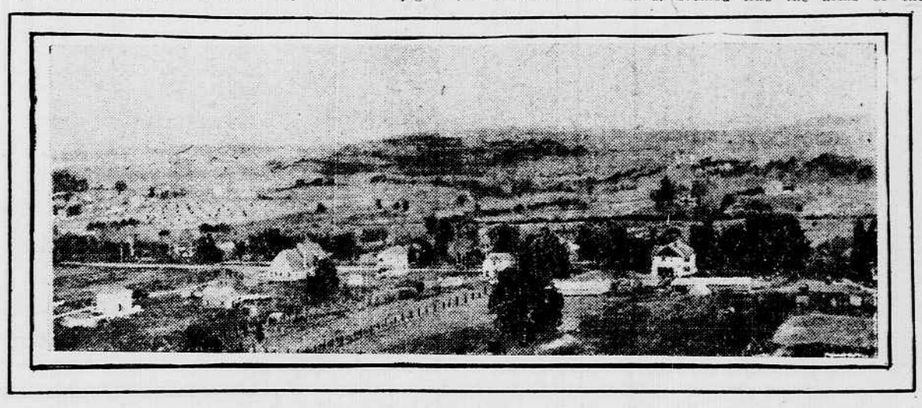
The big "sending room" is full of murderous looking dynamos, immense coils, switchboards and the like, but everything is scrupulously neat and clean. There is a 5-kw set of transmitting machinery for "local" work under 500 miles, besides the powerful 100-kw apparatus, which carries the enormous distance of 5,000 miles, and even farther, Honolulu, Panama and the Eiffel tower in Paris being regular neighbors now, and "spoken" every day, to say nothing of ships at sea thousands of miles away.

The old direct-current apparatus has practically fallen into disuse, for the alternating current, or arc light system, gives a much wider range and stronger flash. It throws flashes with such tremendous force that they break through obstructions of wind, rain, snow, etc., and "talk" thousands of miles away. The greatest efficiency of these apparatus is in winter, when the cold, crisp atmosphere and the absence of natural electrical disturbances make ideal conditions for talking through the air. Night is very much better than day, because the air is more quiet and crisp.

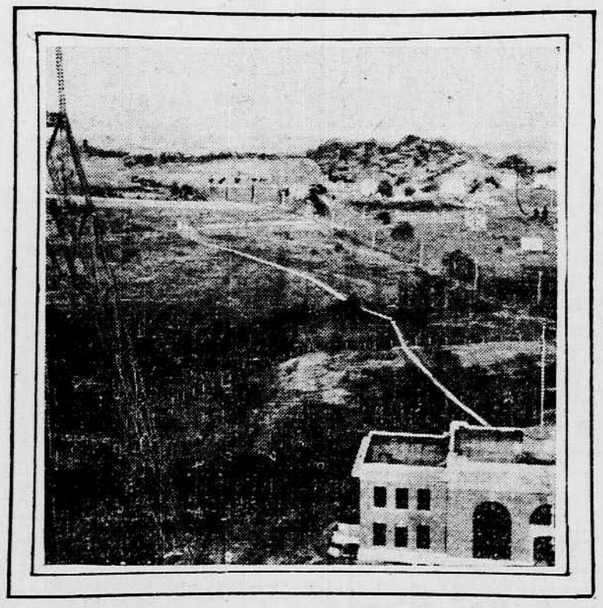
The walls of the receiving room are three feet thick and so constructed that when the single massive door is closed every breath of outside sound is excluded. The wires enter from the top and come into a very interesting receiving stand, from which they connect with the receiver caps and with instruments fastened to a heavy table. The Navy Department has a regular series of wireless stations along the Atlantic and gulf coasts, and each one has a certain letter for its call, just as the stations of the telegraph companies have their letter names. The Arlington station works these stations every day on a regular time schedule, communicating with each in turn.

Just outside the receiving room is the "wire-telegraph" room, where the wireless messages received for the various departments of the government are dispatched and where messages come in over the wires from the departments for transmission by wireless. Ordinary telegraph instruments and typewriters are operated by the young men in this room.

Upstairs, at the opposite end of the building from the offices, there are very comfortable and commodious apartments for the youths who carry on the work of receiving and sending messages and caring for the electrical machinery. There are good dormitory arrangements, baths, lounging room and a reading room stocked extensively with books and magazines on electricity.



VIEW OF LANDSCAPE FROM THE 200-FOOT LANDING, LOOKING TOWARD ALEXANDRIA.



LOOKING TOWARD WASHINGTON FROM 200-FOOT LANDING, SHOWING STATION HEADQUARTERS AND EDGE OF SMALLER TOWER.

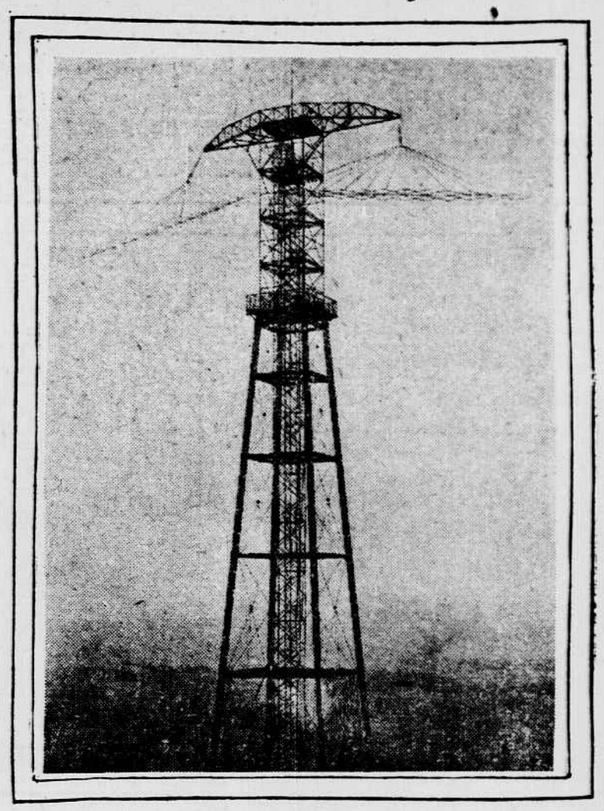


PHOTO SHOWING WIRELESS APPARATUS OF ONE OF THE TOWERS.

(Photo by Lect Bros.)

Naturalist and Author Tells of His Life Among Animals of the Rockies

ENOS MILLS Built a Cabin 9,000 Feet Up, on Long's Peak, When He Was a Boy, and Since Then, Without a Weapon of Any Kind, Has Been Studying the Ways and Morals of Grizzly Bears, Beavers and Mountain Sheep—He Says the Grizzly Can Whip Any Animal in the World and Outwit the Best Hunter—Stories of His Experiences.

IF grizzly bears could communicate formally with one another they would agree without a single denying voice that Enos Mills is the finest and most sensible man in the world.

Mountain sheep—rams, lambs and ewes—unanimously would, were it possible, uproariously approve the sentiment. So would all the beavers. "Enos Mills," these three free families of the mountains and the creeks would say, "has been our kind and understanding friend, our champion, preserver and advocate."

For thirty years Enos Mills, who is now but forty-five, has lived in the Rocky mountains, not in the foothills, but 9,000 feet up, and in a cabin made by himself. His hair is not long. His breeches are not buckskin. Nor has he ever toted a pistol, a rifle or a shotgun.

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Mountain guide, naturalist and author, Enos Mills is a very remarkable man. No human being knows the Rockies better or so well—their barren peaks and hidden valleys, their dangers, mysteries and pleasures. On foot, in snowshoes and astride his pony, he has followed the Columbia river from its sources to the ocean. He has camped along the banks of the Missouri, now high, now low, from where it starts, a mere trickle in the forest, to where it is lost as it pours itself into the father of waters.

Traveling in every state, he has slept out-of-doors as well as in houses and hotels. He is in the east now, as chairman of the national parks committee of the American Civic Association—a quiet, energetic man of common stature, gray-eyed, large nosed and weather cured and sinewy as a mountain lion. He guides no more, and though he hates writing, a book comes from his alpine cabin now and then.

What he likes best is to sit in a tall pine for hours watching grizzly bears and mountain sheep or to pitch his tent among the beavers and study anew their sports and labors. Yet he knows all the trees, flowers and birds of the Rockies, the snow slides and the storms of the summits, the canyons and the crags. No man who ever lived has been exactly like him.

Even as a boy Enos Mills was a unique personality. He lived in Kansas, a weakly youngster, who, the doctor said, would die if he did not stay in the open. At fourteen, Enos Mills set out for Denver. He found employment with a cattle rancher. The next year he built a cabin, 9,000 feet up, on Long's peak and there alone, except for dog, horse and chipmunks, he has lived ever since.

"I cut the trees myself," he told the writer of this article, "and lifted the logs in place with the help of ropes and my saddle pony. The roof was not sound, the floor was the earth itself. I was not comfortable the first winter, but in the summer following I bought a load of lumber, paying for it in labor, from a man thirty miles away, and so I had a door and windows and boards to walk on the second winter. Afterward I built a large cabin."

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Thus began the life of Enos Mills, who was then but fifteen years old, in the Rocky mountains. A few months' work in the mines of Colorado, Utah and Idaho each summer supplied him with money enough "to keep going," he said, "during the fall and winter."

Tourists began to find their way among the valleys between the mountains. Enos Mills by and by turned guide. Long's peak, on which he lives, rises 14,255 feet above sea level. In early days only reckless adventurers ever attempted to climb to its top. Men lost their lives on its narrow trail. Others were overcome among the clouds.

"I qualified myself as a guide," Mr. Mills says, "by going to the summit, seven miles beyond and above my cabin, in all kinds of weather. I went up during the day and then at night. Having learned the way thoroughly, I tested my speed and endurance.

"I would ascend to the top and return at once. After resting a few minutes I would shoulder forty pounds of supplies and hasten to the summit to rescue an imaginary climber, ill and unable to walk.

"I learned as much as I could about the rocks, birds, trees and flowers seen along the trail that I might be useful to those persons who were interested in nature as well as in the athletics of climbing. When the tourist season was at an end I went to camping again.

"Camping has been the main purpose of my life, but with it, of course, I have devoted myself to a study of the wild things found in the woods and also of the forests themselves. I gave up the work of guiding long ago, after going to the summit of Long's Peak 257 times with others and alone.

"And during all the years you have spent in the Rocky Mountains you have never carried a revolver or a gun?" was asked. "Wasn't your life often in danger?"

"Possibly; I don't know," Mr. Mills answered. "Animals are harmless if one lets them alone. It is not so, however, with men. Animals mind their own business. In that particular they again are unlike men. Automobiles are more of a menace to a pedestrian from the mountains, like myself, than are grizzly bears, bob-cats or lions.

"No one has need to fear wild animals; they have better manners and morals than have human beings. They will not fight unless they are attacked or their rights are grossly violated. With them, it is safety first all the time.

"Animals have too much sense to tax themselves poor in getting ready for war. They are wiser than the whole of Europe. Nor are they naturally bloody-minded enough to go to war, to burn or blow up the dens of their enemies and to butcher or starve thousands of mothers and their young."

"But the grizzly bear——"

"He is the king of beasts," Mr. Mills hastily said before the writer had time to complete the sentence he had in mind; "the king in courage, mentality, resourcefulness, strength and stratagem. He is a better and a fairer fighter than is the lion. He is braver than the tiger. He can outwit man. He can't be ambushed. He can't even be photographed, except on rare occasions, and then, likely as not, one's camera is not at hand.

"I followed a grizzly for eight days and nights. About the third day he became conscious of the fact that some one was on his track. I tried all the tricks of the woods to get within photographing distance of him, and thought out new stunts as I crept along in the brush, but he beat me at every point and so wore me down that I had to give up.

"Grizzly bears are not murderous, no matter what any one says on the subject. I have seen elk and deer feeding near a grizzly bear. They were not afraid of him and he made no hostile move toward them. At another time I saw a grizzly stop within 100 feet of a small flock of mountain sheep and go to digging out a woodchuck.

"The bear didn't look at the sheep, but his digging interested them and they drew near to watch the strange performance. Not caring for an audience, he snorted and charged the sheep. After they had gone, he returned to his work.

"Occasionally, however, a grizzly bear will become depraved, though he never gets drunk and whips his wife, and will turn big game killer and will attack cattle, horses and sheep. Such a bear caused the stockmen of Utah a great deal of trouble. Every other night he would do a killing.

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"Expert hunters vainly tried to find him. A reward of $3,000 was offered for his pelt. But his generalship was too refined for his pursuers. At last a hunt was organized. Thirty mountaineers on thirty horses, assisted by forty dogs, hunted that bear for two weeks, night and day, without getting a sight of him. And every other night he did his killing, just as he had done before.

"The grizzly has adjusted himself to the modern man who is armed with a high-power rifle. He did not fear the Indian's arrows or the white man's ancient gun. In those days the grizzly came out into the open. Now he walks slowly and carefully, smells the air continually and uses his brains to outgeneral man, which he does most successfully.

"Sitting in a tree, near which was the carcass of a cow killed by wolves, I had the opportunity of watching the grizzly bear's tactics. An old fellow came along presently, as I knew would happen. He was watching, listening and sniffing the air for the scent of an adversary. After an experimental side trip into the woods he would return and take up his march toward the dead cow.

"Clumps of young willows visibly caused him much uneasiness. Closely examining them, he charged into each with a great crash and a loud roar. But he found no enemy and, being satisfied that he was safe, ate his dinner, stopping now and then, however, to snarl a warning to onlookers, if there were any.

"Practically all wild animals live in regions where they were born and grew up. They are not forever moving from one house or flat to another, leaving rent bills behind that can't be collected. The grizzly bear hunts his food in his own territory. He doesn't raid the lands or steal the property of his neighbors.

"All of the stupid grizzlies were shot long ago. Only the wise and able ones have lived into the age of the heavy, repeating rifle and, perfected by adversity and made alert by necessity, the grizzly bear of today can whip any animal, wild or domestic; run faster than a horse and outmaneuver the best of hunters.

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"Almost any kind of food suits his appetite. Here again he shows his adaptability. He will eat meat, fresh or stale; insects, mice, bark, roots, leaves, grass and berries. If he lives along the Columbia river he will stand in shallow water on the bars with a lightninglike stroke of his paw, knock half a dozen [illegible] out of the water inside of twenty minutes.

"I also add cleanliness to his many good qualities, and self-control. When the period of his hibernation draws near he slowly ascends the mountains, putting on fat by a diet of late berries and woodchucks. The three or four days preceding his long sleep in a cave or under a pile of leaves and brush on the timber line he spends in fasting.

"Coming forth in the spring, very weak, his fur worn to the skin by his frequent turnings, he takes a scant mouthful of willow twigs and a sip of water. He is hungry, but is too intelligent and scientific to outrage his stomach. Thus he holds his appetite in check until he gradually becomes strong enough to get away with a square meal.

"I have lived for thirty years among the wild creatures of the Rockies, and, while I do not humanize them, I know that they are brave, for the most part, trustful, generous, kind and intelligent. If a mother beaver dies, another female beaver will adopt her children.

"'Wanted: A home for an orphan,' doesn't have to be cried aloud or published in beaverdom. Well-to-do beavers are not implored to contribute of their means to the poor fund. If a family of beavers leave their home because of shallow water or what not, another colony up or down stream will take them in and feed them until they can establish themselves anew."

"Do beavers think out their engineering feats in advance?"

"More than forty colonies of beavers are my near neighbors on Longs peak," Mr. Mills replied. "I have camped for six days at a time on the bank of a stream where they were living and at work that I might study their habits and social economy. I am sure these extraordinary animals often plan five or six acts in advance of the starting of a task—sequential acts which bring about a desired result.

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"If food becomes scarce along the stream in which they live they will go to one side where there are willows or aspens, build a reservoir, and then dig a ditch to float out the trees they cut down with their teeth. The canal from the stream, you understand, lets the water in and fills their reservoir. It is always built last.

"A score of chipmunks live in my yard at home. I have known one of them intimately for several years. Indeed, she is much in my house and occasionally gets into a pocket of my coat. Every morning in summer she dances on my roof. I gave her twenty-two shelled peanuts one day, all of which she pushed into her cheek pouches with her hands.

"Then she started for her granary, her head abnormally large, so large, in fact, that she could not enter her hole. After studying her problem for a moment she began to enlarge the hole. She soon changed her mind, however, and, taking some of the nuts out of her pouches, found the sensible way of getting into her house.

"It may be instinct, but the sneaking, cowardly mountain lion knows the seasons as they come, and in the spring climbs the heights, far beyond the tree line, to feed on wild lambs. Animals of the forest would fraternize with man if they were not murdered, made prisoners or otherwise outrageously treated.

"They are safe in the fourteen great parks maintained by the national government. And they know they are safe; they seem instantly to realize the situation as it relates to themselves when a region is shut to dogs and men carrying guns.

"Mountain sheep, hunters will tell you, are hard to shoot because they vanish among the crags before a rifle can be aimed in their direction. Yet I happened upon a flock of wild sheep in a side canyon of Colorado and, instead of running away, they looked at me curiously and several of them came up to me and touched me with their noses. I was the first human being, probably, they had ever seen. When I went away, after camping among them for several days, an old ewe followed me for an hour.

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"Often during the winter wild sheep feed near my cabin and lick salt with my pony. An old ram, ancient, seemingly, as the hills, looked over my property one day. I cultivated his acquaintance and within a week induced him to pose while I took his photograph. More than that, he permitted me to put my name on his horns.

"I can't say which animal I like best, but I have associated more with grizzly bears, beavers and mountain sheep than with any of the other inhabitants of the Rocky mountains. I respect the grizzly bear for his courage, strength and sagacity. The beaver astonishes me by his industry, skill, foresight and kindness.

"But the wild sheep, the great acrobat on earth, stands out in my mind always as a living statue of bronze, high up against the blue sky line. I see him on a granite peak, looking calmly but alertly down upon the valley for the approach of enemies while his flock feeds in security. He pleases me artistically.

"But you should see him climb, though he may weigh 300 pounds, descend cliffs of rocks, head first, that seem perfectly straight! A ledge six inches wide is all the standing room he wants. Mountain sheep descend sheer walls from dizzy heights in single file, a seasoned ram leading the way. They check their falls by spreading their hoofs against the rock. Consequently they will drop for twenty feet and squarely land on all four feet.

"They measure distances accurately with their wonderful eyes, are endowed with and face all dangers bravely. They know their own regions thoroughly and rarely meet with accidents when among familiar ledges, cliffs, crags and deep places. In the autumn they are intelligent enough to leave the mountains beyond the tree line and they may spend the winter on some wind-swept almost clean of snow by the winds. There they find dead grass and cured plants. Short-legged, they could not live in the deep drifts below.

"They huddle together, when overtaken by a storm, and may stand in the same spot for days and until they are covered over with snow. When the storm is at an end the rams and the strong ewes buck their way out and make a path for the others. Resourceful, proud, graceful and wise, their only weakness is a fierce appetite for salt.

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MR. MILLS AND A CHIPMUNK FRIEND.

A WILD MOUNTAIN SHEEP.

(Copyright by E. A. Mills.)

The Head of the House.

COL. J. J. IRISH, who is a strong anti-suffragist, said in San Francisco:

"The recent elections show plainly the unpopularity of woman suffrage. I think the voters were wise. There are enough husbands already in Brown's boots.

"Brown and Black," continued Col. Irish, "were arguing at their club on the question as to who should be the head of the house—the man or the woman.

"'I'm the breadwinner,' Black said firmly, 'and, therefore, I rule in my house.'

"'Well,' said Brown, 'before we were married my wife and I made an agreement that I should make the rulings in all the major things, and she in all the minor ones.'

"'And how has it worked?' Black inquired.

"Brown smiled wanly. 'So far,' he replied, 'no major matters have come up.'"