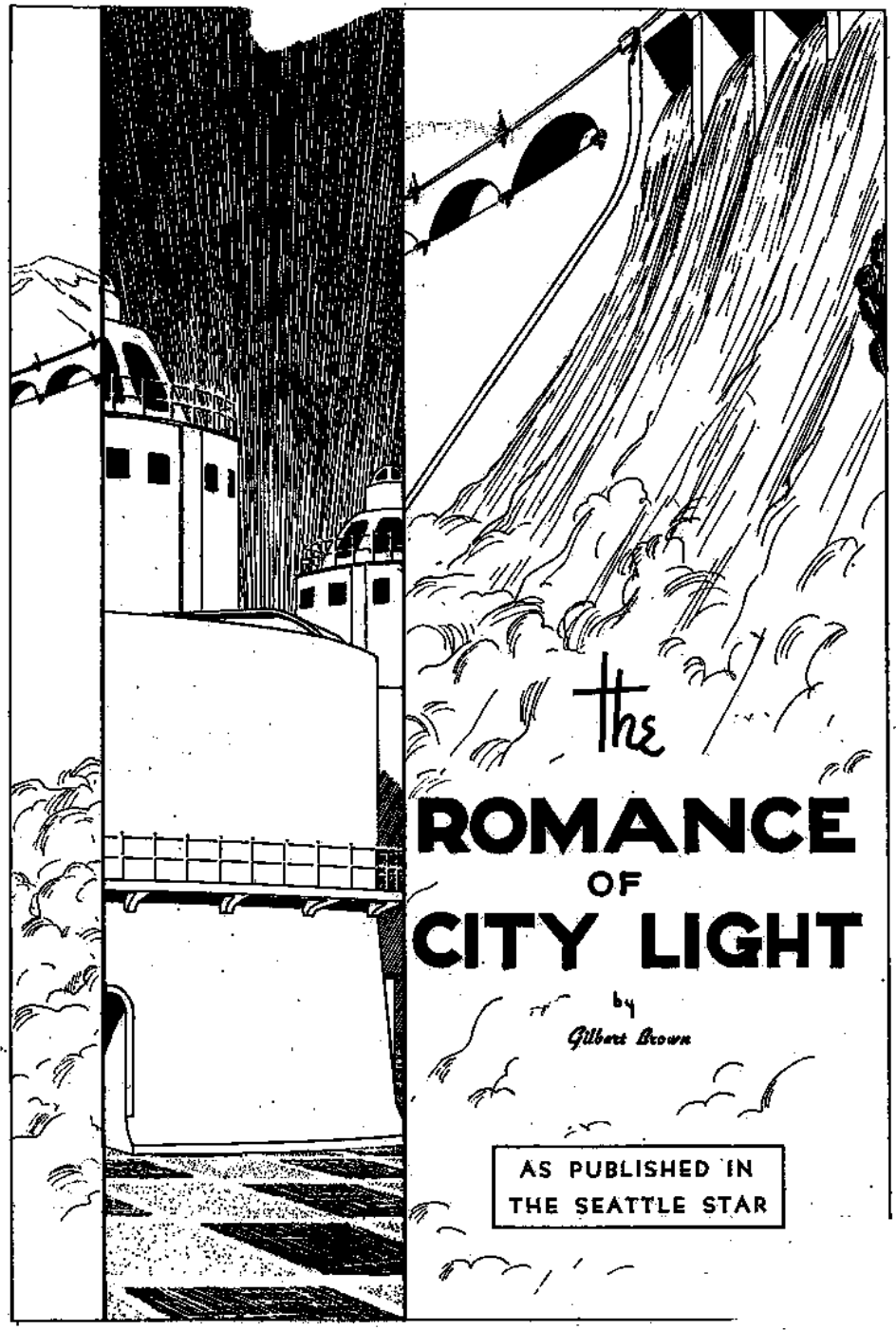

the ROMANCE OF CITY LIGHT

by

Gilbert Brown

AS PUBLISHED IN
THE SEATTLE STAR

ACKNOWLEDGMENT!

By Friends of City Light, Incorporated

The need of a work, such as this Romance of City Light, has long been felt.

City Light, created by the people for the people is truly of the people. A long, bitter struggle, spanning almost thirty-five years, is the story in brief of *Our City Light*. Born to stop exploitation of the people through a necessity of life that ranks with water and the very air we breathe, City Light has never known any respite.

Now, victory is almost complete. The competition originally entered into has already served its purpose. Rates for electricity in the home have been brought down to the lowest possible levels under a competitive system.

We, the Friends of City Light, Incorporated, are a group of citizens who have banded together to get the truth of Our City Light to all of the people. Funds to carry on this work are derived from donations from other public-spirited citizens. These people, too, are friends of City Light and so are the 95,000 customers who have stood staunchly by City Light and thereby assured its success.

Mr. J. D. Ross, superintendent of City Light, the idealistic, simple-souled genius who has given his life to his people — we acclaim as its guiding spirit. Surrounding him is a loyal band of warriors who have never faltered and who have ever stood fast with their chief through fair weather and foul. The people of Seattle have acknowledged the loyalty, the courage, this enterprise on the part of their servants by three-fourths of the people voluntarily giving their support to City Light.

And now to the Seattle Star, its owners, its editor and staff, and to Gilbert Brown, the author, we wish to acknowledge a special debt of gratitude for their enterprise and service to the people in so ably preparing this truly fine story, "The Romance of Your City Light," and for publishing it serially in the Seattle Star from January 21st, 1937, to February 5th, 1937.

FRIENDS OF CITY LIGHT, INCORPORATED

By—
W. C. Grey, *Director*
Burton R. Stare, *Director*
Lucy Case, *Director*
Ethel Verner, *Director*

By—
Rev. E. Raymond Attebery, *President*
J. D. Ross, *Treasurer*
R. W. Beck, *Secretary*

INTRODUCTORY NOTE

Thirty-five years ago the people of Seattle established one of the first municipal lighting plants in the United States. In that third of a century City Light has grown from a single customer and a pair of small generators to a great public enterprise which every year saves the people of Seattle, in reduced electric rates, a sum larger than the entire tax bill of the city. From its inception The Seattle Star has been a strong champion of City Light. It is therefore fitting that this paper should present in the following series of articles the first complete history of our great publicly owned power system.

Seattle Star, Jan. 27, 1937

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CHAPTER I

J. D. Ross Finds Way in Crisis on the Skagit

Turn back the clock 20 years, to an afternoon early in July, 1917.

On a golf links overlooking the blue waters of Lake Washington a pair of amateur golfers are teeing off on the fourth hole.

"Say," remarks one golfer to the other, "how's the scrap with the city over power sites coming along?"

It's a natural question, seeing that the golfer addressed is vice president of the private power company.

"Oh," remarks the V. P. lightly, "that fuss is all over. The city can't do a thing. We've got 'em bottled up at every turn."

That was a perfectly reasonable remark. The Puget Sound Traction, Light and Power company had bought or optioned every sizeable hydro-electric power site near Seattle. The company controlled a majority of the city councilmen. City Light really was bottled up. It couldn't do a thing.

Nevertheless, that remark was fatal. For when it reached the ears of J. D. Ross, superintendent of the municipal power system, a few hours later, it made him as thoroly angry as that kindly soul ever gets.

As a result of his getting mad that day, Seattle homes are lighted and Seattle factory wheels today are turned by power from the Skagit basin, and before J. D. Ross gets more than thru, a million horsepower of energy will be flashing over Skagit-to-Seattle transmission lines.

* * *

THE WAY LOOKS VERY DARK

It seemed logical enough from the early years of this city's venture into the field of public power that the turbulent Skagit river, racing and tumbling thru 50 miles of granite canyons, should be harnessed in the service of the people of Seattle.

But it looked to be anything but inevitable 20 years ago. In fact, it seemed completely impossible. And as he now looks back over the past, J. D. Ross believes it was that cocksure declaration of the private power company's vice president that turned the tide for City Light and eventually gave Seattle the great Skagit project. Without the Skagit, City Light would be a rather puny institution today.

Five years earlier, in 1912, the city had begun its campaign for hydro-electric power. Almost every site within 150 miles of Seattle was looked into. The people voted to accept Superintendent

Ross' recommendation of two sites, Lake Cushman in the Olympics and the Hebb site on the White river. But in a later bond election on the Cushman project, City Light lost by a few hundred votes. The power company had been doing some political campaigning in the meantime.

So the city had to knock out the end wall of the Lake Union steam plant and install another generator. But those extra kilowatts did not for long meet the growing demand for power (it was war time) and once more City Light went out in search of water power.

With a $3,000,000 bond issue voted, the city asked for construction bids on Cushman, Hebb, and Sunset falls at Index, Wash. A number of contractors promised to submit bids on these sites.

The bids were to be opened July 20, 1917. Less than a week before that date the entire plan blew up. The private power company, it turned out, had bought both the Hebb and Sunset falls sites from under the city's very nose, and Lake Cushman power rights had been neatly snarled up by a synthetic "squatter's" claim.

The sting of fresh disaster was still smarting when that taunting remark made on the golf links reached J. D. Ross, and made him mad.

* * *

J. D. ROSS, THE WILY FOX

Ross and his fellow engineers had known all along that the Skagit was just what City Light needed. But the lower part of it, from Diablo canyon downstream, was held by the private company under a federal permit, the entire project being within the Mt. Baker National forest.

After a few longing looks in that direction City Light had given up. It wasn't to be had.

Now, balked in every other direction by the Stone and Webster interests, J. D. Ross decided to have another look at the Skagit situation.

Whereupon he confirmed a suspicion born a year or so earlier, that the private company had been sleeping on its rights. The time allowed for it to begin construction work under its federal permit had expired, the company was $25,000 behind in its payments to the government, and apparently couldn't raise that small amount in those days when war loans were the only loans being made.

J. D. Ross chuckled, and secretly filed an application with the federal power commission for Skagit rights in his own name, for the city.

Then he told Mayor Hiram C. Gill what he had done. The mayor didn't respond at all heartily to his lighting superintendent's enthusiasm about building a power plant more than 100 miles away.

But a day or two later Mayor Gill met Ross and said: "How's your doggone old plant on the Skagit coming along?"

Once more the City Light man told Mayor Hi all that the Skagit project meant to the future of Seattle. This time the mayor listened.

THAT SECRET TRIP TO WASHINGTON

"What are you going to do now?" he asked, as Ross finished. "Going to Washington?"

J. D. Ross nodded.

"Well, beat it as quick as you can," said the mayor. "Do you want anybody else to go along?"

Ross said he did, and Gill suggested the name of Hugh Caldwell, then corporation counsel and later mayor.

The mayor started for the door, and turned back.

"I might as well tell you," he said, "that I've been offered $15,000 to resign. Would you blame me if I did?"

"Of course not," answered Ross. "That's something for you to decide but I hope you don't quit."

It was a difficult decision for Hi Gill to make. There was a $9000 mortgage on his home in Madrona, and the interests which had offered him $15,000 to resign had also promised to pay off that mortgage.

"I've got the finest wife and two kids in Seattle," Gill finally told Ross, "and I can't afford to do it. I'll stay with you."

And he did, at the cost of eventually losing his home and everything he had.

* * *

THE BATTLE OF THE SKAGIT

With $350 of his own money, and $400 borrowed from D. W. Lamb, a fellow employe of City Light, J. D. Ross took Caldwell and started out for Washington.

Later on, he got his money back. At the time, however, he felt it was worth taking a chance, whether he ever was reimbursed or not.

The Puget Sound Power company had filed only on the lower part of the present Skagit project, and for only 25,000 horsepower, to be developed at Diablo.

Ross, however, filed on more than a million horsepower, and that is the amount to be developed finally by the city.

The company has always since claimed that it relinquished the Skagit deliberately, because it would have been too expensive to develop power there.

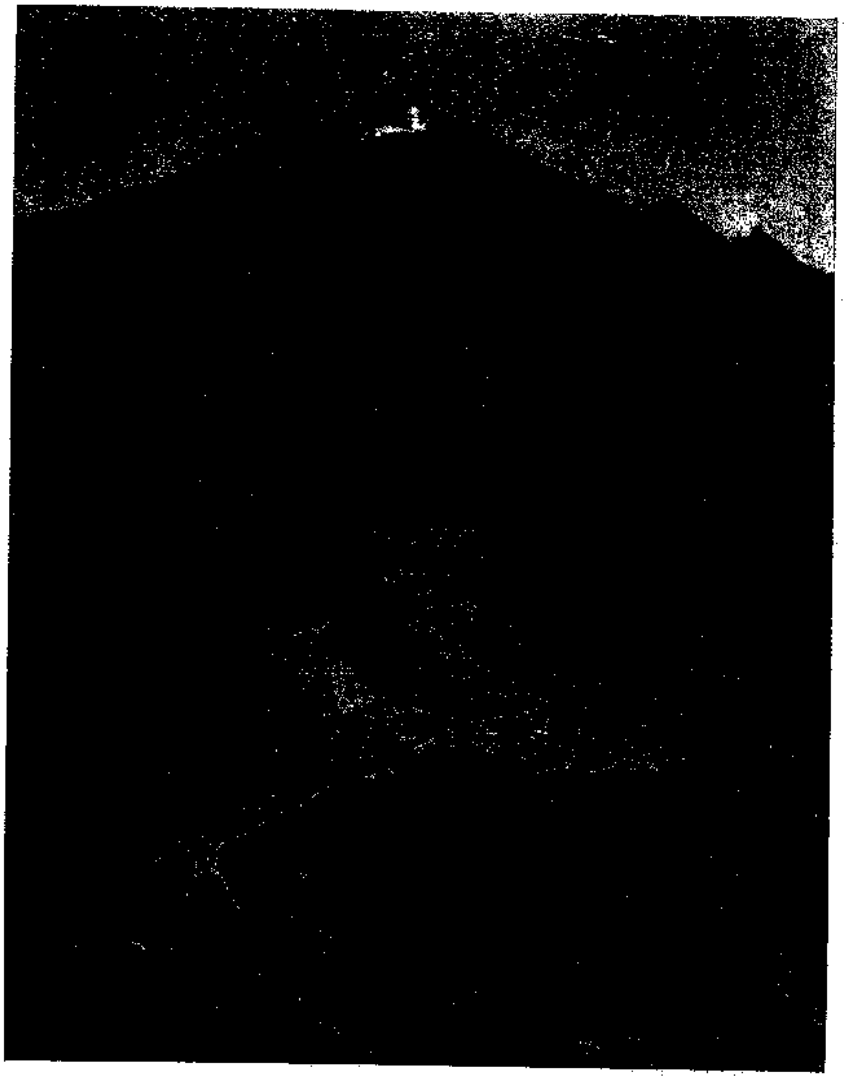
But City Light, when it finishes will have spent only $76 per horsepower for development—the lowest cost of any large hydro-electric power plant in the country.

The battle over Skagit raged for nearly a year and a half, both in Washington, D. C., and in Seattle. But Ross and Seattle finally won, on Christmas day, 1918.

The company's action in purchasing other power sites just to block the city's plans, while it failed to develop the Skagit, convinced the government that the company had not acted in good faith, and Secretary of Agriculture Houston awarded the Skagit permit to Seattle.

As J. D. Ross phrased it in a later City Light report, "the company had put itself in the predicament of the monkey in Aesop's fable who put his hand in the jar of nuts and grabbed them all but couldn't get his hand out without dropping everything."

* * *



DIABLO UNIT OF SKAGIT DEVELOPMENT, COMPLETED 1936

CHAPTER II

Mayor Edwards Does Seattle a Very Great Service

J. D. Ross, superintendent of City Light, is not a superstitious man, but—

Late in July, 1930, he attended a dinner at which 13 persons sat down.

Within a short time, bad luck and plenty of it had hit all but one or two of those present.

They were all members of the official family of Mayor Frank Edwards.

A few months after that fateful dinner, the mayor fired J. D Ross, on the afternoon before an election of vital importance to the future of public ownership in Seattle.

Citizens of Seattle took one day to go to the polls and carry the City Light charter amendment which was at stake, besides electing all of the three council candidates who supported City Light.

The next day they started to toss out the mayor.

Four months later Seattle had a new chief executive, and along with the new mayor a new police chief, fire chief, and board of public works.

Fate—or the stupidity of one man—had made almost a clean sweep of the 13 members of the mayor's "cabinet."

* * *

ROSS CLIMBS HIGHER STILL

It was the jovial custom in those days for a group of city officials to make secret arrangements for a dinner, and then make some surprised fellow official the goat. When he got there he discovered that he was giving the party.

This time Ross of City Light had been selected as the victim of the familiar gag.

Arriving at the appointed place in answer to a mysterious summons, he was laughingly informed that he was the host.

He was all the more surprised, because he knew already that Mayor Edwards not only was planning secretly to get rid of him, but had even chosen his successor. Among the grinning faces around him, J. D. Ross could have named the half dozen fellow public servants who were in on the secret.

But he gave no indication of his knowledge. He just chuckled good humoredly at the uproariously funny joke that was being played on him.

As the happy official family started to sit down, someone took a look around, and said in a low voice: "Thirteen!"

Whereupon J. D. Ross decided to have some fun with them. He remarked cryptically to the table in general:

"Sit down, mayor, sit down. This will go hard with some of us, but not with me."

In an embarrassed silence, amid an exchange of guilty looks, the dinner got under way.

The inside clique had imagined J. D. Ross didn't know the skids were already under him.

Twelve of the diners received a shock next day when they picked up their papers and read that the 13th guest, City Engineer W. D. Barkhuff, was dead. Driving to his summer home north of Seattle, he had been killed in an automobile crash near Bothell.

* * *

BOMBSHELL PROVES BOOMERANG

The dismissal of J. D. Ross by Mayor Edwards on March 9, 1931, hit Seattle out of a clear sky. Nobody except Ross himself expected it.

Ross had been with City Light for 30 years, and for 20 years had been its head. Under his management and his leadership it had grown into the finest municipal light and power system in America. Seattle electric rates were then, as they are now, about one-half of the average for the whole country, a benefit which Seattle customers of the private power company shared thru the competitive control of rates by City Light.

Elected mayor by a campaign of organized ballyhoo, Edwards had remained thruout his first term the unknown quantity with respect to City Light, that he had been before election. Now, in his second term, also won thru power company support, he took off the mask.

Charging Ross with "participation in politics," with being "inefficient and disloyal to the city's best interests," and "extravagant and wasteful in the matter of public funds," Mayor Edwards removed Ross "effective at 5 p. m. today," and named one Glen Smith acting superintendent of City Light.

The tension in Seattle that night and next day was terrific. Citizens gathered in worried, angry knots everywhere on the streets.

* * *

MAYOR OUSTS FATHER OF CITY LIGHT

With the obvious purpose of throwing the next day's councilmanic and charter amendment election into confusion, the mayor had timed his bombshell to explode in the last afternoon editions.

But bad news travels fast. The Star, getting wind of the mayor's action, held its home edition long enough not only to print the bare news of the dismissal, but long enough to include with it Ross' answer, hastily jotted down on the backs of two envelopes as he sat eating a late lunch in the Hotel Frye coffee shop.

Ross' attitude was characteristic. He thought chiefly of the danger to the City Light charter amendment in next day's election, and urged its adoption, as "the finest thing that could happen to the city."

That night he went on the radio in behalf of the charter amendment. The purpose of that amendment was to give all construction for City Light to the department itself. The city engineer's office, which had previously handled all City Light construction, had become a back door thru which enemies of the lighting department were hampering it by making plant construction slower and more expensive.

Furthermore, the city engineer then in office, R. H. Thompson, refused to consider any changes in plans suggested by City Light for its own buildings and plants.

The amendment was triumphantly carried next day, a recall petition was filed next day by the late Marion Zioncheck and F. F. Fitts, and the present mayor, Johnny Dore, carried the legal fight for the recall to the supreme court and won.

The recall election was held, Edwards and his official family were ousted, and J. D. Ross was reappointed to his old position as head of City Light.

* * *

ROSS TURNS THE OTHER CHEEK

Incidentally, instead of injuring Ross or City Light, Edwards' dismissal—if you consider all its consequences—helped both Ross and the city immeasurably.

For, instead of tossing J. D. Ross out in the cold, Edwards had kicked him upstairs.

The Power Authority of New York promptly called Ross east to act as consulting engineer in the St. Lawrence project. The outside world seemed to take no more stock than did the voters of Seattle in Edwards' accusation that Ross was "inefficient," or in the whispering campaign to the effect that J. D. Ross was "no engineer."

That New York job brought Seattle's ex-City Light chief into association with a man named Franklin D. Roosevelt who was then governor of New York.

So, when President Roosevelt's Mr. Ickes found it necessary in 1935 to set up a power board to expedite PWA projects, J. D. Ross was picked for the job of chief engineer. And when he had completed that job, the president named him as a member of the Securities and Exchange commission, to handle the problem of unraveling some 20 billion dollars' worth of holding companies.

That was a year and a half ago. Since that SEC appointment, tha he has drawn no salary whatever from City Light, J. D. Ross continues to guide its policies and progress. He wouldn't accept the SEC job on any other terms.

Even when he's in Washington, he is only 36 hours away from City Light, from which he receives daily reports.

And thru the connections he has established in New York and Washington, he has been able to provide more finances for City Light in the past two years than had been possible in four previous years.

CHAPTER III

Electricity Fascinated Jim Ross as a Youngster

Chatham, Ontario, claims J. D. Ross, Seattle's City Light chief, and member of President Roosevelt's SEC, as its most distinguished native son.

Seattle and the northwest know him only as "J. D." But he came into the world originally on Nov. 9, 1872, as James Delmage Ross.

His mother, who lived only two more years, named him after a great-great-grandfather who had arrived in Canada as a member of an Irish regiment, and settled in Ontario.

To companions and acquaintances of those early days, however, the roving young egg-collector, gardener, experimenter and amateur hypnotist will always be plain Jim Ross.

His father, William McKenzie Ross, was a nurseryman, florist and fruit grower, and president of the Chatham St. Andrew's Scottish society. According to all accounts of contemporaries, he must have been a severe, pious, stern, unsmiling man. But you couldn't get Jim Ross to say so, and you can't get J. D. Ross to admit it now.

Young Jim Ross developed a liking for chemistry and electricity early in life. But his father saw no profit in them for Jim. He thought the boy would do better with a hoe. Jim Ross found one old book—he still treasures it—and it started him experimenting. He's been experimenting ever since.

He was 11 when he cut a strip out of the zinc apron under the kitchen stove, chiseled the bottom out of an old copper kettle, and with vinegar out of a pickle jar for acid, built his first electric battery.

With a set of these home-made batteries, he wrapped wires and built electro magnets. Later, he built a dynamo and lighted his shop. His young comrades marveled at it even more than they did at the electric installation of the Chatham Wagon works.

* * *

THUNDERSTORM RUINS EXPERIMENT

Soon the young Canadian Edison was going in for original research.

About that time Hertz discovered the Hertzian rays, which led to the radio of today. At the same time Professor Henry discovered that a lightning flash was really an alternating electric current, bouncing back and forth between cloud and earth.

Putting the two together, Jim Ross felt that a lightning flash must give out Hertzian waves. So far there was no radio, but there should be some sort of receiver possible that would respond to these waves.

Anyway, young Ross thought it would be a good idea to test out.

In the yard beside his home stood a larch tree 80 feet tall. Ross climbed up and ran a wire from the top of the tree down to a condenser in the house, and from the condenser ran a wire into the kitchen, where he connected it with a home-made inductance coil and spark gap.

Then, just as a thunderstorm was coming up, he sat down to await results.

The storm was getting pretty close when there was a rap on the door. It was a young neighbor named Charley McPherson.

Ross invited him in and sat him in a chair in the middle of the kitchen.

"What's that?" asked Charley, looking at the inductance coil.

"You'll see in a minute," answered the young scientist.

Just then a neighboring lightning flash radioed to the exposed wire high up in the larch tree. There was a blinding flash. The kitchen looked white hot.

Charley and his chair went over backwards. "The house is struck," he yelled.

"No," laughed Jim Ross triumphantly, "it's just a new machine of mine, and it works."

Just then another lightning flash hit, closer and stronger. It blew the condenser and the rest of Ross's apparatus to pieces.

But he didn't care. He had proved to his own satisfaction that lightning sends out Hertzian waves, now called radio waves, into the surrounding country.

* * *

"ACQUIRES" HYPNOTIC POWERS

Chatham neighbors relate many curious incidents about young Jim.

They tell of his habit of wandering around hunting for oil with a "peach crutch"; hiking down the street wearing his father's plug hat, whistling "Maggie Murphy's Home," followed by a pet coon; teaching a horned toad to come scuttling out of a crack in the wall at his whistle; and of his experiments in hypnotism.

One day after school in the Chatham Institute, which Ross attended for two years, he was giving a demonstration of his newly acquired hypnotic powers.

The session was held in the chemistry teacher's classroom. The young mesmerist had already hypnotized several of his classmates. Now Albert Robinson, a colored boy, pleaded with Jim to hypnotize him, too.

Young Ross had already refused several times. This time he consented. Robinson was soon under the influence.

"Now get up on that desk," commanded the boy hypnotist.

The colored boy climbed up. He had on heavy boots, and the desk was brand new.

"All right, make a speech," Ross ordered.

A key turned in the door, and in walked Professor Knox, the chemistry teacher.

"Robinson," he barked, "get down off that desk."

Robinson didn't move. Then the professor, noting the young Negro's glassy eyes, caught on.

"I'm sorry," began Ross, but the prof. had changed his mind. "Go ahead," he said, "this ought to be interesting." He had forgotten all about the scratches on his brand new desk.

"Now, Albert," said Ross, "there are a thousand people out there Go on, make a speech to them."

"But what about?" pleaded Albert. "I don't know any speeches."

"Give 'em old Mother Hubbard'," said the hypnotist, and prompted by Ross, the unconscious declaimed "Old Mother Hubbard" with fervent gestures, while the chemistry professor sat at a classroom desk, laughing until the tears came.

But that was Maestro Ross's last hypnotic experiment.

* * *

JIM TEACHES SANCHO A LESSON

There would frequently be a note of rowdy practical humor in young Jim Ross' researches in chemistry and natural history.

One of his favorite gags was to kook up a weak electric current to a saucer of milk, and treat some cat to a jolt of electricity.

He didn't care for cats then, and he likes 'em even less now. They kill birds, and J. D. Ross loves birds as ardently as young Jim Ross did.

Dogs are different. There was a dog in Chatham named Sancho who was going to be killed. He had been caught eating eggs.

"Don't kill him. Give him to me," said Jim Ross. "I'll teach him not to eat eggs."

He stuck a wired pin in an egg and put it where Sancho couldn't miss it.

When Sancho thought nobody was looking, he made a dive for the egg, and got an electric shock that sent him howling.

Sancho never tried to eat another egg.

* * *

EXHIBIT NETS FIRST PRIZE

To get pin money young Jim Ross used to fix up fruit exhibits for the county fairs.

One year he read that a prize had been offered for the best collection of fossils.

The judges were three men who had a fair smattering of entomology, meteorology, and kindred subjects. Young Ross thought he knew where to look for a good collection of fossils.

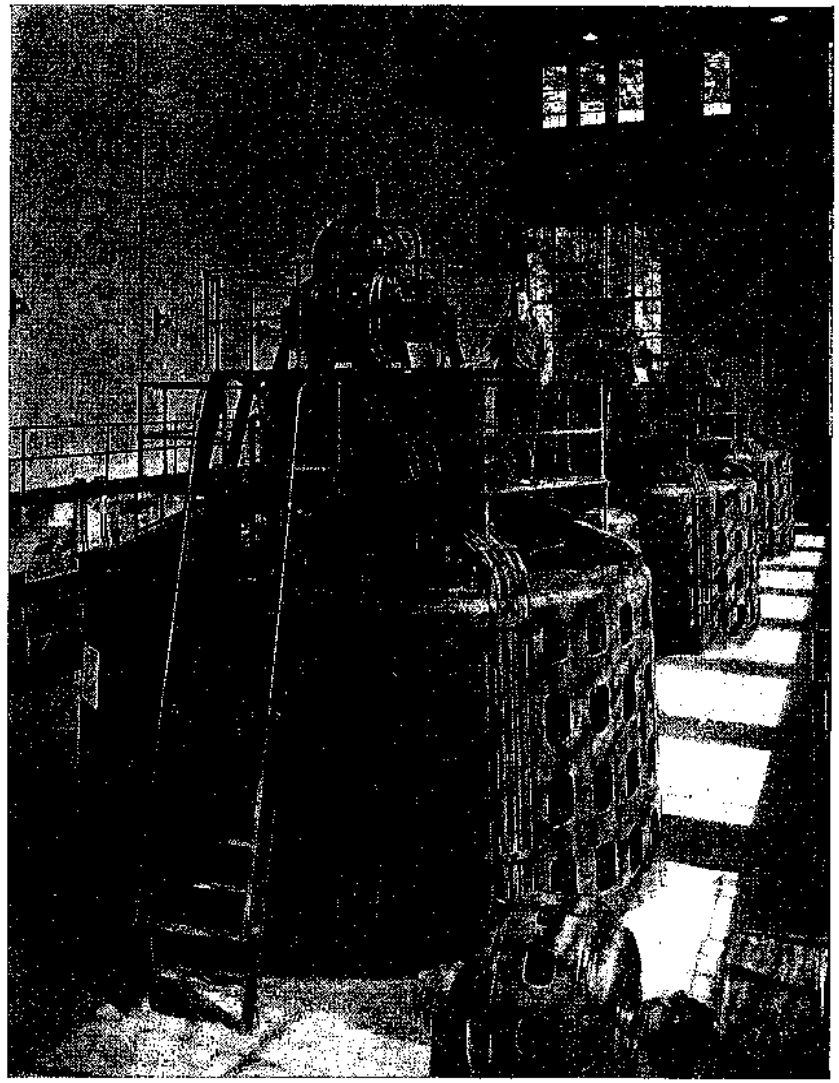
Going to Lake Erie, he filled a gallon basket with worn corals.

Then he got out his copies of Hugh Miller's "Old Red Sandstone" and "Testimony of the Rocks" and copied down the Latin names of several dozen varieties of dinosaur, birds, mammoths, et cetera, and tagged his coral pieces indiscriminately.

It was a neat looking exhibit, at that. Young Jim watched from a distance as the three judges stood before his corals, looking wisely at the array of Latin names, and eyeing each other stealthily over the tops of their spectacles.

Then after a brief conversation, which he couldn't hear, all three nodded sagely, and one of them soberly laid the "Fossils—First Prize" ticket on Jim Ross's exhibit.

He accepted the prize money without a qualm. For while his coral fossils were phony, he argued with himself that the three human fossils he had uncovered were the real thing.



INTERIOR GORGE POWER HOUSE, SKAGIT RIVER

CHAPTER IV

Rigors of Northwest Territory Trip Bring Back Jim Ross' Health

The Spanish-American war was begun, fought and won before Jim Ross, aged 26, knew anything about it.

The future head man of Seattle's City Light was fighting a war of his own just then—against tuberculosis and the wilderness of Canada's Northwest Territory.

Early in 1898, with a party of prospectors and 13 horses, he set out for the Yukon over a 1500-mile inland route from Edmonton to the head of the Mackenzie river.

One of his companions on that two-year journey in search of gold was Sid Cooper, who had been one of Ross' pals when he taught school back in Ontario.

Two things had impelled young J. D. Ross to quit the schoolteaching job he had held for six years

One was the refusal of the school board to pay him $40 a month instead of the $35 he had been getting. The other was that his lungs were bad. So bad that the doctor had told him he probably wouldn't get very far.

It was a terrible wilderness trail on which he set out, prospecting for gold all the way from Edmonton north.

Other men died from the rigors of the northern winter, but Ross didn't. Instead, his lungs healed. Looking at him today, you could never imagine he had once been tubercular.

Nowadays science uses exactly opposite methods in the treatment of tuberculosis. That he should have survived the hardship and exposure of such a journey—sleeping in the snow, wading shoulder-deep thru icy streams, fighting blizzards—is amazing enough. That it restored his health is even more remarkable.

Perhaps he just wasn't meant to die then.

* * *

DOWN THE RIVER TO THE SEA

Ross and Cooper headed for the Arctic inland, instead of the Yukon. They found a little gold—"just enough to get along on," Ross says—and came across indications of oil crossing the plains. On several occasions they used asphalt from the ground to make boats watertight at the seams.

After reaching the Peace river and wintering there in the season of 1898-1899, Ross and Cooper hiked further north, then south again and across the coast range to the Skeena river, and down that in a home-made boat to the sea.

Of Ross' behavior on that long prospecting trip Sid Cooper recently wrote:

"Jim distinguished our tent with the name 'Excelsior Party,' and below this 'Pelly River or Bust.' Below that in large letters he printed 'Busted.' That was very appropriate, as we came out really busted.

"He was always jocular and full of life. His chief song, when I was leading the outfit, was 'See the mighty host advancing, Satan leading on.'

"After our get-rich-quick aspirations had vanished he would recite: 'Lives of great men oft remind us, honest work don't stand no chance; more we work we leave behind us bigger patches on our pants.'

"Ross had a pair of big blue blankets that helped to make up our bed. But when he would make a dark-room out of them for developing his negatives, it was just too bad for me, his bed partner. Altho I called him all kinds of names, I might just as well have kept quiet. He was very persistent.

"He would stop our caravan to chase some rare specimen of butterfly and, when reprimanded for it, he'd say: 'Don't you fellows know that I am a child of nature?"

"He was always ready to take his part, even to wading shoulder high in icy water. He knows what it feels like to have your legs so cold from ice water that it's impossible to know if your feet are moving.

"He was an expert river driver and would sit astride the bow of our boat in the wildest water to get a snapshot, and when thoroly soaked he'd exclaim: 'Gee whiz, that was nice.' "

* * *

STUDY IS RECREATION TO HIM

Young Ross had taught school in Ontario for six years without particularly liking the job. But he must have been a good pedagogue, at least in any of the wide range of subjects he liked. It is said of him that he could inspire even the dullest pupil by appealing to his curiosity.

The fact is that J. D. Ross had then, as he has now, a great teaching gift. His entire career in City Light has been one of teaching—educating the people of Seattle in the benefits of electricity and public ownership of power.

His own formal education stopped when he left Chatham institute — the equivalent of two years in college. But independent study and experiment had already advanced him considerably beyond that stage in real knowledge and experience, and he has never foresaken that habit of independent study and experiment.

After a day spent wrestling with City Light financing and engineering problems, he generally goes home and wades into some knotty problem in electrical or chemical theory.

"The electrical business," he explains, "is an occupation, but the study of electrical science—that's recreation."

* * *

MEETS HIS PRESENT ASSOCIATE

When the two young prospectors came down out of the Canadian Northwest wilderness to the mouth of the Skeena river Cooper went back home to Edmonton.

Ross, after a trip to Nome and back in a sailboat, and a brief visit back home in Ontario, came to the Pacific coast again.

In Anacortes, Wash., he got a job as steam engineer in a salmon packing house. There he became acquainted with W. J. McKeen, who is today his chief associate in City Light, in charge of constructing all power houses and generators.

Just at that time the city of Seattle was deciding to go into the electrical business for itself. In March, 1902, the voters authorized a bond issue for construction of a small hydro-electric plant on Cerar river, from which the city had begun to draw its water.

On January 2, 1903, J. D. Ross gave up the electrical contracting business he had undertaken and joined the city engineer's staff as electrical engineer.

* * *

DIABLO DAM UNDER CONSTRUCTION

CHAPTER V

First Municipal Water Power Station in U.S. Built at Cedar Falls

Seattle's City Light will be 35 years old on March 4, 1937. It was on that date in 1902 that the citizens voted $590,000 bonds to build a hydro-electric plant at Cedar Falls, 36 miles from Seattle.

But nearly a quarter of a century earlier — before electricity was considered anything but a toy —Seattle had made up its municipal mind to own and run its own lighting system, gas or otherwise.

The original city charter of 1869 gave the city council power "to provide for lighting the streets and furnishing the city with gas or other lights, and for the erection or construction of such works as may be necessary or convenient therefor."

Electric lighting didn't come into the picture until 1886, when the first electric light plant west of the Missouri river was set up in a board shack near Second avenue and Jackson street.

That enterprise, and a later dynamo which sent out its wires from a basement at Post and Seneca streets, were destroyed in the fire of 1889.

Following the wiping out of these two private lighting concerns, another small plant was started, and in 1890 Dr. E. C. Kilbourne leased an old railway power house at the foot of Pike street.

Says the City Light biennial report for 1914-15, looking back on those early days:

"There were no meters at that time, and the rate was $1.50 per month for each 16-candle power lamp, burning from dark until 10:30 p. m.!" No reading until 2 a. m. in those days, unless you lit a candle.

In 1892 the Home and Seattle General Electric companies were merged to form the Union Electric Co.

* * *

MUNICIPAL PLANT ADVOCATED

On the first day of the new year, 1893, the board of public works, in its report to the mayor and city council, came out boldly for a municipal light plant.

"With each recurring month," said the report, "as the bills for the city's electric lighting are checked by this board, the necessity of municipal illumination presents itself with ever increasing emphasis.

"The difficulty of keeping an accurate check on the lights that are burning as per contract and those that are out night after night, the impossibility of the city knowing whether the full candlepower of a light is being furnished or not—these lead the board to believe that sound business judgment demands that the city own its own electric light plant."

So, when the present city charter was adopted three years later, in 1896, it contained all the provisions necessary to launch the city

in the electric light and power business, whenever the voters should so decide.

In 1899, we read in City Light's 1914-15 report, "the Stone and Webster interests acquired the Union Electric company and obtained their first foothold in Seattle. In the same year the Cataract Power company received the first current from Snoqualmie falls, and began distributing to the business district of the city. These were the companies supplying the city when the municipal plant (authorized in 1902) began operations in 1905."

The present Puget Sound Power and Light company is a result of the consolidation, in 1912, of the Stone-Webster concern and the Snoqualmie company, under Stone and Webster management, with a capital of $50,000,000.

* * *

CITIZENS VOTE: "LET'S DO IT!"

When Seattle's city officials first began to think about a municipal light plant, no practical means existed of transmitting electric power over any considerable distance on a commercially profitable basis.

Then came a group of curious coincidences.

The city charter of 1896 had written into it every provision necessary for the acquisition or construction of an electric lighting system.

At the same time the city began serious work on a project to bring water from Cedar falls, 40 miles from Seattle.

And at the same time electrical science was developing a practicable method of transmitting electrical power over considerable distances.

It all worked out beautifully for Seattle in 1902.

There, at Cedar falls, was the falling water, already available to the city.

Science had provided the means to bring that power, transformed into electrical energy, to Seattle homes and factories.

The city charter, written six years earlier, gave the city officials authority to use the power thus made available.

And on March 4, 1902, the citizens of Seattle, by a vote of three to two, said: "Let's do it!"

* * *

SEATTLE GETS A START

Up in the Gorge powerhouse on the Skagit river, in a small room off from the ozone-filled main generator room, stands a small 1250-kilowatt generator which is used to supply current for the Gorge camp.

In size and importance, it bears about the same relation to the three big 20,000-kilowatt generators as a peanut stand does to a 100-ton crane. (And those Gorge generators are pigmies alongside the Diablo generators, seven miles further up the river).

But don't laugh at that cute little 1250 K. W. generator. It was two generators of that size that comprised City Light's first power installation at Cedar falls in 1904—the first municipal water power station in America.

Those generators, together with the original wood-crib Cedar lake dam, three and a half miles of wood-stave pipe, and a 36-mile transmission line into Seattle, were built with the $590,000 provided in the 1902 bond issue which started City Light going. And at first they provided all the electrical current needed for lighting Seattle's streets and supplying the early customers of City Light.

Incidentally, never before in the world's history had electrical power been transmitted over an equal distance at such high pressure—45,000 volts.

* * *

ROSS COMES IN JANUARY, 1903

The job of building the Cedar Falls dam and powerhouse was handed to City Engineer R. H. Thompson, and construction was started in April, 1902.

Eight months later, on January 3, 1903, J. D. Ross joined the city engineer's staff as electrical engineer, and on October 14, 1904, the two 1200 K. W. generators were officially started by Mayor R. A. Ballinger, City Engineer Thompson and Electrical Engineer Ross.

During January, 1905, the street lighting system of 11 circuits was taken over by the city.

In April of that same year the Rev. J. M. Wilson, D. D., pastor of the Westminster Presbyterian church, became the first private customer of the city's power plant.

On May 1 the new plant was officially turned over to L. B. Youngs, superintendent of water, whose duty it was by city charter to operate the lighting plant.

Before the city entered the lighting business, electrical current supplied by the two private power companies cost the consumer 20 cents a kilowatt.

As soon as the agitation for a municipal plant became strong, the private companies reduced their rates 40 per cent, to 12 cents a kilowatt.

When City Light began serving Seattle homes in 1905, it charged 8½ cents a kilowatt for the first 20 k. w., 7½ cents for the next 20, 6½ for the next 20, and 4½ cents for everything over 60 kilowatts.

The battle was on.

* * *

CHAPTER VI

"City Light a Failure" Said Its Opponents

The Seattle Times announced in bold headlines, one day in 1905, just as Seattle's municipal lighting plant was getting started:

"City Light a Failure."

Among the horrible facts which proved the abysmal failure of City Light, according to The Times, were that "electric lighting poles are being put in upside down with a pile driver," and that "the delicate transformers refused to rotate."

It wouldn't have made a heck of a lot of difference in the efficiency of the transmission line from the city's hydro-electric plant at Cedar Falls if a few, or even all, of the poles had been put in the ground upside down, with or without a pile driver.

The fact was, however, that using a pile driver to put light poles in the ground would be about as logical as harvesting apples with an airplane, and the poles were actually being set right side up.

As to the "delicate" transformers, it's too bad that The Times reporter who concocted that thrilling expose of City Light didn't take the trouble to learn a few of the rudiments of electricity before he started out to blow City Light out of the water on behalf of the private power concerns.

There are no rotating parts in a transformer. In fact, so far as science has ever been able to determine, nothing moves in a transformer except the current, which comes into the transformer at one voltage and leaves at another, lower or higher, according to whether you're dealing with a step-down or a step-up transformer. And to date, no one has ever even seen the current moving—it's just a well-founded supposition, incapable of ocular proof.

* * *

CHARLEY GILMER BURNS UP

In the same issue, The Times printed a picture of the original City Light substation at Seventh avenue and Yesler way, under the ominous caption, "Apt to Burn Down Any Minute."

It is now 32 years, or a bit less, since that solemn warning and prediction was printed, and the catastrophe hasn't struck yet, as you can assure yourself by taking a ride on the cable car that runs up Yesler way.

Charley Gilmer, foreman of the city's line crews, burned up when he saw The Times' "expose" of City Light. He wanted to go up and clean out The Times office.

"You don't need to go," he said earnestly to J. D. Ross. "You don't even need to know anything about it. Just give me permission to go ahead, that's all."

But he didn't go. J. D. Ross simply laughed. It was a good joke—especially about the "delicate transformers that refused to rotate." Why take it seriously?

"Well, all right," said Charley, and went back to his pole-setting.

CITY LIGHT INDEPENDENT

The City Light idea took hold with the people of Seattle right from the start.

Hardly had the Cedar Falls two-generator installation been completed and service begun, when it became necessary to plan extensions.

But by the time the blueprints were ready for a third 1200 K.W. unit, it was evident that that wouldn't be nearly enough to supply the growing demand for City Light current.

So in 1906 the city began construction of two 4000-kilowatt generators at Cedar Falls. They started humming in 1908.

That sort of thing, repeated again and again, with occasional variations, has been the history of City Light.

With the exception of the worst years of the depression, the consumption of City Light power has been doubling every five and a half years, making it necessary to increase generating capacity and distributing system at an equal rate.

That's considerably faster than power production has grown thruout the United States during the same period.

So rapidly did City Light grow that in 1910 the citizenry decided it was big enough to become an independent department. On April 1 of that year they adopted a charter amendment separating the lighting plant from the water department.

* * *

NEW MAYOR REPLACES ROSS

Hiram C. Gill was mayor when City Light was divorced from the water department. He appointed a power company employe, R. M. Arms, as superintendent of lighting.

J. D. Ross, the engineer who had handled most of the construction of the Cedar Falls plant and all of the transmission line and early distributing system, was left in a subordinate position.

Gill had been elected on a "wide open town" platform. Immediately after election he proceeded to make Seattle just that, with the result that within a year he was recalled from office.

The new mayor, George W. Dilling, had somewhat different ideas from Hy Gill about who ought to be running City Light.

So in 1911 R. M. Arms resigned as superintendent of lighting, and Mayor Dilling appointed J. D. Ross.

But the idea of being mayor of Seattle still fascinated Hy Gill. He decided to stage a comeback. He had only been trying to carry out his pre-election pledges, he reasoned. Very well, then, if the people of Seattle didn't want a wide open town, he was perfectly willing to close it up, if they'd give him back the job of mayor.

Surprisingly enough, they did.

* * *

HI GILL GRABS HIS COAT

When Superintendent J. D. Ross read the election returns, he decided he'd better start looking for another job.

Accordingly, Ross and J. L. Stannard arranged to rent an office in the Henry building in Portland, and listed their names in the Portland telephone directory as consulting engineers.

When Hy Gill made his triumphal return to power, Ross, as a member of the board of public works, dutifully attended the inauguration ceremony, and dutifully went to the new mayor's flower-banked office to formally congratulate him.

As he filed past Gill and shook his hand, Hizzoner reached back and seized Ross' coat.

"Wait a minute," he said. "I want to talk to you."

When the crowd had melted away, Mayor Gill drew Ross aside and said:

"I think maybe you've misunderstood me. I want you to stay as superintendent of City Light. And remember this, the man I start with is the man I finish with."

That was true enough. Mayor Gill had his peculiarities, but his outstanding characteristic was loyalty.

"There's just one thing," said Gill to Ross. "We need more street lighting."

"Where?" asked Ross.

Mayor Hy pulled out a notebook in which he had listed a number of street corners that should have lights.

"Get in my car," said Ross, "and let's go round and look 'em over."

He piloted Mayor Gill to each of the corners listed. At every intersection hung a street lamp.

"The bunch of liars," snorted the mayor. He didn't explain whom he meant; he didn't have to.

But from that time on, Mayor Gill stood staunchly by Ross and City Light, even thru the bitter fight for the Skagit project.

* * *

CHAPTER VII

Development of Skagit Under Way

The history of City Light, on the power production side, has been one long, continuous search for new sources of electrical energy, to keep pace with the growing demand for current.

In the face of the most active competition from the private power concern, and the most bitter opposition of private power interests not alone in Seattle but all over the country, City Light has kept going steadily ahead for more than 30 years, doubling its power capacity and facilities every five and one-half years—with the exception of the bottom depression years.

The original pair of 1200 kilowatt generators with which City Light began business in 1905 had hardly begun turning over in the Cedar Falls power house before it became evident that they could not fill the bill very long.

New bonds were voted, and a year later construction started on two 4000 kilowatt generators at Cedar Falls. They began turning out juice for Seattle in 1908.

Since that time the 1908 generating capacity of Cedar Falls has been quadrupled—it is now 40,000 kilowatts—by a masonry dam which raised the level of Cedar lake 40 feet, and the installation of two new generating units, each of 15,000 kilowatts.

But as long ago as 1911 J. D. Ross realized that City Light was going to require much more electrical energy than could be supplied at Cedar Falls even when its potentialities were fully developed.

So the city started reaching out for suitable hydro-electric sites farther away.

* * *

CITY ACQUIRES POWER RIGHTS

The story of that long-drawn-out battle with the Puget Sound company for power sites, which culminated in the city's acquisition of power rights in the Skagit basin to the north of Seattle, has been recounted in the first chapter of this series.

As each move of the city to develop new water power was defeated, City Light was driven to construct a steam generating plant on the east shore of Lake Union, and then to add to it as succeeding efforts to acquire water power sources failed.

The first unit, a 7500 kilowatt steam turbo-generator, was finished in 1914. The second, 10,000 kilowatts, began furnishing power in 1918, and the third, rated at 12,500 kilowatts, was completed in 1921.

Meanwile the city had finally acquired the Skagit and began the gigantic task of developing more than a million horsepower of energy.

Of that great project now under way J. D. Ross says: "The Skagit will finally have three power plants, placed about six and a half miles apart, using the water of the river three times—first at Ruby power house, then at Diablo, and finally at the Gorge.

"The Skagit river and its tributaries will eventually develop about 1,250,000 horsepower. Already 75,000 horsepower has been developed at Gorge power plant, the lowest of the three. The middle plant at Diablo has already been built to the amount of 190,000 horsepower, but for storing a portion of this potential power we must have Ruby dam, which will make it unnecessary to use steam power when water is low.

"This makes a total of 265,000 horsepower so far developed—roughly one-fifth of the total available at Skagit.

* * *

RUBY NEXT STEP IN PROGRAM

"The next plant to be built will be the section at Ruby, upper plant of the three. Work is being started now on Ruby dam, and it is safe to say it will never cease until the dam is completed to its full height, at such a rapid rate is the demand for power increasing.

"The rate of growth in the consumption of City Light power in the past, and the present increasing rate of growth, show that the entire Skagit power should be developed before many years have passed.

"Ruby Dam will be second in height only to Boulder Dam. It will be 630 feet high, but only 100 feet wider than the Diablo Dam, which is 1100 feet along the crest. Ruby Dam will impound a reservoir larger than Lake Washington—30 miles long.

"The Skagit is one of the few rivers in the world which has a storage basin and sites suitable for dams capable of impounding the entire runoff of the river, so that no water will go to waste The Skagit dams will give complete control of the river, and will save the rich Skagit valley below from the danger of disastrous floods in future years.

"During the whole life of City Light, up to the time of the depression, its entire output of power and all its facilities had to be doubled every five and a half years.

* * *

DEMAND IS 20 PER CENT GREATER

"During the depression the rate of increase was lessened. But now, with the beginning of recovery, the demand for power is 20 per cent greater than it was last year. This means that the entire facilities of City Light must be doubled, not in five and a half years, as before, but this time in only four years. And it is possible that the present increase of 20 per cent in power demand is not the maximum.

"As City Light builds these great dams, power plants and transmission lines, it keeps paying off more than a million and a half dollars a year of its bonded debt.

"For instance, the Gorge plant cost, with transmission line and substation in Seattle, $14,539,000. This debt has already been reduced to $5,175,000 and already the plant has delivered to Seattle nearly three billion kilowatt hours which sold for nearly $45,000,000.

"Even the new Diablo plant, which has been operating only since September, 1936, has already turned out 24 million kilowatt hours, which brought City Light a return of about $335,000

"All this demonstrates the wisdom of building the Diablo plant in the depression. It was started in the spring of 1934, and was the only hydro plant of large size in America financed and built at the bottom of the depression.

"Had City Light waited for returning prosperity to begin building Diablo power plant, it would just now be financing and starting the plant, and would have been unable to keep up with the now rapidly increasing demand for power."

Here is Ross mountain, snow-capped and splendid, near the City Light Skagit power project. The great peak was named for J. D. Ross.

CHAPTER VIII

How Seattle Became Best Lighted City

For more than 20 years Seattle has been advertising itself as 'the best lighted city in America."

That wasn't a boast. It was—and is—the plain truth. If anything, it is an understatement.

Actually, Seattle has been setting the pace in municipal street lighting for something like 30 years.

It was that long ago, in 1907, when the first metal-filament lamps were developed in the Cleveland lamp factory for General Electric, and Seattle was the first city in the country to introduce them.

Previous to that, all electric lighting had been by means of carbon-filament lamps, costly, inefficient and highly fragile, and the old-fashioned carbon arc lights, which were also costly and inefficient. They threw out about as much heat as light.

The new tungsten lamps were still in the experimental stage when J. D. Ross sent General Electric an order for 5000 of them for City Light.

Back came the answer: "We only have 14 tungsten lamps, and they are all still on the test rack."

"Let the order stand," replied J. D. Ross.

Seattle got its first supply of tungsten lamps, therefore, in batches of 10, 15 and 20 at a time —the factory couldn't turn 'em out any faster then—until the order was filled.

A few years later, in recognition of Seattle's enterprise in the field of lighting, G. E. reserved for City Light the first 5000 nitrogen-filled lamps that were commercially produced.

* * *

EXPERIMENT WITH NEW SYSTEMS

Seattle was one of the first American cities to introduce cluster lighting, using first tungsten-filament and then nitrogen-filled tungsten lamps. The 5-globe cluster poles for the downtown district were designed by City Light, and widely copied by other American cities.

In 1911, when the first printed report of the lighting department was issued, the city had 25 miles of cluster-lighted streets, besides 600 miles of streets in the series lighting system.

To the original 11 circuits of series lights taken over from the private power companies in 1905, the department had added 18 new circuits, using some 700 arc lights and about 5600 high-powered tungsten lamps.

In a series lighting circuit, the full current used passes thru each lamp, all of the lamps being inter-connected. This has two serious disadvantages.

When one lamp burns out, the whole string goes dark; the current can't get thru to the next lamp.

Secondly, a series circuit requires a high voltage. And high voltage is dangerous, when storm or accident breaks a wire.

Live wires in Seattle's series system were taking on an average one life every two and one-half years.

Why, asked J. D. Ross, can't the low-voltage multiple system of hooking up street lights, already in use thruout Seattle's cluster lighting system, be extended to the rest of the city?

Early in the 1920's City Light began experimenting with that idea.

* * *

COST OF OPERATING REDUCED

The result of those experiments was another great step forward in street lighting.

In seeking to change over from 3000-to-10,000 volts series circuits to 120-volt multiple circuits in which each street lamp would be connected to the buses serving residence consumers, the problem was to find some dependable, inexpensive method to turn the street lights on and off.

With more than 1500 miles of streets to be lighted, independent multiple circuits would be prohibitive in cost. What was needed was an automatic relay for turning on the lights that would cost much less than any then on the market, and that would be more reliable, besides.

Within a short time, City Light engineers developed exactly such a device, and in 1926 began changing over the overloaded series circuits to the new low-voltage multiple relay system. In 1931 that job was finished.

In the old days, when storm or accident broke the series circuit, every light in the circuit went dark, making it dangerous and difficult to locate the trouble.

In the new system, the automatic relays function in the daytime to disconnect the lamps, and any relay trouble appears as lamps burning in the daytime, rather than lamps out at night.

Not only has the new system proved safer and less troublesome than the old, but it's a lot cheaper.

Before the change-over began in 1926, the annual cost of operating the series lighting circuits, with less than 11,000 lamps, was approximately $50,000 a year. Today, the cost of operating these lights by the multiple system, with 2500 added lamps, is only about $31,500.

* * *

PORCH LIGHT FOR EACH HOME?

J. D. Ross has been mulling over in his mind for some time a scheme to make Seattle, already the best lighted city in the country, still better illuminated.

That idea, briefly, is for a 25-watt porch light on every residence in Seattle, connected to the street lighting system.

Up to the present time there have been two obstacles in the way of launching such a project. One obstacle was to have sufficient spare power—it would take about 2500 kilowatts to run a porch light on each of Seattle's 100,000 homes.

Until very recent months, there has never been a continuous supply of surplus power that could have been so used. With the cutting in of the new Diablo generators, however, the plan is entirely feasible from that standpoint.

The proposed merger of the Puget Sound Power & Light Co.'s Seattle system with City Light would remove the final obstacle, and if and when that takes place, J. D. Ross will go to work on the details of the plan.

It would be up to each home owner to decide for himself whether he wished to have such a porch light, connected with the street lighting system. Cost of installation would be, roughly, $5 per house, to be paid for by the owner.

Once connected, however, it would be lighted and maintained by City Light without cost to the resident, as part of the city's outdoor light system.

* * *

RESORTS TO INGENIOUS IDEA

In its history City Light has resorted to many ingenious shifts, practical as well as scientific innovations, to maintain its continuous forward progress.

J. D. Ross tells of an instance back in 1905 when a group of South Park residents, outside the territory over which City Light had been able to string its first distributing wires, asked to be served with municipal current.

"We didn't like to refuse anyone if we could help it," he says. "We had a little transmission wire left over from the Cedar Falls-to-Seattle job, but only enough to run one wire.

"And that's what we did. We ran a single wire out to South Park and brought the current back thru the ground until we could afford to run a return wire."

At first it wasn't easy to sign up business houses for power and light, and serving scattered occasional power customers was expensive business by the regular method.

But by running a 15,000-volt distributing line thru the downtown industrial district, City Light found it possible to serve as few as one or two out of five or 10 business places in a block and show a small figure on the right side of the ledger.

* * *

CHAPTER IX

Ranges Got Boost from City Light

Seattle, as you've often been informed, has more electric kitchen ranges than any other city on the globe, regardless of size.

And you've probably suspected that that genial City Lighter, J. D. Ross, must have had a little something to do with bringing about that result and winning that significant distinction for Seattle.

Your suspicion is correct. And here's how it came about.

Back in 1912, when J. D. Ross had been in office as superintendent of lighting only a year, an eastern electric appliance factory made the first hearty effort to introduce electric ranges in Seattle.

The company sent out a crew of demonstrators, mechanical and human, to make this corner of America electric cookery-conscious An elaborate dinner, cooked electrically on the company's ranges, was served to a large number of prominent men and housewives.

The prospective purchasers of electric ranges ate the dinner, listened respectfully to an accompanying lecture on the new electrical culinary technique—and bought a total of one electric range.

"That'll never do," said J. D. Ross when he heard of it. To the head of City Light's appliance department he said:

"Order a carload of those ranges, and advertise that we'll wire them in free."

* * *

To further stimulate the use of electric energy for cooking City Light established a rate of three cents a kilowatt for range current.

Altho its biennial report for 1912-13 recited that "scores of people in Seattle depend upon electricity altogether for cooking and uniformly agree that it is the most convenient, safest and cleanest method and no more expensive than any other," City Light's electric range campaign made slow headway at first.

At the beginning of 1916 the municipal plant supplied power to less than 200 cookstoves, and the 1000 mark was not reached until 1920. There were two reasons for this.

The first electric ranges were pretty crude affairs, compared to the highly efficient beauties of today. The early manufacturers used a lot of wood in their construction, and the exposed heating elements gave quite a lot of trouble.

Secondly, the war diverted human ingenuity in other directions than the improvement of electric domestic ranges, and it also became difficult to acquire for any such peaceful purpose as getting Seattle dinners certain metals needed alike for war-time ranges and war munitions.

The big boom in electric ranges, therefore, came after the war. Between the first of January, 1924, and the same date in 1927, the number of City Light ranges jumped from less than 3000 to more than 11,000.

Today more than 45,000 Seattle homes cook breakfast, lunch and dinner electrically — including range customers of the private power company. The rate for electric range current is now down to two cents a kilowatt, or less, the private company rates having been reduced to meet those of the public power system.

* * *

It was the electric range business that put City Light into appliance merchandising in a big way.

"It was a perfectly logical development," says J. D. Ross, doing a bit of looking backward. "Those early ranges had to be installed and wired correctly to give any service at all, and our boys knew how to do it. It was to City Light's interest to make sure that electric ranges would operate satisfactorily."

Before that time, City Light had, like every electric power concern, supplied lamp renewals. When the carbon filament lamp gave way to tungsten, it began selling those to City Light patrons.

And having gone into the business of selling electric ranges to make sure that they were correctly installed, it was only natural that when electric refrigeration and electric water heating came along, City Light should become a distributing agency for these appliances, too.

It was Seattle's City Light that originated the practice of letting customers pay for ranges, refrigerators, etc., on small monthly payments with their lighting bills, a practice that has become standard with many of the large private utility concerns, including gas as well as electric utilities.

City Light is now engaged in a campaign to put electric water heating on the same plane of popularity as cooking with kilowatts. It gives away water heating units, to be hooked up to existing hot water tanks, with purchases of ranges, and has established a phenomenally low rate—¾ of a cent a kilowatt—for water heating current.

Before long it will probably be able to boast that Seattle has more electric water heaters than any other city in the world, too.

* * *

Your City Light has been wrestling for more than 20 years with the problem of electric heat for homes and buildings.

If you don't care what it costs, electric heating is swell. It is efficient, odorless, safe, convenient, dustless, and involves no mechanical labor whatever on the part of the householder. But its cost at present is prohibitive for all but the disgustingly rich.

J. D. Ross himself, who wouldn't use anything but electricity where it can be used economically, heats his home with a coal-burning fireplace.

Beginning around 1912, City Light began experimenting with electric heating, both of the direct radiation type and the type used in connection with hot water radiators. It soon found that while electric heating is perfectly feasible and desirable, the expense of the resistance method of producing heat is several times that of heating with coal or oil. Consequently, it has never recommended resistance heating, except for the use of portable reflecting heaters.

At present, City Light's research division is making experiments in another direction—that of reversed refrigeration. Says the latest annual City Light report:

"The mild climate of Seattle . . . makes the ideal system of heating in this locality some sort of cyclic system whereby heat can be taken from the outside of the building, and liberated inside thru the agency of a compressor and a refrigerant, the compressor operated by an electric motor.

"The department is working out in its own shops a heating machine of this sort and is getting results that warrant the perfecting of this system.

"At present the heat is being taken" (believe it or not!) "from the cold water tap of the water system with excellent results in the test machine, which is built for an eight-room house . . .

"Heat may, however, be taken from the outside air direct. Such a heating system would double the power demand of the whole City Light and become a highly remunerative load."

It probably won't be many years now until we'll be hearing that "Seattle has more electric heating systems of the reversed refrigeration type than any other city in the world, regardless of size."

* * *

YOUR CITY LIGHT MAIN SALESROOM, CITY LIGHT BUILDING

CHAPTER X

Why Private Power Fights City Light

Three simple figures tell the story of why private power has fought tooth and nail for more than 30 years to hamper and destroy Seattle's City Light.

The first figure is 20 cents. That's what private power companies in Seattle charged residence consumers for one kilowatt of electric current in 1901, before there was any City Light.

In those days electricity was a luxury. Families that could afford automobiles could afford electric lights. Few others could.

The second figure is 12 cents That's the kilowatt rate to which the private power companies hurriedly descended when this city began building its first hydro plant at Cedar Falls in 1902.

If the creation of the municipal light plant had never done anything more for Seattle, that accomplishment alone would have justified the City Light enterprise.

The third figure is 8½ cents. That's the rate per kilowatt charged residence consumers by City Light for the first 20 kilowatts consumed, when it began serving juice to Seattle in 1905.

The municipal rate dropped one cent per k. w. with every added 20 k w., with a flat rate of 4½ cents per k. w. for all over 60.

It was only a few weeks after that when the private companies came down to 10 cents per k. w. for the first step, with a 10 per cent discount for prompt payment. That left the public and private rates only one-half cent apart, where they remained until 1911, when private power met the new seven-cent first-step rate of City Light.

Since that time the Puget Sound concern has followed every City Light rate reduction.

The private company has never reduced its rates ahead of City Light.

* * *

TWO DISTRIBUTING SYSTEMS

Today the two power distributing systems of the Puget Sound company and City Light are virtually duplicated all over Seattle.

This condition has arisen only in the last 15 or 16 years. It's interesting now to look back and see how it came about.

When City Light's power wheels at Cedar Falls first began turning in 1905, there were large areas in the city of Seattle without any facilities for electric service.

In many miles of residences coal oil lamps and candles were the only means of illumination.

That didn't bother the private power companies. They didn't consider residential business—except for a few small wealthier districts—sufficiently profitable to be worth the investment necessary to provide service.

It was this great home territory that City Light set out primarily to serve, once it had taken over the street lighting system.

And for the next 15 years, City Light served these residential areas alone.

As the city kept reducing rates, consumers in the residence areas already held by the private company began to clamor for City Light. They saw City Light was a good thing, and they wanted to share in its benefits.

So began the paralleling of distribution lines. During 1918 and 1919, the city did most of the paralleling. For the next 10 years it was the company's turn to invade City Light's hitherto exclusive territory.

By 1929 or 1930, duplication of lines was practically complete.

* * *

DICTAPHONE IN ROSS HOME

Seattle's private power interests, with the backing and occasional assistance of the private power industry nationally, have exhausted every known means of propaganda, and wielded every influence at their command, to head off the advance of City Light.

The first superintendent of City Light—he lasted less than a year—was a power company employe when he was appointed in 1910 by an easily deceived mayor.

During that superintendent's reign, the company's men used to hold meetings at night in the office of the municipal plant.

Executives and speakers provided by the private power concern went into Seattle churches, schools and before Parent-Teacher organizations to tell the people that the municipal light plant had had nothing to do with the reduction of electric rates.

It was the introduction of electric motors, they blandly said, that had brought the rates tumbling.

Thru donations to religious bodies, civic and other organizations, the company kept up a barrage of seemingly disinterested opposition to municipal power.

Its agents, planted within the City Light organization, reported every activity of the public plant. The height of something or other was reached when J. D. Ross found a dictaphone hidden in the chimney of his home.

Thru adverse reports of ostensibly independent organizations, financing of City Light power projects was attacked, and sometimes delayed, tho never entirely blocked.

Citizens of Seattle have not forgotten the "Voters' Information league," organized in 1927, which started sending out to citizens a series of bulletins reporting on the efficiency and usefulness of various municipal departments. These reports on streets, sewers, parks, etc., were chiefly complimentary and only mildly critical at best.

This was a clever—or was it clever?—buildup for a devastating report on City Light, intended to show that that institution was a "great source of loss" to the city.

But the report was never published in full. The Federal Trade commission got hold of a letter written by A. W. Leonard, then president of Puget Sound Power and Light company, to the National Electric Light association, indiscreetly admitting that the company had "authorized" a fund of $150,000 for the Voters' Information league to finance a "damaging" report on City Light, and asking the national association to put up half of the $150,000, in the interest of the national private power industry.

NEW CITY LIGHT BUILDING

* * *

FALLACY OF TAX ARGUMENT

One of the chief arguments advanced by private power against municipal ownership has been that municipal lighting plants didn't pay taxes.

That sounded like a whale of an argument. But it was specious.

For it's the consumer, and not the power company, that pays taxes. The company merely collects them.

And, as pointed out in a previous article, present electric rates in Seattle—brought about by City Light competition with the private company—save consumers of this city annually an amount greater than the entire city tax bill.

The tax argument, moreover, is no longer even superficially true. Nowadays, taxes to the amount of some $385,000 are paid annually out of the revenues of City Light.

The score stands something like this for 1936:

State occupation tax, $125,000.

City occupation tax, $125,000.

Donated to municipal general fund to compensate for functions of government that spend time on City Light matters, $45,030.

Loss due to providing street lighting below cost, in effect a donation to the general fund of $72,853.

To city treasurer for collecting light bills, $8291.

State power license fee, $3996.

And Superintendent J. D. Ross estimates that if or when the proposed power merger is completed, the taxes on the combined properties of City Light and the private concern will soon reach a million dollars.

CHAPTER XI

Public Power Has Finance Advantage

The crucial difference between a publicly-owned light plant and a private power company — the difference that in the long run gives public power its biggest advantage over private power—is in the financing methods of the two types of plant.

A public power plant pays off its capital debt, out of revenues, as quickly as it can.

Even if it is not compelled to do so, it is good business practice, anyway.

A private power plant seldom or never pays off its capital debt. It keeps refunding it and paying interest on it, from generation to generation.

This has the effect of compelling consumers of that company to pay interest on an original investment even long after it has actually paid for itself.

When a public plant finishes paying for itself, it can drop its rates for current down to the bare cost of generating electricity — that's less than half a cent a kilowatt—plus the cost of distribution, which is from five to eight times the generating cost, plus depreciation, if any.

The private company can never do that. It must charge high enough rates to include interest charges on its funded debt, maintained at the original peak down thru the years.

It sounds silly. How did the private companies ever get themselves into a jackpot like that, you wonder?

* * *

PUBLIC PLANT BONDS SOUND

"The practice among private companies of never paying off capital indebtedness," says J. D. Ross, "was the outgrowth of a fundamental mistake made by the utilities and state utilities commissions when the power rate problem first arose.

"The private companies were gleeful when state power boards set up the principle that rates should be based on capital investment. This set a premium on extravagance and wastefulness in financing power plants. The bigger the debt incurred in building a plant, the higher the rate allowance.

"Were the company to pay off any of this capital debt out of revenues, it wouldn't be allowed to maintain its rates at the original level. It seemed like good business, under those circumstances, to stay as deeply in debt as possible.

"But when in the course of years public power plants, which are usually required to amortize their bonds, wipe out their capital cost, the private companies find themselves at a critical disadvantage. They just can't reduce rates to meet those of the public plants and still pay interest on their bonds.

"From the financial standpoint, it should be appreciated that by paying off its bonds regularly, a public plant keeps its value greater than its indebtedness, and this keeps a conservative sound value back of its bonds. Contrast this with the pyramiding of utility stocks of the last decade, that brought so much disaster."

* * *

MILLIONS IN DIVIDENDS

In the 32 years of its history, City Light has issued approximately $55,000,000 worth of bonds.

Of that indebtedness it has paid off more than $20,000,000, leaving bonds outstanding to the amount of a little less than $34,000,000.

In the beginning, City Light financed its plant with general lien bonds. All those bonds, to the amount of $4,000,000, have been paid off. All City Light bonds are now revenue bonds, not a lien against taxes. For that matter, not one cent of City Light indebtedness has ever been paid out of taxes, and no tax money will ever have to go toward paying off the balance of its total $55,000,000 investment.

That figure, $55,000,000, represents what has been invested by the people of Seattle in City Light to date. The amount will be much greater in the future, whether or not the proposed purchase of Puget Sound Power & Light's Seattle power system is carried thru.

The ultimate development of the Skagit, when Ruby dam and powerhouse are completed and the Diablo and Gorge plants are brought to full capacity, will add many more million dollars. But that indebtedness will all be paid off, at the rate of perhaps several millions a year, out of revenues. The entire Skagit project will cost only $70 a year per horsepower to develop—less than the cost of any other large project yet built or proposed.

And when it is all paid for, it will continue for many years to come to return millions in dividends—in the form of steeply reduced power rates—to the citizens of Seattle.

CHAPTER XII

Showman Ross Keeps Skagit Sold to City

Every year droves of Seattleites and thousands of visitors from all over the world visit the upper basin of the Skagit river to gasp in amazement at fantastic spectacles—palm trees and huge tropical jungle plants growing luxuriantly in high mountain canyons where blizzards howl and snow piles six feet deep in winter; majestic organ music pouring out of rugged pine-covered cliffs; tropical birds of gorgeous plumage flitting joyously about their Alpine environment; and illuminated waterfalls tumbling down from snow-covered mountains.

In the course of their two-day trip to Skagit, these thousands of visitors get an incidental eyeful of powerhouses, dams, reservoirs, giant generators and transformers.

It's for the sake of that incidental look the visitors get at Seattle's million-horsepower Skagit project now in process of development, that J. D. Ross planted a tropical jungle in these northwest mountains, and made the cliffs reverberate with mighty organ tones.

The beautification of Skagit with equatorial verdure and bird life is probably the most colossal artifice of its kind ever attempted. But it's well worth it, J. D. Ross believes.

"People are funny that way," chuckles the City Light superintendent. "They wouldn't make a trip of that kind just to see a dam or a powerhouse, even tho it belongs to them.

"So we lure 'em with a display of beautiful growing things they've always been taught couldn't thrive in regions this far north, and they come flocking, all we can handle in groups of 600 at a time. When they get here, they see the dam and the powerhouses—and that's what we want 'em to see."

* * *

J. D. ROSS, NURSERYMAN

Even if there were no Skagit canyons to play Arabian Nights tricks with, it's likely that J. D. Ross would be nursing all sorts of strange trees and plants, and importing new kinds of birds and animals into the northwest.

All his life he has been interested in growing things, and in trying to prove there's nothing that "can't be done."

"Give a plant or a tree the kind of soil, moisture, dryness, shade and sunshine it likes, and it will stand a good many degrees' change in climate," he says.

"Seattle and the northwest coastal plain have a very mild climate, anyway, compared to many regions in America to the south of us."

Just to prove it, Ross is growing several bushes of tea in his back yard in Seattle, and up at the Gorge on the Skagit he is ex-

perimenting with oranges and grapefruit. He expects to find some variety of citrus hardy enough to flourish in Washington, and he's confident that pineapples could be grown here, with the right combination of soils.

Wherever he goes on his travels, Ross is always on the lookout for new varieties to add to the Skagit's flora and fauna. When he visited Lincoln's tomb recently, he asked for and got several small oak trees that had sprung up beside Lincoln's grave. They'll be planted at Skagit, along with two trees named George and Martha from Mount Vernon, and two trees named Franklin and Eleanor from Hyde Park, Dutchess county, New York.

J. D. has spent generous chunks of his own salary for seeds and plants and birds to beautify Skagit. Friendly nurserymen in Seattle and all over the country have also contributed bountifully toward the creation of a paradise of color in the wilderness.

Before he gets thru, Ross expects to have 10,000 Japanese flowering cherry trees blooming on the cliffs at Diablo, an equal number of pink dogwood trees, and as many lilacs, wisteria and rhododendrons as he can manage.

* * *

TOUR PROVIDES BIG MONEY'S WORTH

City Light's Skagit tour is probably the biggest money's worth of sightseeing you can get anywhere in the world for $3.

It begins at Rockport, 113 miles from Seattle by highway, and includes 60 miles of canyon and mountain scenery viewed from the city's Skagit electric railroad, a night's lodging at Gorge camp, a 12-mile boat ride beneath high cliffs on Diablo lake, and three of the most bountiful meals you've ever encountered.

At every turn and at every stopping place the visitor is confronted with some new marvel, either of nature's creation or of human ingenuity.

In the garden at the Gorge there's a big waterfall which is illuminated in changing colors for several hundred feet, to the accompaniment of mysterious organ music.

This summer visitors will find a new attraction -- a grotto in the cliff side decorated with strange shells and rocks, self-luminous with varied colors.

The Skagit food is almost as famous as its hand-embellished scenery, its peacocks, pheasants and black Mexican squirrels. Both the excellence and the quantity of the chow are lavishly praised by every visitor, and no doubt help to account for the fact that many reservations are made a year or more ahead.

* * *

CHAPTER XIII

Ross Honored as Scientific Experimenter

J. D. Ross is best known to his fellow citzens of Seattle as the smiling, fighting patriarch of City Light.

It is due largely to his inspired leadership and staunch loyalty to the ideal of public ownership that Seattle has occupied a commanding position in the field of municipal power for three decades.

But in addition to being the unselfish planner and executor of a great public trust, and, in the magic transformation of the Skagit with tropical verdure and organ music from rocky cliffs, the west's greatest outdoor showman, Superintendent Ross of City Light also commands respect as a scientific theorist and experimenter

Building dams, powerhouses and transmission lines is his day's work. In the evenings his favorite relaxation is challenging accepted scientific theories about the constitution and construction of the universe.

The visible fruits of that hobby are a collection of elements that includes nearly every known elemental substance, a cellar full of bottles, retorts and magic electrical gadgets, and a 400-page book that some leading world physicists look upon as a highly original contribution to physical science, and others rate as deplorable scientific heresy.

* * *

ELEMENTS FROM WORLD OVER

Ross' collection of elements — probably as complete as any in the world — rests in an old-fashioned mahogany cabinet with many shallow drawers in the living room of his old-fashioned, rambling home on a hillside overlooking Lake Washington.

Miners, scientists and industrialists all over the world have contributed rare metals like tellurium, zirconium, thorium and pure vanadium, and rare earths like ytterbium and yttrium to his collection.

Some of its specimens he has extracted himself. A round chunk of pure iron is one of these. It is as shining as the day it came out of the retort, for pure iron doesn't rust.

There are sheets of pure zinc, nickel and silver, and small pigs of pure aluminum, manganese and other metals commonly met with in alloy form, but seldom or never in the pure state.

Few of them are labeled. Long study of the elements and their specific properties and group relationships has made them as familiar to him as so many different human beings.

* * *

BOOK TOO HARD FOR FDR

As an outgrowth of his study of the cosmic mathematics of the great Clerk Maxwell, author of the electro-magnetic theory of light, and his own experiments with electricity, magnetisim and light waves, J. D. Ross wrote some years ago a book called "New Views of Space, Matter and Time."

It is a tremendously difficult book for the layman to understand. President Roosevelt, upon receiving a copy from the author, admitted ruefully that he bogged down in mental confusion before he had finished the first page.

Ross feels, however, that his views about light, electricity and matter ought to be understood by everybody. So now he's writing a new book, the language of which he hopes will be so simple that even the man in the street will be able to read it understandingly.

Here are a few of the challenging thoughts which he sets forth in his first book:

"A moving magnetic line of force, an alternating electric current, and an ordinary light ray, are identical and their direction of propagation is the same.

"A reflected beam of light is not the continuation of the incident beam, but suffers two transformations of energy, kinetic to potential, and potential back to kinetic, thru the medium of an electric current.

"Matter is electro-magnetic in its nature. So is the ether of space. It is reasonable to assume that matter is a special form of ether.

"Gravity seems to be electro-magnetic, a residual force due to the fact that the atom is not completely neutralized . . . I have refused to accept the word attraction except for convenience . . . The word is vague and meaningless, its use being to cover and span the gap of science, that so far we cannot comprehend. It is only a convenient assumption . . . Nothing can move except under the application of pressure.

* * *

THOUGHT NEVER INSIDE BRAIN

"Matter," he continues, "is conceded to be an aggregate of electrons stabilized in groups. An electron is an exceedingly small unit of electricity, so matter may be defined as organized and stabilized groups of electricity. Electricity is a form of energy, therefore matter is a form of energy.

"Matter is three-dimensional. We may therefore say that since matter is energy, it is a particular three-dimensional form of energy

"The three forms of energy corresponding to length, breadth and thickness, are the electric current, the electro-static line and the electro-magnetic line all at right angles to each other.

"Since mass varies with velocity it may be due wholly to velocity, in which case matter may be a function of time and space only

"When the electron is not in motion it has no magnetic field. Lying in space quiet, it has no mass. We say it is nothing. In motion it is matter."

One interesting conclusion reached by Ross, tho not given expression in his book, is that "just as an electric current isn't in the wires, nor is light in the lamp from which it seems to come, so thought will never be found inside the brain—it must be in space around it."

SKAGIT RIVER POWER PROJECT

CHAPTER XIV

J. D. Ross a National Figure

That mossy proverb about the world beating a path to the door of the man who makes a better mousetrap has certainly proved out in the case of J. D. Ross, superintendent of City Light.

By tending strictly to his kilowatt-knitting in Seattle for 30 years he has become one of the nation's most prominent figures in the field of electric power and in the world of bigger business.

Ross had already made Seattle known as "the best lighted city in America" and the city with "more electric ranges than any other city in the world, regardless of size" when in 1931 he was fired from his City Light job on the ground that he was "no engineer."

The City Light man's prompt appointment as consulting engineer on the St. Lawrence waterway project by the power authority of New York state knocked that argument out as cold as a Mt. Rainier blizzard.

After that, Ross' enemies in Seattle conceded that maybe he was an engineer. But, they said, as a business man he wasn't so hot. He ought to have an expert financial adviser.

That was an odd charge to lay against a man who could persuade Wall Street, at the very bottom of the depression, to loan City Light $5,000,000 to build Diablo dam and powerhouse on the Skagit river and another million or so to build the City Light building at Spring, Madison and Third avenue after the original contractor had gone broke.

A more direct answer to the whispering campaign that J. D. Ross was weak on the practical business side came in 1935 when President Roosevelt called him on the phone in Washington and told him he had sent the United States senate his appointment as member of the Securities and Exchange commission, to handle administration of the holding company act, involving some $20,000,000,000 worth of securities.

* * *

SALARY COMPARATIVELY MEAGER

In one way, however, the charge that J. D. Ross isn't a good business man is true enough.

He hasn't looked out for his own financial interests any too well during the long period in which he has been building up a great power empire for the citizens of Seattle.

Contrast his salary, down the years, with those of executives of private power companies with comparable responsibilities, or even with the salaries of other public power engineers.

For the kind of job for which private power company bosses drew down $20,000 to $25,000 a year, J. D. Ross received $4200, $5000 or $6000 per annum.

When, a few years ago, his salary was raised from $6000 to $7500 a year—still less than a third of what he might expect for the same grade and amount of work from a private power concern—he didn't get it for a year and a half, and it cost $1000 of his own money to fight the raise thru the courts.

BUYS KNICK-KNACKS FOR SKAGIT

Not that he has ever complained. Money seems to mean very little to J. D. Ross personally. His tastes are extremely simple. He has never owned an automobile. Unless it's a trip on City Light business, he'd just as soon take a streetcar.

He spends considerable of his modest salary buying plants, seeds and curious knicknacks for the beautification of the Skagit. To date, none of his associates in City Light has ever found him doing anything that wasn't intended in some way to make life pleasanter and richer either for his neighbors or the citizens of Seattle and the world.

Upon receiving his $10,000-a-year appointment as a member of President Roosevelt's SEC, J. D. Ross gave up temporarily his $7500 yearly salary as superintendent of City Light.

But he has never stopped working for City Light. In fact, he wouldn't accept the national job on any other conditions.

It is unlikely that any offer or honor in the world would seriously tempt him to drop City Light until the last horsepower of electric energy locked up in the waters of the Skagit basin starts hurtling over the transmission wires to Seattle.

"I've got a job to do here in Seattle," he is fond of saying, "and as long as they want me here, I want to stay until it's finished."

* * *

FR CHANGE DUE TO J. D. ROSS

If you've been interested in the national problem of electric power very long you've undoubtedly noticed that in the years since he was governor of New York President Roosevelt's views on governmental attitudes toward power costs have undergone a basic change.

Roosevelt's original position was that public agencies should generate power and sell it at cost in certain localities to provide a "yardstick" on power costs, leaving the job of distribution to private enterprise.

Today, in TVA and elsewhere, the president stands back of a program of public generation and distribution of hydro-electric power.

For that shift in viewpoint—welcomed by every champion of public power—credit J. D. Ross.

Ross pointed out to President Roosevelt that with the cost of developing electric power down to a few mills or in some cases even to one mill—a tenth of one cent—the cost of distribution, which is eight or 10 times that of producing power, is the milk in the power cocoanut.

To get a complete power "yardstick," Ross said, there should be full public ownership of generation and distribution facilities in sample areas of the United States. His fight—in Seattle, in Washington and in the nation—has always been for full district control of power rates thru complete public ownership.

President Roosevelt has evidently seen the point.

"MARKET IS WHAT WE MAKE IT"

It is fitting that this series of articles on Seattle City Light system should conclude with these words spoken by Superintendent Ross before the Investment Bankers' association of America at their Augusta, Ga., convention two months ago:

Those in public power believe that the handling of this great utility is a public function, in a class with streets, sewers, roads and water systems, necessities that are the life-blood of the nation, natural monopolies totally distinct from our great competitive system of ordinary business.

"Electrical power has become a necessity. The rivalry of cities in the inducing of industries to come within their limits has become of greater importance to those cities than the competition between private and public power.

"But there is another question far more reaching that concerns us now. It is the fact that the use of electricity is only a small fraction of what it can easily be.

"The whole industrial structure of our nation is cramped for the lack of power. The work in the home is vastly greater than it should be. There are 6,000,000 farm homes in the nation that are without the advantage of electricity. The average number of kilowatt-hours used in the home per annum is only 673, yet the use in some public systems rises from 1000 kilowatts up above 4000 per annum, or over six times the national average.

"By the time the national average increases six times, those public plants will still be just as far ahead. The market for electric power is about what we make it."

THE END

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The pamphlet is distributed to anyone upon request.

Friends of City Light, Inc.

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