

THE PAGES OF THE PAST.

I.
In the volumes of my memory, I hold those chapters
dearly
Wherein names I've loved and cherished are inscribed
from first to last;
And I never read these chapters very audibly or clearly,
For my heart beats all too quickly o'er these pages of
the past.

II.
Here's the little dog who bit me in a fit of puppy glad-
ness
In my days of early childhood, when that little dog
was dear,
To my grief he felt a victim to parental dread of mad-
ness,
And still his fate demands from me the tribute of a
tear.

III.
Here's my little schoolboy lover, with his water-spaniel
lover,
Astride his pony Fidget, with his satchel bag of green,
Did I love the dog and pony best or really love the
lover?
Why ask! He died in India in the service of the
Queen.

IV.
Here's another buried treasure—my own faith in human
kindness
It died hardily, I remember, but die it did at last,
I clung to it with passion, and I wept its loss to blind-
ness,
I view its grave with sorrow in these pages of the past.

VI.
Here the parents who departed, full of years and grace
and honour;
Here the gallant sailor brother drowned at sea in
manhood's prime;
Here the little sons who left me to return to God the
donor
In safety through Eternity while I'm wearying through
time.

THE TELEPHONE OUTDONE!

STARLING STRIDE OF CIVILIZATION—A WILD
DREAMER'S DREAM—THE TELESCOPE
WHICH REPRODUCES BY TELEGRAPH A PER-
FECT IMAGE OF A PERSON OR OBJECT THOU-
SANDS OF MILES AWAY.

"Why, the mighty discoveries and applica-
tions of natural sciences which distinguish this
nineteenth century, my boy, are as far short
of the tremendous achievements of the future, as
the narrow, barren life of that handful of plucky
pilgrims on Plymouth rock was insignificant
compared with the numbers, wealth and civili-
zation of the American people to-day! What
we have thus far accomplished is nothing but a
germ, a latent possibility, a potency whose
largest work and development will go infinitely
beyond the wildest imaginings we dare to cher-
ish."

And the professor resumed the languid and
meditative manipulation of his post-prandial
tobacco; while the *Enlightened* reporter, to
whom this oracular prophecy was addressed by
his eccentric friend, in a corner of their accus-
tomed dining place, encouragingly responded:
"But you don't really look for any new
stride, immediately, do you? Civilization ad-
vances, not steadily, but by jumps, and at long
intervals. But it's scarcely a year since the
telephone was first talked of."

It is unnecessary to remark that the previous
conversation had been upon science in general,
and telephones in particular.

"Yes, to tell the truth, I do," was the hesi-
tating answer; "and I rather hope to point the
way myself."

"No!" Interrogatively, earnestly and at-
tentively.

"Yes!" Dreamily, yet convincingly.

"Do tell a fellow."

"Well, there can't be any harm now, I
suppose, though it is not quite perfect. I don't
know as I care to profit pecuniarily by the in-
vention myself; but I do want the honour of
it. I must complete it alone. I can't divide
the work with any pirate. However, I can tell
you the general object and method without re-
vealing the unperfected secrets of it."

"Good fellow! Go on! I'm all attention."

"I believe that the telegraph wire can be
made to transmit light as well as sound; that
we can devise apparatus that will produce, at a
distance of hundreds of thousands of miles, a
perfect eidolon."

"Eidolon? What is an eidolon?"

"Well, an image then. A perfect image
of any person or object. We shall be able to
see as well as hear our friends, no matter how
far away. Distances will be practically an-
nihilated."

Courtesy forbade any expression of the lis-
tenser's incredulity; but he could not repress a
smile.

"You may laugh! He laughs best who
laughs at last! The theory is very simple,
though, after all."

"Light is only one form of force. So is
sound; so is heat; so is electricity. If the vi-
brations of the one can be conducted by solids
for any distance—that is, if a molecular motion
can be started at one end of a wire by one of
them, which is transmitted to the other, and is
there appreciable—so can another. And—"

"Hold a minute," said the reporter, who was
an amateur scientist himself.

"You must remember that there are good
and bad conductors of electricity, good and bad
conductors for heat, good and bad conductors
for light. A telegraph wire may conduct the
vibrations of electricity any distance; but light
can't go through opaque matter a hundredth
part of an inch. Besides, light can't turn a
corner as electricity can."

"Not so fast? Suppose we do not transmit
the same rays of light the whole distance, but
make the vibrations given off by any object

operate delicate telegraph keys, just as the vi-
brating diaphragm of the telephone does? See!
The sound which comes out of a telephone, so
to speak, is not the one that went into it, but
one exactly like it. So with the image that
will be conveyed by the Teletroscope."

"The what?"
"The Teletroscope. The name is a little
redundant, but it will do until I get a better
one."

"All right! Go on!"

"Of course I need not explain to you that in
ordinary telegraphing the electric current from
the battery goes through the operator's key, the
miles and miles of circuit wire, the receiving
office's sounder, and then down into the ground;
and that the opening and closing of the key by
the operator's hand, at longer or shorter inter-
vals, is exactly imitated by the rattling of the
sounder, hundreds of miles away."

"Yes—I understand all that."

"Sound is made up of a series of vibrations.
The higher notes are composed of more rapid
vibrations; the lower notes of slower ones.
Each vibration of sound as you talk or sing
into a telephone opens and closes a delicate
key, breaks and restores a telegraphic current,
and excites a corresponding vibration in the re-
ceiving instrument, which is magnified, so to
speak, and made audible. If the sound is
pitched high the sound ex- at the other end
must exactly correspond; if low, the same.
And this, no matter how many corners you turn."

"Now light is not a fluid, as we used to
think, but a series of like vibrations with sound,
only more rapid. The different coloured rays,
as we call them, are only different rates of vi-
bration. The scale of colour is only a gradu-
ation of rates of velocity, just as the scale of
sound is. If, then, a medium sufficiently sen-
sitive can be made to vibrate under light, just
as the diaphragm of a telephone does under the
sound of your voices, electricity will register,
convey and reproduce those vibrations at any
distance."

Our reporter looked more serious and seemed
to be impressed, and after a few moments' si-
lence, inquired if the professor had arranged
any apparatus yet that would do the work, and
how it looked.

"Well, I can't answer you squarely. I have
not accomplished as much as I wish. But
you've got the theory and now I'll tell you a
little about the practice."

"I shall have an instrument that will look
like a photographer's camera. The ground wire
or battery wire will come up through the bot-
tom. Out of one end will go the circuit wire.
At the other end I will arrange a huge flaring
hollow cone, say four or five feet in diameter,
black on the outside, and lined with highly-
polished mirrors. Before it I will have my
case, if I want to transmit a painting, or the
platform and chair if it be a person; and over-
head I will arrange for as intense a light as pos-
sible. The image, greatly diminished, will be
thrown by reflection and refraction into the in-
terior of the camera, and fall upon the surface of
a cup of transparent liquid, the reflection and
refraction carrying it from underneath. The
composition of this liquid will be one of the
great secrets of the device. But if you will re-
member that all our aniline dyes, of whatever
colour, all come from the same basis, and that
photographing in colours has already become a
fact in London, you will be prepared to believe
that a liquid may be found sensitive enough for
my purpose. The vibrations of this liquid will
make my telegraphic connection, and the wire
will carry the impulse thus imparted. At the
other end of the circuit, maybe a thousand miles
away, there will be a somewhat similar instru-
ment; the process will be reversed, and the
flaring cone of the receiving camera will throw
out an image upon a screen in a darkened room,
something like the picture of a magic lantern."

"I'm not going to tell you what I think
about the practicability of all this," said the re-
porter. "It isn't safe for a man to prophesy,
now-a-days, that the most visionary scene under
heaven won't be realized. But another serious
difficulty occurs to me."

"When a telegraphic message is sent, the
dots and dashes go in succession, not simul-
taneously. One is out of the way of the other.
So, too, with the telephone. One vibration
keeps ahead of the next. But your Teletro-
graph—"

"Teletroscope—"

"Beg pardon—teletroscope—will be obliged
to convey all these innumerable vibrations, sent
off from a thousand different points, simultane-
ously. Won't they get jumbled slightly? Will
they know enough to arrange themselves in the
proper relation at the other end, like the par-
ticles of a crystal?"

"Oh, I've thought of all that, long ago. And
that's what makes this invention, scientifically
if not practically, a far greater one than the tele-
phone. The difference in the way in which that
part of the brain which we call the sensorium
receives the impressions of sight and hearing is
very marked. Yet science ought to be able to
imitate the one process as well as the other. And
I think it can."

"Now, in the first place, you must remember
that the telephone does transmit different rates
of vibration simultaneously. Let a chord be
struck on a piano, and all four notes, vibrating
at different rates, will be transmitted precisely,
and you will hear that same chord, all blended,
at the other end of the wire. They don't inter-
fere with one another a particle. Then, too,
we have what we call a quadruplex telegraph
instrument, by which four messages can be sent

simultaneously over the same wire, and each
message separates itself from the other three,
and switches off on the right branch at the re-
ceiving office."

"However, wonderful as are these operations,
the separation and proper combination of the
impulses sent by the Teletroscope is infinitely
more miraculous, not only in extent, but in
character. The separation of the four messages
of a quadruplex instrument is accomplished by
what electricians call a resistance coil. Such a
device would be altogether too cumbrous for my
use."

"The end of the circuit wire in my camera
directly over the image on the surface of the
liquid, is composed of a bunch of fine platinum
wires, over two thousand in number, each care-
fully varnished to insulate it, and the whole
brush being out even, so that each point is
equi-distant from the liquid. Of course the dis-
tance between the brush and the liquid is al-
most inappreciable, as only the most delicate
vibration of the liquid can be effected. You
can easily see how the transmission of these
several thousand vibrations through the main
wire is induced; and can also see how the num-
ber, size and arrangement of the platinum wires
in the receiving instrument would entirely pre-
clude the use of the resistance coil. I have been
obliged, therefore, to devise an entirely new and
vastly more efficacious distributing apparatus.
And this I regard as an even greater invention
than the combination of my sensitive liquid."

"Such an instrument would have a pretty
wide application, if it were once invented," re-
marked the reporter, musingly, after another
brief lull in the conversation.

"Still skeptical, eh? Well, just wait and
see! My, yes! It will have both practical busi-
ness uses like the telegraph and telephone, and
sentimental and aesthetic uses beyond computa-
tion. The first great application will be made
by the press. Photographs of actual events,
parades, processions, coronations, inaugurations,
battles, disasters, architectural work and decora-
tions, new paintings, scenery, dramas, distin-
guished personages and so on will be sent in-
stantaneously from all quarters of the globe, and
we shall have a pictorial daily newspaper in-
stead of one simply containing reading matter.
Then the churches and halls of congress, con-
cert rooms, theatres, and all places of public in-
struction and entertainment will be connected
with our homes by the district telegraph. Every-
body can be cognizant of great and public events,
and see them as they really happened. People
can not only visit with their acquaintances and
dearest friends by the mediums of language, fol-
lowing every tone, inflection and shade of feel-
ing in the voice, but can see the familiar line-
aments, the state of health, the marks of age, the
smile, the frown, and every minute shade of
facial expression which reveal the individuality
of the distant one. Art culture will be immen-
sely facilitated. All the great paintings and
statuary of the world, and all the magnificent
architecture and natural scenery that is acces-
sible to human enterprise, can be copied at an
insignificant cost, and placed within the reach
of everybody. Locomotion will soon be almost
unnecessary, and people will use carriages,
street-cars, railroads, stages and steamship lines
for scarcely anything more than freight trans-
portation. Illuminating gas will be done away
with, too. Instead of sending gas through pipes,
corporations in the illuminating business will
manufacture light at the central establishment,
and deal it out to us by telegraph wires; if not
in our homes, certainly on the streets and in
public buildings. Indeed, the imagination can-
not begin to grasp the awful possibilities and
the promised revolutions in our every-day life
and business methods thus opened up. But
don't let me keep you if you're in any hurry."

"Well, we'll talk it over further some other
other time. You've quite taken my breath away
for the present. Meantime, you wouldn't object
to some little mention of it in print, would you?"

"No—I've concealed the essential points;
but I don't want my name used yet."

"All right; however, I shan't speak of it as
a fact, but a fancy, as yet. You know the world
won't believe it until you get it in actual opera-
tion. It would be better to lead up to it gently."

"As you please; but no names, remember.
Honour bright."

"Honour bright. Ta, ta!"

"Good-day!"

THE GLEANER.

THE Shah of Persia is shortly expected in
Paris.

THE ex-Queen of Spain, Isabella, has taken a
house on the banks of the Thames, near King-
ston.

MR. STANLEY's book will be illustrated by a
great number of photographs taken by himself
during his little trip.

A MAN in Kentucky devotes the yearly pro-
duct of one acre of his farm to purchasing read-
ing matter for his family.

MR. SPRING is at Mentone, where he has
been ordered to remain in absolute rest for at
least six weeks.

BENJAMIN FRANKLIN, in 1789, left \$5,000
for a fund to make loans to young mechanics.
The fund is now \$200,000.

MARSHAL CAMBROBERT has received from King
Humbert a magnificent portrait of the late King
Victor Emmanuel.

A TELEGRAPH Congress is to meet in London
in July next, for the purpose of agreeing upon a
uniform international tariff for telegrams.

It is intended to place a telephone under the
Atlantic, so that oral communication may
shortly be held between Wales and the United
States.

It is expected that the Prince of Wales will
arrive in Paris some time this month, and that
he will make an inspection of the works of the
Universal Exhibition.

A FASHION paper at Baltimore says: "Gail
Hamilton began losing her hair, but by persist-
ent anointing of the parts with raw onion,
not only arrested the process, but has produced
a second growth of quite a different and slightly
reddish colour."

PROF. DANA, the eminent American geolo-
gist, is quoted as saying of the first chapter of
Genesis: "Examining it as a geologist, I find
it to be in perfect accord with known science;
therefore, as a Christian, I assert that the Bible
narrative must be inspired."

HERR SIEMENS, the inventor of toughened
glass, believes and boasts that he has now dis-
covered a method by which glass broken only
under enormous pressure can be manufactured.
If this process is cheap, he will probably find a
great success.

DURING the Paris Exhibition, under the aus-
pices of the Central Commission it is proposed
to establish two powerful electric lights at the
summit of Notre Dame, so arranged as to il-
luminate the public buildings for a great dis-
tance round.

At the Stanley lecture, the Prince of Wales
is said to have asked Midhat Pasha if he had
found the discourse interesting. The answer is
said to have been, "We Turks have more need
now than other people to take an interest in ex-
peditions into unknown lands, since we may
soon have to seek among them for a home."

HOBART PASHA will resign his command, and
there is every probability of his receiving a high
post in the English navy. His knowledge of
the Turkish waters would make him a valuable
acquisition to the Admiralty should hostilities
break out. Colonel Baker, we hope, will also
be restored to the service of his country, for he
also has had his experience, and shown splendid
qualities.

ARTISTIC.

A MONUMENT to Leini Rollin in Pere La
Chaise was unveiled recently. MM. Cremieux, Vic-
tor Hugo and Louis Blanc delivered addresses.

It has been decided that the Salon shall re-
main open a month longer than usual this year, so as to
give all the visitors to the great Exhibition an oppor-
tunity of seeing it.

It is proposed to place a bust of the late George
Cruikshank in Westminster Abbey, or to erect a memo-
rial in St. Paul's Cathedral, should the requisite funds
be forthcoming.

It is announced that Mme. Thiers will present
the wonderful portrait of her illustrious husband, by
Bonnat, to the State. It will be placed—we hear—in the
Luxembourg Palace Gallery.

HUMOROUS.

I WILL never purchase lottery tickets so long
as I can hire a man to rob me at reasonable wages.

"CLERGYMEN," remarks an exchange, "like
railway brakemen, do a great deal of coupling." Ay,
yes; and then the coupled ones do all the switching.

SOMEbody will have to devise a quicker way
of taking off an umbrella and putting on an ulster, or
there will have to be a weather reform, that's all.

You can get a very good idea of "natural
selection" in its practical workings by viewing a celery
glass after it has been once around the table.

"WHAT is enthusiasm?" asks an exchange.
"Why, my dear fellow, it is that degree of pleasure
a man feels when he has the boy across his knee who hit
his "plug hat" with a snow ball."

A SIX-YEAR-OLD, who was found putting him-
self outside of various good things at a rapid rate just
after complaining of inward griping, explained to his
wondering parent that he "didn't mean to leave any
room for that stomach ache."

WHEN they get telephones in the hotels, it
will refresh the weary traveler who is sent up to the
fourth floor, to sit down quietly and impart to the clerk
down in the office his private opinion of that functionary's
conduct.

THE man who comes to the depot two minutes
behind time, and sees the railroad train sending out at
the other end, derives no satisfaction from the proverb,
"Better late than never."

A YOUNG lawyer, who had been admitted
about a year, was asked by a friend, "How do you like
your new profession?" The reply was accompanied by
a brief sigh to suit the occasion: "My profession is bet-
ter than my practice."

A TOM cat is a more independent animal than
man. When a man comes home at 2 or 3 o'clock in the
morning he slips in as quietly as possible, but a Tom cat
doesn't seem to care. The later the hour, and the nearer
the house it approaches, the louder it will yell.

OUT in Dakota, the other day, a stage load of
passengers were compelled to hold their hands above
their heads while a gang of highwaymen robbed them.
One of the victims, who remarked, "This is a high-
banded piece of business," was allowed to keep a watch
for his humor.

As several shiftless citizens have so far failed
to clean their walks down to the darging, and as this
course will certainly result in slippery places and much
fallen humanity before spring, we are moved, in the in-
terest of morality, to suggest that "Thunder and mo-
lasses" is a term that may be made to express the feel-
ings of the most severely bumped individual, while it is
free from the favour of profanity apt to be found in ex-
pressions used by people of hasty temperaments suddenly
brought to grief.