

BY A VIB-VY.

Be quiet, restful heart. The long light lies  
In corners of lingering sunlight on the hill.  
The blue-tinted shadow, twittering as he  
flies,  
Makes silence seem more still.

THE WORLD OF SCIENCE.

Estimating Measures.  
It is often useful to have a few ap-  
proximate data to deduce weights and  
measures from. Here is a correct ta-  
ble, which, however, does not aim at  
great accuracy, but may serve to make  
a rough estimate when it is necessary  
to reduce measures.

A pint of water weighs nearly 1 pound  
and is equal to about 27 cubic inches, or  
a square box 3 inches long, 3 inches  
wide and 3 inches deep.  
A quart of water weighs nearly 2  
pounds and is equal to a square box  
of about 4 by 4 inches and 3 1/2 inches deep.  
A gallon of water weighs from 8 to  
10 pounds, according to the size of the  
gallon, and is equal to a box 6 by 6  
inches square, and 6, 7 or 7 1/2 inches  
deep.

A cubic foot of water weighs nearly  
63 pounds (more correctly 62 1/2 pounds),  
and contains from 7 to 8 gallons, ac-  
cording to the kind of gallons used.  
A peck is equal to a box 8 by 8 square  
and 8 inches deep.  
A bushel almost fills a box 12 by 12  
inches square and 24 inches deep, or  
2 cubic feet.  
A barrel of water almost fills a box 2  
by 2 feet square and 1 1/2 feet deep, or  
6 cubic feet.

Petroleum barrels contain 40 gallons,  
or nearly 5 cubic feet. *Manufactures  
and Builders.*

A South Pacific Expedition.  
The English Arctic Exploring ship  
Albert is being fitted out for a new sur-  
veying trip, which, *Nature* says, will be  
carried out principally in the South Pa-  
cific. Her first work will be an exami-  
nation of the inner water leading from the  
Straits of Magellan to the Gulf of  
Penas, along the seaboard of Chili,  
from this she will stretch across the  
South Pacific Ocean from Fiji, adding  
en route as far as practicable to the  
present knowledge of the hydrography of  
the Low Archipelago—Society and  
Friendly Islands. After a few months  
spent in the neighborhood of Fiji, and  
in an examination of dangers lying in  
the track of navigation between that  
group and the colony of New Zealand,  
she will, for the latter part of her voy-  
age, be employed off the northwestern  
coast of Australia, principally in ascer-  
taining the positions of, and as far as  
necessary charting, the various surfs  
and islets lying off the Australian con-  
tinent, and between it and the ports of  
the Netherlands India, and at many of  
which reefs, etc., traffic has been for  
some time increasing on the search for  
trepan, pearls and guano.

Domestic Science.  
Fresh meat, after beginning to sour,  
will sweeten if placed out of doors in  
the cool air over night.  
Kerosene will soften boots or shoes  
which have been hardened by water,  
and render them as pliable as when  
new.  
Blue ointment and kerosene mixed in  
equal proportions, and applied to bed-  
sores, is an unfailing bed-bug exter-  
minator.  
Boiled starch is much improved by  
the addition of a little sperm, or a little  
salt; or both, or a little gum arabic dis-  
solved.  
Salt will curdle new milk; hence in  
preparing milk porridges, gravies, etc.,  
the salt should not be added until the  
dish is prepared.  
People sneeze because they lie with  
their heads thrown back, and there is  
consequently a dropping of the under  
jaw. To break the habit, sleep with  
the mouth closed and the chin low.  
Persons may outgrow disease and  
become healthy by proper attention to  
the laws of their physical constitutions.  
By moderate and daily exercise men  
may become strong in limb and muscle.

Relative to changing the clothing, it  
is considered hazardous to lessen its  
amount after dressing in the morning,  
unless active exercise is taken immedi-  
ately. No under garments should be  
changed for lighter ones during the  
day, ordinarily. The best, safest and  
most convenient time for lessening the  
clothing is in the morning, when the  
first dress for the day.

The Telephone and the Torpedo.  
Fresh applications of the telephone  
are being constantly discovered; the  
latest is that of a torpedo tester. That  
"infernal machine," as it was once  
called, is a valuable means of protect-  
ing harbors and undefended seaports  
from an enemy's fleet, and important  
ports are furnished with them. They  
are, of course, not actually in position,  
but they are stored ready, their places  
fixed, and they can be laid at a very  
short notice.  
When required for service they are  
moored in determined sites, and at a  
certain depth below the surface; they  
are connected with the shore by elec-

tric cables, but they are also fired by  
contact with a ship's keel, which com-  
pletes an electric current and produces  
an explosion. The fact is obvious that  
if any trust is to be placed on these  
means of defense, some method of fre-  
quently testing them is necessary.

Hitherto that object has been attain-  
ed by sending a work crew of wire-  
men through the wires, and the base,  
say, by a wireman. It is now proposed to  
indicate the condition of the conduc-  
tors. For fear of exposing the torpedoes  
to only extremely weak currents can  
be used, and the consequent indications  
are so delicate that they can scarcely  
be trusted. An engineer has applied  
the telephone to testing the torpedoes  
by sound. The instrument is placed  
with the vibrating diaphragm upward,  
and the latter is so loaded with a num-  
ber of small movable weights that ex-  
ery motion of the torpedo causes a vi-  
bration of the disk and a corresponding  
noise in the telephone on shore. Every  
torpedo thus becomes its own indica-  
tor, for if no sound is heard in the re-  
ceiving instrument the fact is evident  
that the torpedo has grounded, or the  
connections have been severed. The  
wires used to fire the torpedoes are as-  
sailable for the telephone, and one of these  
instruments on shore, applied consecu-  
tively to the different cables, will serve  
to report the condition of any number  
of torpedoes laid down in a port.

Evolution.  
From the time in which the earth was  
vapor, "without form and void," it  
seems that there has been a gradual  
process of development all the way  
along. In fact the earth attracted kind-  
red elements, assuming shape under  
the law of planetary motion, it con-  
densed and cooled on the surface, and  
then conditions were ripe for the pro-  
duction of a certain order of life. Pass-  
ing on from the mineral stage, there  
came into being a colossal species of  
vegetable life. Compared with the  
succeeding forms it was the rudiment-  
ary effect of a principle of life of power  
in the act of embodying, localizing and  
maintaining itself. After the mineral  
and vegetable kingdoms, the animal  
was the next in order, according to the  
conditions which made the animal king-  
dom possible as an advance from the  
vegetable—the lowest forms first—the  
eyeless and shapeless slugs of the sea—  
the land animals—the fowls of the air,  
the clumsiest as to size and movement;  
then the finer and more fully developed  
of the species. From the creeps of the  
ground, we find the head is lifted  
gradually in the different species from  
the horizontal to the upright position.  
Man appears at last as a necessary re-  
sult of the grand process. He only  
stands erect, while other forms of ani-  
mal life, measured to their lesser spheres  
of capacity and position in the king-  
dom, assume the leaning or less com-  
manding posture.

Man, physically, is the perfection of  
organic forms. He is the completest  
expression of the common principle of  
life and power. He is the end of the  
law of evolution as he is the fulfillment  
of it. He is the immediate conception  
and the last link in the chain of  
created things.

If man is an improvement upon all  
humbler forms, whose respective chain  
of being form the links which reach al-  
the way from unorganized matter to  
matter organized and perfected in  
shape, why should he recoil from the  
thought that he descended from the  
monkey?—*Indianapolis Sun.*

A Way Passenger.  
He was a "cuddled tramp," and ap-  
proached Captain Jase Phillips as the  
train halted up at Pewee. "Is you de  
capt'n' ob de kears?" "Yes," replied  
Jase. "Don't want to ter hire any  
drunk hand, do you?" "No," I'm not  
running a steamboat." "Zach'ry! Mount  
I ride straddle ob de cow-satcher to de  
nex landin'! Ise busted an' a long  
ways from home." "Get on! All  
aboard!" and the negro straddled the  
"cow-satcher."

Ed Gilligan pulled out the throttle  
wide open, and the train had not gone  
more than half a mile before the engine  
collided with a cow, throwing it over a  
fence into a cornfield, and the negro  
after the cow. Next day, coming down,  
the negro limped up to Jase at the  
same depot and said:  
"Boss, I didn't ride for wid you on  
dat cow-satcher. Kase you see de  
cow wanted to ride dar, too; an' dey  
wan't room for' bote ob us, so we got  
off together up here in a co'n field to rest.  
De next time I rides wid you lie freeze  
to de tail-gate ob de wagon—hit's safer."  
—*Louisville Courier-Journal.*

Village Commercial Schools.  
Young men in the country are greatly  
imposed upon by being led to believe  
that certain schools called "commercial  
colleges," located in villages and small  
cities, are about as good as the first-  
class institutions that can only be found  
in large cities, where the patronage will  
warrant the necessary outlay, and that  
the cost is a little less; while the fact  
of the case is, there is little difference  
in the cost to the student, but an im-  
mense difference in the facilities.  
It would be cheaper in the end to pay  
three prices for the privilege of attend-  
ing the first-class institution, where the  
proper facilities are furnished, and  
where the reputation of the institution  
carries weight and influence, than to  
waste one's time at the cheap institu-  
tions, if it could be done free of charge.  
Time is more valuable than money, and  
when once lost cannot be regained.

The Bryant & Stratton Chicago Busi-  
ness College, located in commodious  
and elegant rooms at 77, 79 and 81  
State street, has unequalled facilities  
for furnishing a business education.—  
*Exchange.*

A young lady, on being asked where  
her native place was, replied: "I have  
none; I am the daughter of a Methodist  
minister."

Coffee.—This is M. Sayer's mode of  
making coffee: He puts the dry coffee  
in the pot and stirs it while heating; he  
then pours the boiling water over it,  
which is a quart to one ounce of coffee,  
and sets the pot where it will keep hot,  
but not boil. It stands ten minutes  
and is then ready for drinking. Where  
cream cannot be had, boiled milk serves  
as a substitute in making a good cup of  
coffee.

FARM, GARDEN AND HOUSEHOLD.

Ornamenting Gardens.  
In the ornamenting and beautifying  
of gardens the Chinese take rank with  
any other nation. By means of a car-  
riage of winding walks, they make a  
small place appear twice as large as it  
really is. Innumerable flower pots, con-  
taining a great variety of beautiful ac-  
cessories, of which they are very fond, are  
arranged in beautiful combinations.

Plant Orchards.  
A young man starting out in farming  
can do a better thing than to plant  
an apple orchard if his land is within  
"the apple belt." Don't rely on the  
general and deceiving old trees of the  
life of an orchard, under favorable con-  
ditions, is only about that of a man.  
Nothing will lift a mortgage, or run up  
the price side of the account, like a  
price received in its first years of bear-  
ing. Go for the standard varieties, or  
such as experience has proved will  
do best in your locality and soil. Theories are  
good in their place, but a day spent in  
driving through your town and finding  
out what fruit growers have actually  
learned and done, is better. Get your  
trees from some reliable nursery, the  
owner at hand the better, and use your  
own best sense and other people's expe-  
rience in planting them.

Improving Stocks.  
Those who first introduced into our  
country the improved breeds of stock,  
who paid from \$1,000 to \$2,000 for a  
Meyne bull or a Durham bull, a Suffolk  
pig, or an Essex pig, were laughed at  
as examples of folly, but where is the  
sentimental man who does not now see that  
they were benefactors and promoters of  
their country's good—who does not now  
see that the improvements of our stock  
is worth a thousand times to our coun-  
try what these innovations cost? And  
who does not see that those who have  
given the example of thorough culture,  
of mixed husbandry, of a rotation of  
crops, of understanding of these man-  
ufactories and creameries, have been  
the promoters of the farmer's good?  
These improvements have all been first  
introduced by the so-called scientific  
farmer, not of necessity the classic stu-  
dent, but by those who think and act in  
accordance with scientific principles.—  
*Rural Home.*

What is an Hallucination?  
By hallucination is meant, in scien-  
tific phraseology, such a false percep-  
tion of one or other of the senses as a  
person has when he sees, hears, or  
otherwise perceives as real what has no  
outward existence—that is to say, has  
no existence outside his own mind, is  
entirely subjective. The subject is one  
which has special medical interest, but  
it will be seen to have a large general  
interest, when it is remembered how  
momentous a part hallucinations have  
played sometimes at critical periods of  
human history.

Take, for example, the mighty work  
which was done in the deliverance of  
France from English dominion by a  
peasant girl of eighteen—Joan of Arc,  
the famous Maid of Orleans, who was  
inspired to her mission by the vision  
which she saw, and the commands  
of other holy persons. Now, as there are  
few persons nowadays who believe that  
St. Michael really appeared to this  
uneducated maiden, and as few, if any,  
will doubt that she herself sincerely be-  
lieved that he did, one must needs sup-  
pose that her visions were hallucina-  
tions generated by the enthusiasm of a  
mind which was in a singularly exalt-  
ed strain of religious and patriotic feel-  
ing.—*Popular Science Monthly.*

In Russia.  
The brilliantly-covered signboards  
give the streets of a Russian city a par-  
ticularly gay appearance. At almost  
every corner you come upon a Byzant-  
ine-looking shrine of the Virgin, with a  
number of Russians in front of it, bare-  
headed, crossing themselves. You meet  
the Virgin in various other unexpected  
places—in railway stations, in post of-  
fices, with a little oil lamp flickering at  
her feet—even in the drowsy look-ups,  
where tipsy mujiks can be heard yelling  
all day and night. The behavior of the  
people in the streets is quiet and civil.  
If a Russian knocks against you, he  
begs your pardon with a sincere show  
of contrition; if he sees your nose turn-  
ing white in the cold weather, he picks  
up a handful of snow and rubs it with  
a brotherly officiousness till the circula-  
tion is restored. All along the popu-  
lar streets peddlers saunter, selling  
dried mushrooms, cotton handkerchiefs,  
religious prints, white bread, and frit-  
ters, but few of them shout. Pigeons  
infest the roadways with impunity, for  
they are held sacred. Even if a Russian  
were starting, it would not occur to  
him to knock one of the birds on the  
head or cook it. Dancing bears are  
also to be seen in great numbers, and,  
though not sacred, are great favorites,  
and always draw crowds, who laugh at  
their antics like children, for Russians  
are very easily amused.

The First White Man on American Soil.  
A writer in the *Journal of the American  
Geographical Society* cites Alexander von  
Humboldt's "Cosmos" as authority for a claim that a Jew was  
the first white man who set foot on  
American soil.  
The Jew, however, had been baptiz-  
ed. In a note in volume II, chapter  
xv, Humboldt relates that, on his first  
expedition, Columbus, when approach-  
ing the island of Cuba, believed himself  
to be between two Chinese ports. Desir-  
ing to hand the letters which he pos-  
sessed from the European monarchs to the  
"great khan of the Moguls" in  
China, and then return to Spain, he  
"sends a baptized Jew, Louis de For-  
tes, by name, to the shore, because he  
understands the Hebrew, the Chaldaic,  
and some Arabic, those languages be-  
ing used in all the mercantile places of  
Asia."

DOMESTIC RECIPES.

Chocolate for Infants. Grate a pound  
of very finely add powdered sugar  
until increased until very creamy.  
Chocolate for Sick. Two cups of sugar,  
half a cup of butter, half a cup of milk,  
three cups of flour, half a cup of  
cream, the whites of six eggs, and  
sufficient of baking powder.

Apple Tapioca Pudding. Pare and  
core two apples. Fill the openings with  
butter and sugar, put into a pan a  
heaping teaspoon each of dry tapioca  
and sugar to each apple, put in the ap-  
ples, sprinkle ground cinnamon over  
them, fill the pan nearly full of water,  
and bake.

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HUMOROUS.

Don't marry a widower," said the  
old lady. "A widow made family like  
a plate of cold potatoes." "Oh, no,"  
said the young man, "I'll marry the  
widow, and she'll die."

A professor in Leipsic University ask-  
ed a student what the Aurora borealis  
was. Putting his finger to the side of  
his head and looking wise, the student  
said, "I know very well, but forget just  
now what it is." "There," said the  
professor, "we are in a fix, the only  
man in the world who ever knew what  
the Aurora is, has forgotten."

At a railroad station, lately, an eld-  
erly Irish woman, who had arrived a few  
seconds after the train had started, set  
off to run after it. She of course soon  
came to a halt, when she began to abuse  
the inconsiderate engineer, adding  
with a "nate" brogue: "Faugh! the  
great black ugly lump! When she gets  
as cold as me, he'd, she won't run so  
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