

From Smoke to Pen.

The fellow who has ever given himself up to the delight of quiet half dreamy thinking as he ^{watches} the curling smoking clouds of smoke jack away into the atmosphere has entered into a world of peculiar fascination, and charm. Seated before a crackling fire, as the flames and smoke fly hither and thither in and out among the carefully arranged bits of wood, and finely chase each other up the chimney, and disappear from our view forever, there is a peculiar charm which comes from contributing to the movements of the fire by blowing them from our oddest and strongest pipe, great clouds of smoke, and watch them gracefully follow the ever moving currents

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of air, and find their way into the
midst of the smoke and the flame
of the burning wood. Some how, I can
quite explain it, but somehow, it
seems to form a connecting link
between our poor inner minds and
the great universe out there beyond
the walls which shut us out from its
glories, as well as its terrors. If, by
good fortune, we are permitted to enter
into a free life, less conventional, and
more immigrating, the mystic beauty
of such an hour of meditation is multiplied
many fold. If in place of the room
of a comfortable house, we can bask
in the balmy air of God's out of doors
seated or half reclining against some
great tree, while the flames of a great
camp fire mount higher and higher before
us, and shut us from the world by
the ever thickening walls of darkness
which the on coming night erect

about us, there is even a better and
a freer opportunity for that quiet kind
of thinking in which we delight. In
the clouds of smoke from our pipe we
create for ourselves a world of im-
agination, and with delight watch
it as it is carried away to the great
world beyond, and make ourselves
believe that the image of the mind
is the photograph of the world printed
upon the sensitive mystic films of our
secret being.

It is one of the evidences of "good
manners" in this house of mystic thought
among fellows of the craft, to tolerate
with seeming interest the narration
of ~~of~~ the experiences of the wondering
mind, and excuse personal idiosyncrasies
as they present themselves, in the
name of good fellowship. By the aid
of my pen, I try to bring to you some
of the thoughts which I delight in when
the strange烟 of the pipe and the fire

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are upon me.

It may seem to the uninitiated that such an hour can bring only the most common-place frivolous ideas, which are really not worthy of it; but, perhaps they are not but each fellow feels that his own are very important, and in such an hour he is ~~likely~~ bound to come into the presence of the best thoughts of his life. To him at least they are valuable, and who does not like to present some of his valuable for public examination.

But one observes that in this peculiarity resides ~~that~~ the great habit is to build from the few gleanings of our experience and our readings, a wonderful and beautiful world of imagination, true only to what we for the moment think is true, or what we would like to true. Then we carefully examine our world of make believe to discover how it will stand the test of working, to use a term which belongs to the shop. For example we take quietly down

on flour of weeks confounding trif. we ¹⁵
start in with a few facts such as ~~in~~ ^{at} face
these time when our vacation comes,
how much money we have to devote to
it, what kind of a vacation we want.
Perhaps it comes during trout fishing
season. We want to be out of doors
and our supply of funds is limited.
These few facts we have gleaned from
our daily experience. With them as
a stock in trade for the time before
the fire, we light our fire, settle back
into the easy chair, and take our
preliminary fishing trip right there
before the fire. The first step after the
cheerful wood is on us is to figure
to ourselves ~~the~~ just the kind of a trip
that we would like to take under the
existing limitations of time and money.
So we let our fancy take us along to
the stores of some quiet lake, where
fish are plentiful, black flies and

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marguerites are few, firewood abundant
and a good spring of water near by.
One foot we bring together all the parts that
we know about fishing and in the quiet
of our room plan the ideal fishing trip. But
of course this sort ideal does not exist
in any concrete place, and we begin
to hunt about for some spot that is within
reasonable distance, which conforms
more or less closely to our plans. We gather
our outfit, look up the schedule of trains
and file in most detail the arrange-
ments necessary for the execution of the
anticipated vacation.

Thus insensibly we have been dragged
from our meditation, up through the chimney,
or down out through the door into the active
world, and in due time we take our va-
cation, and submit our delightful ideals
to the test of actual workability. Come
home square up our accounts, and store
up the fruit of the trip into the storehouse
of experience.

In this rather commonplace round

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of experiences, we have run the
gantlet of the philosopher, the poet,
the scientist, and the man of affairs.
The only excuse that I had for presenting
this rather tiresome illustration, is that
it contains the essence of what we
sometimes call the scientific habit of mind
or what is coming to be the common
method of dealing with all the various
problems that confront us in business,
social, and intellectual activities.

You must bear with me if such
abstract thoughts are uninteresting to
you. I present them in substance of
the manner of Bellinsky.

The one time method of philosophizing
was very stern, sour, and exacting as
regards the imagination. The old time
philosopher didn't deal very much
with what we call facts of experience.
He was a logical sort of a chap so he
preferred. He dealt with great big
assertions, and logical conclusions.

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He knocked about amidst the thin air
of speculative systems, not giving much
weight to facts of experience, except in so
far as they served as nests and bases
of reaction for shooting their logical
sky rockets, and watching them explode
into the gaseous glories of syllogisms
and theories. So far did some of these
thinkers about things allow themselves
to be carried by their childlike delight
in these philosophical fireworks of the
imagination, that ^{among} the so-called real-
ists ^{we find a few} ~~atheists~~ of the middle ages, who held
that the ideal, or the unrealized fictions, was
the reality. This characteristic of the
habit of thinking, which is more or less
Platonic in its nature, is well brought
out in the famous controversy over the
doctrine of Transubstitution. On the
one hand the Realists as they have come
to be called held to the notion that in
the celebration of the Eucharist, the
waffer and wine were actually trans-
formed into the body and blood of
Christ. The fact that the waffer and

nine, looked, tasted, and acted as
ordinary bread and wine, did not
disturb them in the least. & there were
accidents, said the wise ones, the revealed
mystery says that they are the body
and blood of Jesus, and so they are.
Of course the modern chemist would
have taken the material into his laboratory,
subjected them to analysis, and
said, "See for yourself what they are."
The old realist would have seen such
a one as would have said that the
fishings trip we find in our mind is
the real one, regardless of the black
flies, rainy weather, and four looks
that may be in store for us.

How much of the ^{inhibits of thought} change is due
to the subtle influence of meditation
perfused by the fragrance of tobacco
I cannot say. But it still remains
true to history that at about the
time that Sir Walter Raleigh intro-
duced the gentle art of smoking

into English Society, that a movement
was under way which was found
to change the habit of mind among
~~and~~¹⁰ men who try to think.

Amid the discordant, strange, and varied
philosophical systems, which are being
advocated in our time, there seems to be
emerging a sort of unity of method
which is very interesting and encom-
aging to one who likes to feel himself
free to think. It is the subtle influence
of the scientific man, upon those who
like to style themselves philosophers.
This new method is in essence the
method which we followed in taking
our vacation trip, ~~but~~. It is nothing
more or less than common sense, enriched
by knowledge.

I said that it is the product of the
laboratory, so let us examine this world
there. The engineer with his knowledge
of mechanics, and science is working
day after day upon problems related to

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the interests of his labor. He has a certain number of rather clearly defined principles, which are common stock ~~of~~ among workers of science. Acting in conformity to these laws, he works the arc-light, the electric water, the steam engine. The success of the particular machine depends upon the ~~same~~ and extent to which the machine in its detail conforms to those laws.

But it happens that one day as he is working over those same old machines with which he is so familiar, ^{he suddenly thinks} that they can be made after another pattern, which will work there more effective or less expensive. or the machine which has been used to propel cars on a track, can be used to propel carriages running free ^{upon} from the road. This new idea he sets out to demonstrate by actual experiment. After he has proved that it will work

he accepts it as a new addition, and sets about a new flow of applying his old methods. His projected plan, his ideal is accepted or rejected according to the decisions of its own actual experiment. Following this method the world of science has made its conquests, and achieved ^{the} wonders which have stunned, not to say fasolized the last century. To put the whole method of science into a nutshell, it might be framed something like this. The scientist takes it for granted that all phenomena conform to law or a system of law, i.e. that by reproducing conditions you can repeat experiments. He furthermore takes it for granted that he is capable of understanding discovering how these laws work and of working me of this knowledge.

This much he takes for granted, or¹³
at least assumes the possibility
of its being true, and sets himself
about the proof of its actual truth
by the process of experimental test.

If this general assumption is true
this law ought to act in this partici-
ular way. Then begins experiment
upon experiment, to prove or to dis-
prove the truth of the temporary
hypothesis. If the experiments
confirm the temporary hypothesis
it is accepted as true. If they do not
the temporary hypothesis is rejected
or at least is held in abeyance
until further investigations have
been made. The great test is Does
it work? If it does, accept; if it
does not, reject.

Following this method the scientific
world is in a constant state of

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progress, and is able to make great advances, because it is always open to the possibility of accepting new discoveries as fast as their truth and validity are demonstrated. It even stands ready to overthrow some of its ~~own~~ ^{long} father's ~~and~~ ^{old} established hypotheses, if the important new discoveries of low point ~~do~~ go to show that they are in error. Witness the recent discoveries in regard to Radium. The nut shell statement is this that the authority of the scientist rests upon the truth which he has been able to glean by experimental demonstration.

But the scientist is not ~~ever~~ ^{not} ~~ever~~ entirely free from narrowness, and in some cases we have had occasion to witness the rather

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absurd conclusions of such men
for example Haeckel who has gone
beyond the limits of hypotheses
whose workability can be shown
and given himself up to the
magaries ~~of~~ which have no
foundation upon ⁱⁿ undemon-
strated hypotheses, ~~and~~ forever.

Be that as it may, this method
of work is a great contribution
to the arts and sciences of life,
apart from any consideration
which the of the great scientific
truths which the use of the
method has given us. But greater
still has been its ^{influence} in other fields than
those commonly supposed to be
tilled by the scientist. Physics in
all its various and allied widely
divergent subdivisions, Chemistry,
Biology, and Geology and

other subjects have for years been under the sway of this method of investigation. Gradually the method has found its way into other fields where its application is producing a revolutionary effect. An illustration is the introduction into the study of history. Up to within a hundred years, the historian except the mere chronicler of events, has been in the habit of starting out with some theory of history and selecting his material for the purpose of demonstrating the truth of his theory. Of illustrations of this method you are familiar. Of late years there has been a wholesome change, and men are beginning to gather the material, the recorded facts of history, and try to give a picture of the actual course of events.

for the sole purpose of arriving at ¹⁷
~~the~~ as near as possible to the real
truth. Such the results of the new
method are particularly noticeable
in biogeographic literature. The old
method of ~~working~~^{working as a saint} ~~out~~
~~of a half breed~~ ~~into~~ ~~parts~~ ~~and~~ ~~sinner~~, has dis-
appeared, and we are coming to
the rather more sensible habit
of fainting men as they are. "Paint
me wants and all" said Curwell.
There is yet much to be done in the
way of rewriting history. Clinging
tenaciously to the old ideas in
regard to history has offered serious
obstacles to the acceptance of the
conclusions of the modern historians.
His work has been in many
respects more difficult than that
of the fine scientist. The scientist
was working upon virgin soil

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while the historian has been reclaiming old, and in many cases abandoned soil. But in the free and unprejudiced use of this scientific method in the field of history rests the hope of arriving at a comparatively true conception of the movement and significance of historical development.

In other fields of ~~the so-called~~ normal intellectual activity which deal with the facts of mental, social, and moral ~~life~~ phenomena this method is finding a wider application. For example in the study of law, the case system ^{is} ~~has been~~ taking the place of the old time legal text book, and the law student becomes the experimenter ~~of~~ in a legal laboratory. In this branch

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of social science, there is at present
the most ^{urgent} need of a wider applica-
tion of the scientific method.
Precedent is a great factor in
the administration of justice,
and the adherence to precedent
in legal affairs is the bugaboo
which holds our court adminis-
tration in the strong grasp of al-
most unbearable ~~conservatism~~ con-
servatism.

You are already accusing me
of smoking an unhealthily dry
brand of tobacco. That is true, but
dry tobacco burns quickly and
I am coming to the heel of the fill
just another stray idea concerning
this scientific method. The psycholo-
gist has taken it up, and with great
vigor is applying to the strange
fascinating facts of the mind both

in its normal and its abnormal conditions. More interesting than all it ~~has~~ working its way into the invulnerable strongholds of the philosopher. In place of the old logical machine, we find about us to-day the philosopher who is applying this scientific method to the problems of ultimate explanation. He takes the facts which the pure scientist gives him, the scientist his tools, the scientific psychologist, and all the rest, and with these as the working tools and material of his laboratory he tries to formulate a temporary hypothesis as to the underlying laws which are manifested in all the complex activities of the universe. This temporary

hyphotesis he tests, and verifies 21
by all the possible experiments at
his command. If it meets the
requirements of conditions, he accepts
the hypothesis as an approximate
approach to the absolute truth,
and makes it the working faith
of his life. This is the Period
of a philosopher that is coming
to the front to-day. He is already
quite well entrenched at Harvard
and Chicago University as well
as at other places of learning, and
bids fair to become the dominant
factor in philosophical circles of
this country. — The significance
of the application of this scientific
method to problems of philosophy
is not so much in the specific
ideas that are at any particular

woment held, but in the somewhat novel situations of always having in the house of Philosophy an open door, through which new truth may be admitted, and always enjoying a passion on all new truth that is offered it.

It has the immense practical advantage for every man, in that it permits him to become to a large extent his own philosopher. ~~that is~~ If every scientist, and philosopher is putting forth only such ideas as have been tested, we who are less sophisticated are more free to accept them as true, than we are to accept the fancies of a man who is grinding an axe. Not the claims on the moffer, but a practical examination of the contents is to be the method by which we shall accept and reject alleged truth.

where the promoter in these ²³ fields of intellectual activity has been left behind, and the honest unbiased scientific truth seeker has taken his place, we shall expect to find a true exposition of contents on every subject, and we shall be much more free to accept the conclusions of the historian, psychologist and philosopher for what they claim to be just as we were full certain that when the scientist tells us that certain laws are true, they are generally accepted as true among scientists.

After all this smoke, you say, there has ^{only} been a very small convection flame trying to find its way out. After all the

swoke has cleared away, what
have you done but to show that
all this "scientific method
business" is just flannel old
fashioned common sense. I
am glad to say that this is true.
But I believe that there is one
improvement in it. The scientist
rides himself on never going
off at half-cock, or flashing
in the face. This scientific
method is simple common
sense, supported, and backed
by wide investigation, and
broad range of knowledge.

The wonderful thing about it is
this: the while common sense
has been very common
among common people

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who were doing the ordinary jobs of life, it has been a mighty rare thing among those who have devoted themselves to these problems which are of a speculative nature.

The last puff at the pipe is at hand, and very naturally it contains all the strength of accumulated juices, if there be juice in such dry tobacco. It is this scientific method, now we are in seeing applied as a clarifying reagent to all the problems which confront us. Its great power, and significance are not found in ^{the} methods of which the work is done, ⁱⁿ the scientific system there are ~~four~~ ^{three} steps

- (1) The necessary assumption of some kind of a ~~good~~ provisional hypothesis.
- (2) The subjection of this hypothesis

to the actual tests for the purpose⁽²⁶⁾
of asking answering the question
as to whether or not it will
work.

3rd. If the test hypothesis stands
the test, accept as a truth. If it
does not, stand the test reject, and
try another.