

Animal Psychology

AS Welch

(perhaps
most
interesting.)

It is well known that Psychology analyzes, describes, and classifies, the faculties and characteristics of mind. It is not, perhaps, so widely known that there are several branches of Psychology, distributed according to the kinds of mind ~~they~~ they investigate. We have, for example Human Psychology and Animal Psychology, the

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latter a science that is lately born
and still a puling infant. Under
Human Psychology we have three
distinct sciences, namely, the
Psychology of the Mature Civilized
Mind, the Psychology of the Infant,
and the Psychology of the Savage.
Three varieties that present, by
the way, mental manifestations
that are strikingly different.

But Animal Psychol-
ogy, which as I have said, in-

investigate the revelations of
Mind in the lower animals,
being still an infant itself, has
as yet produced no offspring
which might be grouped togeth-
er in a sub-class of Kindred
Sciences. Nevertheless the grand
future of civilization, when des-
ultory thinking has diminish-
ed to its minimum and the
intellectual spontaneities even
of Man shall be scientific in

character, will beyond question
evolve such branches as Canine
Psychology. Feline Psychology.
Equine Psychology. Bovine
Psychology. and Quadruman-
al Psychology, in which I need
not say the Mental Characteris-
tics, be they few or many, of the
dog, cat, horse, &c. and Monkey,
will be adequately set forth and
compared. And Why NOT? Sci-
ence has already disclosed Mi-

merely the anatomy of their
bodies, Why not the anatomy
of their minds? If it be objected
that the material for such re-
searches is too obscure for sci-
entific scrutiny, I answer that
the triumphs of Science are great
in proportion to the abstruseness
and obscurity of the facts it re-
veals. If it be urged that the
faculties and feelings of the
lower animals are lacking

in those manifestations that Psychology classifies, then I reply that the manifestations of mind in the brute are but seemingly obscure and limited in number by reason of the fact that we have neglected to study them. There never yet existed on this earth a conscious faculty or feeling in man or brute that did not have its own particular mode of expression. The language of the

Animals is as real and often
as definite and as distinct as
the language of Man himself.
It is as absurd to deny its range
and fullness because we do not
understand its import, as it
would be to deny the reality of
the Japanese tongue for a sim-
ilar reason. From this igno-
rance of their language and
consequently of the facts it em-
bodies, sprang the preposterous

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Notions we entertain respecting
the characteristics of our hum-
ble and faithful servants in a
lower plane of life. Notions that
have found a permanent foot-
hold in the English tongue and
are made the basis of many a
striking Metaphor.

Some two years ago
a distinguished speaker said
in a lecture on this platform
that if we attempted ~~to~~ to compare

the mind of man with that of⁹
a dog, the supreme difficulty
is to get ~~at~~ the facts on the dog's
side. To this statement, I inter-
ed, at the time, a silent demurrer.
For whatever of mental power,
capacity or susceptibility is in
the dog, will reveal itself to the
patient observer in his actions.
Whatever element of mind be-
longing to man fails wholly to
manifest itself in the canine

conduct, must be wholly absent from the canine mentality. On the other hand if any faculty or feeling prominent in the dog is utterly wanting in human expression by word or act, it must be utterly wanting also in man's mental make-up. Moreover the grade of development in every actual faculty, be it high or low, will manifest itself and can be successfully compared

in Man and Brute. Now if such
a comparison were made through-
out with scientific precision and
completeness, it would probably
establish the fact that the hu-
man faculties and the canine
faculties do not differ in kind
but in degree. That the higher
intellectual powers such as
imagination, abstraction,
and reasoning. And we may
add to these the Esthetics, Emo

tion, and the moral sense, which are all Measurably developed in civilized Man, are merely rudimentary in the dog. While on the contrary, in certain powers of perception and certain elements of higher judgment to be mentioned farther along, the dog would be found, beyond all question, superior to the man. Of course such results from minute comparison, could be

established as scientific facts
only after a wide induction of
particulars on both sides. They
would be found true of the av-
erage civilized man and the
average civilized ~~dog~~. Any
careless declaration that they
are true of two special exam-
ples, however, would, as seems
to me be hazardous. When you
say that a particular man is
superior to a particular dog,

14 in the qualities named, the
truth of your statement de-
pends very much on who the
man and who the dog is. To
call a man who is wholly self-
ish, sensual and besotted, a
dog, is an insult to every re-
spectable canine and ought
to be followed by an ample
apology. ^{It was Macadam de Stael} But recurring to the
statement that the comparison
we are attempting, is beset with

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difficulty in getting the facts
on the dog's side, let us ask
what are the actual manifesta-
tions, he makes, of a Mentality
identical with Man's so far as
it goes.

Does not the Canine
growl express anger quite as
effectually and far less offens-
ively than the rough profanity
of an infuriated human being?
Do not his crouching attitudes
and beseeching look often evince

a humility the same in kind
and quite as genuine as that
of the Eastern Suppliant when
he prostrates himself before
the Grand Lama? Is there
any more doubt of his love
for his Master as expressed by
the Caudle Muscles and the
glowing eyes, than of the same
emotion when displayed in
a radiant human face?
And when he stands as the

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faithful sentinel that protects
a sleeping family from mid-
night marauders, are his sense
of responsibility, his devotion and
his courage different in kind from
the same high qualities of heart
and mind that incite men to ful-
fillment of similar trusts? May more,
when he gives his life in defense of his
charge, does he not exhibit a capaci-
ty for self-sacrifice which only the
highest-human characters are capa-

He of imitating? Or when, as
 proven by ^{more than one} ~~many~~ an instance, he
 follows his dead Master to his burial,
 despairingly throws himself upon the
 New-Made grave, and lingers there
 until death relieves his inconsolable
 grief, Who shall say that the dog, in

his higher development, is incapa-
 ble of the same love that sometimes
 absorbs the human heart and ren-
 ders it utterly self-forgetful? For
 "Greater love hath no man than this,

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I tell you that if all the
heroic acts dared and done by the
nobler specimens of the canine
species, were gathered into annals
they would constitute a history where
in one could read innumerable
instances, of deadly peril averted,
of property saved from destruction,
of human lives rescued from
death by flood or flame, through
the fidelity and intelligence of a
noble animal.

Nor shall we find
the dog falling very far beneath
the lower levels of humanity, if
we compare ~~if~~ the intellectual fac-
ulties of the higher specimens with
those of the lowest samples of the
savage tribes. Some of the more
degraded of these are, as is well
known, nearly destitute of an ar-
ticulate language. They express
their scanty ideas with a sort of
cluck or a few painful gutturals

that can hardly be reduced to
verbal script. Some tribes of
South America, who have not suf-
ficient power of generalization,
to perform the simplest operation
of counting, have, nevertheless
microscopic eyes of wonderful
power, eyes that discern in an
instant, whether the grass dis-
turbed yesterday by a footfall,
was trodden by an enemy or a
friend. The constant struggle

for food, and the constant-pres-
ence of danger have evolved, in
these savages, an acuteness and
delicacy of the senses which may
be looked upon as some slight
amends for the dwarfed condi-
tion of their higher intellectual
powers. Just so it is in a still
greater degree with the lower an-
imal whose character we are con-
sidering. The exclusive exercise
of his senses in his various cer-

vicus to man through a thousand generations, has developed and transmitted by inheritance, a quickness and keenness of discernment in sight, hearing, and smell, that his more obtuse master can scarcely comprehend; while, on the contrary, his logical processes, though well nigh infallible in certain specific directions, are, beyond

question, comparatively stunted
in extent. Of the three senses nam-
ed whose rapidity and range
in the dog, far surpass those
of man, his sense of smell es-
pecially, as is well known, has
attained a rapidity and nice-
ty of perception which no
other animal, whether quad-
ruped or biped, has ever reach-
ed. The hounds of various
kinds follow with bent head

and at full speed, the fresh²⁷
track of the game they hunt
and seldom lose the subtle
scent that leads them on.

No living creature but the St.
Bernard dog, could ^{find and} guide
the lost traveler safely through
the blinding snows of the Al-
pine Mountains. No living
creature but the Scotch Collie,
could have collected seven-
hundred lambs scattered

over the hills on a night
whose darkness was so dense
that the Eltrick Shepherd, who
vouches for the truth of the
wonderful feat, could find
with his own obtuser optics,
Neither dog nor flock. The
recorded proofs that many dogs
possess a vivid and ready mem-
ory gained through special
training, ^{as} are ^{so} numerous, to settle
the fact beyond all question.

Of course in the absence of verbal language an accurate retention of ideas gained through the senses, will be manifested mainly through the act of recognition. One instance is that of a dog ^{owned by Chas. Darwin} which joyfully recognized the voice of his old Master, whose person was invisible, after an absence of five years. Another sample resting on good authority, is especially interesting & -

Cause along with a wonderful Memory, it shows an acuteness of perception and an accuracy of judgment of which any member of the human family might well be proud. A Scotch Collie just arrived and therefore strange to the premises, was employed by his New Master in separating two herds of Cattle, that, occupying adjacent Meadows, had broken down the intervening fence

and mingled together in one.

The New Collie, obeying special orders, drove out each of the intruding herd as pointed out by his Master and showed himself an expert-herder. The fence being repaired, man and dog departed together, but the latter straightway took it into his dog's head, that the keeping of these herds apart, was his his bounden duty. Accordingly

he repaired next day alone to the same spot and finding the fence broken down and the cattle intermingled as before, singled out from memory, and drove into the other meadow, each one of the invading herd, then mounting guard in the gap patiently awaited the coming of the owner.

A case of obvious
reasoning is also on record.

A dog under observation track-
ed his absent-Master to where
three branching roads ran in the
same general direction, without
much divergence. He at once
tried to scent his Master's track
on two of these, and failing to
find it, took the third, at
full speed, without-hesitation
and without further scenting.
This intellectual operation, if re-
duced to syllogistic statement,

would read as follows.

My Master has taken one of the roads,
A. B. or C.

He has not taken B. or C.

Therefore he has taken the road
A.

But the most remark-

able intellectual triumph
achieved by dogs that have
been trained to high intelli-
gence, consists in successfully
finding their way home from
remote places where, to all

human appearance, they lack
the data for judgment as to
distance and direction. In
this particular phase of in-
tellectuality, they certainly ex-
cel all other living beings ex-
cept perhaps the migrating
birds and the carrier pigeon.
It would be hard to believe,
unless the fact was authenti-
cated by testimony which ad-
mits of no question, that a

36 Scotch dog left in Calcutta,
returned by sea in ships of
his own selection and by
land on foot, all the way
from thence to his home in
Fifehire, Scotland, wholly
without human guidance.
Beyond all question a-
chievements of this charact-
er involve the very highest
exercise of perception, mem-
ory, judgment, and delib-

eration.

If all the animals on this Earth, including man himself, the dog has physically and mentally the most flexible organization. Think of the thirty varieties including as many different forms, and ~~six~~ ~~est~~ and phases of mind, each adapting its possessor to some special branch of service to man, and each used

produced by man through
training and practice and
selection and inheritance,
until the lapsing centuries
have given us the most striking
specimens of modification
by use and disuse; Have
given us, indeed, the massive
jaws and fierce nature of
the bull-dog in contrast with
the pointed nose and quick-
lier heart of the greyhound,

the tiny poodle you may
hold in your hand and the
ponderous Mastiff that blocks
your way. In short Every
possible illustration of the
plasticity which adapts
mind and body to the sup-
plying of human needs.

So that if we may
characterize structure by
displaying its functions,
Society, from the earliest

40 Savage to the latest sage, has
tracked its game, punished
its enemies, defended
its friends, detected its
thieves, protected its prop-
erty, and discovered the de-
positories of stolen goods,
guarded its sleep, drawn
its sledges and carts, turned
its spits, run its errands,
tended its flocks, gathered
its herds, destroyed its ver-

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Min, rescued the Traveler that
had lost his way, saved lives
that were in peril, amused
its idle women and its bru-
tal men, brought cheerfulness
to solitude, consolation to
age, innocent-diversion to
youth. And even given to its
babies their first lessons in
zoology, through the willing
agency of this faithful ani-
mal. His bones are found

42 Along with the earliest-rude
vestiges which the primi-
tive savage has left us, his prog-
ress, like that of man is the
combined product of inherit-
ed powers and personal ef-
forts. And his history is contem-
poraneous with the history
of the being he serves. * Cuvier,
the distinguished Naturalist,
who studied &haustively his
origin, his changes of form

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and faculties that responded
so rapidly to changes of treat-
ment and his great value to
human advancement, de-
clared that civilization could
never have emerged from
barbarism, *and reached its highest level* without his help.

An opinion to which we may
safely give our hearty assent,
so far as it applies to civili-
zation in its incipient stag-
es, but against which we

44 May properly enter a protest; When affirmed of civilization as it now exists. For a world that has evolved the steam-engine, the power-loom, and the printing press, could probably make a shift to get on without the dog, if under prevailing social influences ^{he} should ever organize a general canine strike and set up a government

of his own.

x But now the position we have taken that the canine faculties are similar to those of Man but differing in degree, involves the further question "Can the dog be educated?" If by education we mean the systematic discipline and development of faculties already strong and active, the question may

46 be unhesitatingly answered in the affirmative, and many a dog under careful training has verified the statement.

But if education means the mental training given to civilized youth wherein the higher intellectual powers are developed and cultured by severe, systematic exercise, then it is ob-

vious that neither the dog nor
the lowest savage can be edu-
cated. For no educating process
can bring feeble rudimenta-
ry powers into full growth and
vigor, in a single generation.
Or more concretely, an Afri-
can Bushman whose ances-
tors, near and remote, have
never learned to count, could
never become proficient in arith-
metic because the ^{abstracting and} classifying

faculties employed in counting,
 have been transmitted in a
 dwarfed and torpid condi-
 tion. Yet who denies, for this
 reason, the existence of those germs
 in the savage out of which our
 own higher faculties were evolved
 by the training of a hundred
 generations. Even the dog has
 been taught to count and to
 spell though, ^{it must be admitted} his mathemat-
 ical and literary attain-

Ments are limited.

A few years ago. I was a personal witness of the response he gives to persistent instruction, even in an unpromising direction. It was no less than a canine performance in vocal music, given in the presence of a few friends of both sexes by the owner of an intelligent Rat-Terrier ^{in New Haven, Ct.}. The dog entered the room in company

with his Master, walking easily
on his hind feet; took his seat
and sitting bolt upright like
other people, began a vocal
accompaniment to a slow
tune played on the harmon-
ica. His tune was perfect, but
the harmony, though very re-
markable, was, it must be con-
fessed, not quite equal to that
of a well trained choir. As he
sang, he looked around curi-

iously for applause, and his manner of elevating and depressing his nose on the high and low notes, was a whimsical imitation of the old-fashioned singing-master. At the close of the concert, he exhibited a trait that was especially human, and showed, moreover, that he called in courage, at least one of his auditors. Leaving his seat without being

prompted, and, still walking on his hind toes, he deliberately kissed, in succession, all the ladies of his audience.

But having thus far in the treatment of our subject, given the dog his due, let us take a quick survey of the more striking manifestations of intellect in the whole range of the animal Kingdom. For it is a principle in Psy-

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chology that the Character of
its Manifestation is, When
rightly interpreted, an Ade-
quate index to the Faculty
that puts it forth. Moreover
if there be found anything of
beauty or worth in the out-
come of a Faculty, it is to be
set down without reserve to the
credit of its possessor. If the
product of any series of in-
tellectual operations shows

peculiar excellence, it will com-
 pel the recognition of peculiar
 capacity in the mind producing
 it, whether belonging to a quad-
 ruped or ^a biped. Nor will it
 make the slightest difference
 with the conclusion we reach.
 When setting the rank of a
 mental faculty, by scruti-
 ning its products, whether the
 processes by which these prod-
 ucts are evolved consist of

the slow and laborious steps
called deliberation or the cap-
id and infallible steps called
instinct. The opinion has ob-
tained even among philoso-
phers, that reason and in-
stinct are widely different
powers, whereas the truth is,
they are the same powers un-
der widely different rates of
speed, and facility of action.
Let an operation of reason

be so deliberate that every suc-
 cessive step is a Conscious one,
 and you have an example
 of Reasoning - But quicken
 the same operation to light-
 ning speed so that its steps
 baffle memory and defy anal-
 ysis and you have an exam-
 ple of Instinct. The slow
 and Conscious effort is Reas-
oning, but Reasoning reiterated
 with severe exactness in

identical lines, slowly but ⁵⁷fi-
nally, culminates in the same,
flashing spontaneities which
constitute instinct.

Now these infalli-
ble spontaneities that spring
from deliberate, specific ef-
fort, when confined to narrow
lines, become so intense and
uniform that they are trans-
mitted through generations,
so that many mental process-

⁵⁸es both of man and the lower animals, are simply inherited spontaneities. One more distinction and we will leave the metaphysical side of our subject. Instinctive action being composed of a series of spontaneities, is incapable of variation - must run in uniform channels. It is deliberate reasoning alone that, though far inferior to

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distinct in quickness and pre-
cision, is capable of striking
out into new directions. And
just here lies the immense
superiority of civilized man
over the lower animals and
over the savage tribes as well.
For to speak within bounds,
at least one half of the entire
period which man has occu-
pied on this earth, was desti-
tute of the inventions, arts,

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implements. Weapons, fabrics, which are the outgrowth of deliberative reasoning; I say civilized man is superior, vastly superior to the lower animal and the lower man, in the wider range and the infinite diversity of deliberate thinking; but he is far inferior to many of them in the special intellectual operations that are instinctive. Through the whole

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range of Mental action, we recognize in language the higher character of the knowledge that is instinctive when compared to the same knowledge gained by painful effort.

An instinctive Geometrician or Physicist; is a term that implies more complete acquisition in these sciences than those which are the tardy results of perpetual powder.

62 ing. Instinctive good man-
ners are certainly superior
to deliberate good manners.
Instinctive truth-telling is a
nobler moral habit than de-
liberate truth-telling. In the
latter method of veracity the
will might fail occasionally.
You could pay no higher com-
pliment to a female ^{prima-donna} ~~artist~~
than to say "He sings like a
bird." I well remember look-

ing on when a Chicago Audi-
ence burst into prolonged and
rapturous applause over an
exquisite imitation of the
Mocking bird by Patti. But
the ovation that was sponta-
neously offered to the artist
really belonged to the ~~Mock~~
~~ing~~ bird; for imitation how-
ever Excellent Never ^{quite} equals the
original.

Further when any member

of the human family receives, as a rare legacy from his ancestors, that deep and subtle power of intellect which instantaneously changes deliberate, original thinking, into instinctive thinking, then we call it genius. And so we see that genius is, on its instinctive side, akin to the more striking qualities of mind in some of the lower animals such as the sagacious Collie dog and the carrier pigeon, while it is infinitely wider and more versatile

on its deliberative side. And beyond
all question genius is an inheritance.

The Wren

Thus surveying and gen-
eralizing the whole field of facts that
bear on the subject we are warranted
to think in the following conclusions,

Namely:

1. That civilized man is vastly su-
perior to the savage and the lower
animals in the versatility of deliberative
thinking, that is, the slow thinking
which extends the range of thought

and pushes it into new lines.

2. That the more intelligent of the lower animals are vastly superior to civilized man in the infallibility of instinctive thinking, that is, the swift thinking that runs in old and well worn channels and never misses its mark.

3. That though generally true, there are remarkable exceptions to the above statements wherein each party crosses over on to the others territory. For

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there are some men, though the number
is limited, whose currents of thought run
only in well-worn channels and are
sluggish and muddy at that. And
there are some animals (and their num-
ber is greater) whose currents of thought
overflow the narrow gullies of instinct-
ive thinking and cut new channels for
educated horses
themselves in a wonderful manner.

That member of the monkey persuasion
who was employed by an African fam-
ily to find water in time of drought,

68 Showed a Keenness of discernment
and deliberation through the in-
tellectual senses, that would put
many a human well-digger to the
 blush. He knew more in that line
than the whole family. The Ceylon
Elephants, employed in moving
and arranging heavy timbers,
make successfully the nicest calcu-
lations in the adjustment, the bal-
ancing and steadying and
checking the too great momentum

of the ponderous bodies they raise.
The truth is, the old time classifications
of the mental phenomena as con-
trasted in the civilized man, the
civilized infant, the savage, and
the lower animal, are by no means
clean cut distinctions. They over-
lap each other on the borders, and
the lap reaches often to the centre
of each fabric.

But in ampler sup-
port of the statement that while

Civilized man is superior in the range and versatility of his deliberative thinking, he is inferior in the swifter and more concentrated movement of instinctive thinking, let us try a rapid induction of germane particulars, which we can carry along far enough to see where it will end.

Language, which is the art of expression, is rather clumsily divided into two great branches

es, namely, Natural language
and artificial language. The
first consists in the instinctive
sounds, motions, gestures, atti-
tudes, by which every faculty
and feeling manifests itself to
those present. The second is com-
posed wholly of articulate sounds
adopted in the beginning by gen-
eral consent to express the various
phases of human emotion, desire,
and thought. The first is an

72 inherited and the second an
acquired language. The first
is used by man and the lower
animals in common. The sec-
ond is a vehicle of communica-
tion mainly, but not wholly, for man
alone. ^{Dr Parrott} The first is narrow in
range, but intense and spontane-
ous in expression. The second
is wide in range, opulent in its
methods, and conscious in its
utterance. In short, the first is

instinctive language, and the second is deliberative language.

Though it must be confessed that in the rush and gush of words that sometimes issue from the human mouth it seems to have lost its deliberative character, and to verge closely upon instinct.

But the same distinction of thought pointed out between civilized man and the lower animals, holds also between de-

74 liberative and instinctive language.

My growl of anger is far less expressive than that of a bull dog, but I can give utterance to that passion more variously though less forcibly by help of significant sounds. I cannot express exultation by a single whoop half as effectively as a cock can crow it. I am unable to give utterance to my idea of the

beauty of Melody, quite so well
as a Mocking-bird. But if I
were only a poet, I could fill vol-
umes with the superior Music of
Metrical Verse. In My youth, I
flattered myself I could sing, but
in the midst of a solitary vocal
performance I was sadly disheart-
ened by a younger member of the
family, calling up anxiously to
know "What in the world was the
matter ^{with} ~~of~~ me".

In fact, in this comparing of
 myself with the lower animals, I
 am discomfited all around the
 entire horizon of art. Some men
 have done a good stroke of busi-
 ness in burrowing but they can't
 enter the list with the mole or the
 gopher, and neither can I. In
 attempting to follow a straight-
 line, I cannot compare even with
 the bee whose stores of food I
 despoil and devour. If lost in a

distant-wilderness, I fail to find
my way with the unhesitating
facility with which my dog would
find it for me. I have not even the
skill in milking a cow that the
white ant exhibits in milking the
aphis, which it keeps and trains
as a domestic animal, neither
am I, like some animals, an
infallible weather prophet. In
all the constructive arts, I am
equally inferior. I cannot weave

fabrics with the oriole or do Marou.
 work with the swallow. Nor erect,
 with the finest-tools, any structure
 which shall compare in Mathe-
 matical accuracy with that of the
 honey bee, nor build, by personal
 effort, any habitation that will
 not shrink into insignificance
 beside the highly artistic and
 complicated architecture of
 the aforesaid White Ant. I
 might indeed have equalled one

of these specialists, by devoting
My life to his branch of Business,
but then again he would possess
the
immense advantage over me of
having inherited such fitness of
structure that the function fol-
lowed with comparatively little
training. In the whole art of
nidification ^{or nest making} My actual at-
tainments are so limited, that
somebody else has to assume the
daily task of making my nest

for me.

(Now I should be glad to turn from this humiliating aggregate of personal deficiencies, to find a drop of consolation in comparing myself to my fellows, but even that comfort is denied me. I cannot play ball with the juniors, cook with the domestic economists, preach with the president, compose with the distinctive

Celerity of Editor Clarkson, nor
compare with the seniors, in
the facility and beauty of my
handwriting. I sometimes think
I can teach until some boy whose
heart I am unable to inspire
with a thirst for knowledge,
takes the conceit all out of me
in that line. "Fame has thinned me ^{German name} ~~German~~"

I am a bundle of
melancholy failures and the
only consolation that is left

me, after a life of hard work, is to lay the blame on my ancestors. The fact is, I am the innocent-victim of the dwarfing and paralyzing effect of disuse in the lineage that lies behind me.

Thus in the matter of handwriting. My father, God Bless him! being a greasy mechanic, had very little time for the practice of penman-

ship. My Grandfather, a small
farmer, who eked out a precarious
income by extempore preaching,
has left behind him a speci-
men of Chirography that resem-
bles the hieroglyphics of the Eg-
yptians. A remoter ancestor, who at-
tained the distinction of Deacon
in the Church and Captain of
the old Militia, was too much
occupied with the sword to
give proper attention to the

pen. And so on backward
till we reach my great, great,
and so on ten times repeated,
Grandfather, Who, like some old
So Gargery, grasped his pen
as he would his dagger, and
stretching behind for support -
one of his better limbs, bent
over so close to his manu-
script, that his mouth and
tongue and nose and the
skin of his forehead all took

part in the painful operation. ⁸⁵

Now all this egotism,

(with its stemming depression from the
argument, ^{in comparing myself with the more intell.} would be without mer-

^{animals}it, were it not really & right in

line with my subject. For it shows
how any intellectual faculty, and
specially any manual art, must
struggle up through generations
of strenuous endeavor and per-
sistent practice ^{whether in the man or in the animal} before it reaches
the unerring spontaneity of an

distinct, and becomes, as with the
~~lower animals~~, transmittable by
 inheritance. An instance in point
 on the human side
 is that of the Bachs in Germany,
 in whose family line great musical
 genius along with consummate
 skill in playing the organ, was
 handed down from father to son
 for eight generations, covering
 a period of 250 years.

But let us close
 with a quick glance at another

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phase of the obscure classification,
by which, under the term reason,
the noblest men and the most
degraded savages are grouped
together and set off against another
group covered by the term instinct,
which associates the most sagacious
animals with creatures whose in-
telligence is scarcely distinguish-
able from that of a horse-block.
In other words the whole human
family from Plato to a felicity and

Stolid Esquimaux, are specimens
 of the common endowment-called
higher Reason, and the Millions of
 species from the Trained Collie-
 dog to the Microscopic Protozoon,
 which has neither Mouth nor Mo-
 tion, are samples of the common
 endowment called brute instinct.
Now it is impossible to find one
 record a more stupendous Hun-
 der, born of hasty generalization,
 than this, and let wonder in-

creases to amazement; When we
consider that the colossal Gallacy
is the product of the most accom-
plished thinkers, that have ever lived.
The vast class whose spheres are,
on the one side, the Websters and
the Gladstones and on the other
the Bushmen and the Wild Bor-
neans, are the only rational creat-
ures on this planet; While the in-
finitely greater number of living
organisms which commence with

90 the dog and the elephant and
close with the diminutive mo-
hads that still live, ^{and thrive} when turned
inside out, these are separated
from men by the whole diameter
of being and lumped off togeth-
er as exhibiting alike the myster-
ious phenomena of animal in-
stinct. Is there not more difference
between Gladstone and the Bush-
man, than between the Bushman
and the dog? Indeed if we com-

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save the most degraded Savage
with the most intelligent Canine, is
not the Mental Contrast in favor of
the latter?

Or Compare finally a
trained Newfoundland, who runs
on errands and exchanges Money
for Meat at the Market, with his
Master on the one hand and with
the headless dog on the other.
His brain in the Number and ar-
rangement of its parts and many

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of his Mental Characteristics are
not in striking contrast with those
of the man he serves, while with the
oyster, ^{in which the brain is entirely lacking} who has no brain at all, he
has no community of traits what-
ever.

Thus have I given you a
distant glimpse of a vast and un-
explored territory, that of animal
intelligence, and if, imperfect as
my effort has been, it shall incite
to further study of the novel

fact disclosed to the student; My
purpose will be accomplished.