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~~Vegetal soil~~ The 4 agents of annual
And plant in forming vegetable
Soil ~~was at~~ has been supposed
to be of importance in a geological
point of view — ~~The~~ ~~Other~~ Plants
draw from the soil — one part of
the constituents elements and from the
atmosphere & still more considerable
part = By absorbing them from the
air carbonic acid — common & other
gases — which may have been derived
from the decomposition of distant matters
or from the interior of the Earth from
volcanic vents — they may accumulate
in particular spots — a great deal of ~~vegetal soil~~
which does not pass off as such — This
agent of humors is often accompanied
by lightning its effects — It is caused
when with an animal of the
artificially direct of animals —

those tubers are another matter
though of small import as geological
This is the common earthworm which
abounds in nearly all cultivated ground in
every part of the earth. - This animal
burrows in the earth doing damage to many
instances and with them quantities of earth
which it discharges at the mouth of its burrow
in the form of worm casts. The tendency
of this process is to bring portions of soil from
beneath the soil to the surface - and to
such an extent - is thus effected that in a
few years a layer of casted humus is formed
on the ground where worms abound. - And as this
by animals grinds all coarse substances
~~the effect~~ of the layer which the process is
of the first mould and all the crustaceous
are thus mixed beneath the surface - a change
well known to happen to time and the
mixture appears to be perfect. - C. M. D.
also recently published a paper on this

Subject has given me - examples which
show - the rate at which this process may
proceed - (Mr. Perry Co) -

In this country the earth worms are not
so abundant as in Britain. They are
found extending into the ^{meadows} ~~prairie~~ of culture - and
of course, more far apart at intervals as well
of the effect of the spouts - of few acres
of land had been recently offered in its surface
was smooth and polished - like the new cut
of their neighborhood - and only a few shallow weeds
had begun to grow upon it - All the time when
I passed over it there had been a few weeds
of dry weeds - and the earth worms which
had already colonized it had come to
surface with little piles of casts - only open little
mounds apart - which was - rendered by casts
of the absence of weeds - At the end where
grass was supposed to be pushing the holes that are
seen on apparently level ground - he added that
the surface -

Pathum

Edward March

Maurice

History of the

From this hill you see
a tract of level green - and land
edged by an arm of the sea behind which is
a cultivated country with blue hills
in the background. We will proceed.

Now we would descend a rather
steep bank till we are upon
the marsh - There it spreads before
you in one light mass of green
of various tints some when here &
there a patch of white clay
shows its line - as you advance
you perceive that our woods
hilly but the surface of the marsh
~~without even a ditch or a ridge~~
and as you advance you perceive
that the uniform surface is divided
by rows of ditches composed of grey trees
& earth into rectangular portions
the tops of different heights - on
of which are bounded with a cup

Full grass and there are grassed
& some of large fine leafy cattle -
Haw Sweet is the perfume of that
field of white clover & here among
the cattle ~~with~~ feed on it & some seeds
food - Cattle have a keen smell
& no doubt enjoy the perfume of the green
food - At a time can you see over
the whole extent only two solidly
low for many days - here we cup
a deep muddy gully with a small
stream of water creeping through it
This as you see & its appearance is
filled & the lake at high water -
The road is much lower than
it appeared from a distance - levels
always decrease in crossing them Enter
- At length we have arrived at
the verge of the marsh there I could
be called for there is nothing but an irregular
steep sloping looking descent to the
thick red water which rushes along
with the carry tide, We have walked
near 2 miles ~~then~~ the marsh - And

all this has been deposited & water in
impalpable dust - Now you need not
feel it between your fingers there is not
a Nam the rise of a pin head in the
whole deposit - The thickness of the bed
you see in the ~~center~~ of this ~~deposit~~ of ~~min~~
1000 feet below its surface of the water -
but we must go on along the river banks
the fens - when we all have a long run to
land as it is a ~~supposed~~ new high water
- The tide you see when ~~high~~ reaches
to the level of the marsh and in that
high water which ~~gives~~ to ~~unpulsed~~ part
you see the means of the ~~primary~~ of ~~the~~
deposits - Show that it looks as if you could
draw a map of fluid muds
Here however it is ~~exactly~~ ~~clearly~~ is
our mark for this is ~~away~~ ~~along~~ the edge
of the bank - This clay is ~~not~~ ~~between~~
and ~~remains~~ - the water ~~near~~ ~~potholes~~
to ~~works~~ its surface - say then ~~hills~~
increased at high water a vast ~~thickly~~
of ~~thousands~~ ~~upstream~~ ~~which~~ ~~no~~ ~~cloud~~

they would not believe if we ventured upon
them. - It is odd that to call such a
kind of country a marsh for I am sure a distance
of 3 miles you never find in you
up - This country you will remember
is the best part of mine - Here comes
the ferry boat - now we are embarked &
you have an opportunity of trying for yourself the
currents of the water, it is not so strong as
seemed - There he is at the little old
French settlement of Minutia - Here you see
a small piece of newly reclaimed marsh
Its surface is low & at a distance has
a kind of shaggy pattern which makes it
look well though in reality perfectly dry
This proceeds from the pieces of the settlement
on a new view you see a few more
marks upon its surface where mine I
cannot tell you - & here you see well clearly
one of nature's purposes for every vegetable will
~~absorb~~ The earth around them have always
effected a lodgement & at every few inches
there are a heap of these earthy stubs
fitting just a surface for the reception
of seeds - I now allow you wish to feel
the water sandier you was standing
in the ferry boat & now