

Washington 10 Feb 1835

Dear Sir

I have the honor to acknowledge with profound
pleasure & satisfaction

I recd yesterday morning the ^{first of} ~~of~~ 29th ult 2nd ult. the last

of which would have been more promptly answered had
it not been necessary to obtain the results
of the experiments suggested by you last ^{year} surprised
me in the acts of ~~answering~~ ^{complying with your request} ~~of your other suggestions.~~

Having in part anticipated your last suggestion of
experimenting with delicate nervous & sickly audts. or
I could transact ^{important} ~~business~~ ^{as they are} repeat the experiments
according to your last ^{sight} ~~now~~ as practicable since you
the results of the flattening process in which you speak
of my public efforts to promote physiological science by
deliberate prosecution ^{less rapid} ~~of experiments~~ is very gratifying
indeed to my feelings. I hope the ^{upward} ~~downward~~ ^{competition} ~~competition~~ in the
condemn or exonerate of your ^{nature's} ~~nature~~ delicacy after you
submit to me the result of your chemical analyses of
the Breath of Gastricum. is highly satisfactory & important
& shall be duly appreciated. I hope - It will afford me
great pleasure to obtain news from you for further analysis
an alkali of Gastric juice so soon as I can collect
it pure - Since you can ^{see the necessity} ~~have~~ I have doubted my diligence
of prosecuting my experiments ^{on different occasions} ~~with due attention~~ ⁱⁿ ~~to~~ ^{your} ~~my~~ ^{instructions}. if possible
than before, though now ^{more} ~~less~~ ^{able} ~~able~~ of my industry to do that
justice to the subject. from ^{your} ~~my~~ ^{instructions} so plainly observed the
your present specifications talents stand of ^{so easily} ~~so easily~~ ^{as} ~~as~~ ^{they}
& finding ^{most} ~~most~~ ^{convenient} ~~convenient~~ ^{convenient} ~~convenient~~ results

I most carefully submit to your examination
the products of the experiments you suggested in yours
of 29th ult. together with my field notes (to borrow an
expression) made on the occasion - I also send, through
the kind agency of Mr. May I found the first specimen
of the product, of several small minute experiments on
different articles of diet. which ~~if they should~~

Dr. Parry

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they be deemed of sufficient importance. I should like to have
 submitted to chemical analyses & to be informed of their
the following results. I have just obtained the last no of
 the Am: Acad of Physiol London & have but scarcely perused. In
 many of your Physiological works - though the author
 handles the subjects generally with gloved fingers, he seems
 inclined to pink a little on some points & particularly that
Stomach digestion &c - and thought ^{you} the suggestion allusive
in you Book on that subject need nothing but their own
 conclusions, to ~~justify~~^{support them yet} ~~the~~ experiments. I think with your
 assistance & shall be able to afford you the exposure
 not only to prove their citrus, but to make their
 record with severity. if you choose, upon the authors
^{using orange} that book of the Philadelphia Physiologists. on the subject
 of digestion. the Gastric juice. are radically wrong. though
 "only not the test-tube", but demonstrated multiplied facts &
 experiments to prove - of which were another -
 in accordance ^{with fact} to your "supposers". I took a gr of fresh soured
 Lotion. & dilute Muriate and, reduced with water, as nearly as I
 could judge, to the by the sense of taste, to the natural acid flavor
 of the Gastric juice. & submitted to it a proportional ely of the
 following vegetable substances - an entire square pea. 10 grs. of boiled
 parsnip & the same of boiled carrot. & also the same time. immersed
 the same gr ^{kind} of vegetables. in a gr of Lotion - ^{and diluted} to about the same strength & flavor with the muriate. - ^{as placed}
^{near} with my other ^{ely} ~~test~~ on the bath. of 100° Fahr. for 48 hrs & then took
 out ~~to~~ ^{the} test-tube on the bath. of 100° Fahr. for 48 hrs & then took
 and dissolved the respective juices - the carrot in ^{the} gastric juice ^{had} lost nothing. but remained whole dinner. The parsnip had lost 2 grs
 in the authors estimation. back par ^{now} moved it down - after the before
process of both remained melted in their soluble qualities ^{supposing them}
^{& frank} affinely disruptive agents, before the "symmetric obtrusion" of
 their selfish mucus. & tends Physiological Theories on this
 Subject -

after continuing them on the bath, with frequent agitation. ~~for~~ ^{in the moderate measure} he longer
the Person, had lost 4 gms. whether dissolved or its very soft &
tender substance merely diffused. I was not able to determine - the content
remained the same as when put in - the Person in ^{this fluid} another
had lost 6 gms. red corpus 4 - but appeared now to be much more effused
than dissolved, or digested - I now mixed these all together, & continued
to treat him on the bath 24 hrs longer, at the end of which time, the
whole remaining mass of vegetables weighed together 13 gms only.
having lost one half in that time - the fluid appeared now more
chymous, was rather turbid & resembled more than any thing else
I can compare it to, the famous "Philadelphia Vegetable Soup"
made of "two Potatoes & an onion boiled to smash in a
qt. of water" - I send you the product as it is. Please examine
for yourself, & if you choose, let me know your conclusions.
upon this ^{other} as other subjects submitted - observing that after
the mixture, the wash of the vegetables became more evanescent
& rapid. I intended to mix the two acids together
first, & then observe their effect on meat - according to J.
mixed equal parts of the diluted acids, & saliva. into 310 of
this mixture add immersed 20 gms lean broiled ^{immediately} beef
fin with a knife. ~~not~~ ^{treating} this for comparison. put
the same qt. & kind of meat into 320. Gastrofin ^{the} placed
them on the bath, ^{treat}ing them together for hours - when the meat in
the gastrofin: taken out & filtered dry, weighed. 2 gms only. that in
the acid mixture, was not diminished in weight at all, but
had lost its fibrous form & became a gelatinous mass. thick
& tremulous, like half dissolved glue - not convertible into any
thing like chyme, nor bore ^{any} resemblance to the contents of
the gastric portion solution - after digesting 8 hrs longer on the
bath, the meat in the gastrofin completely dissolved & that in the acid mixture
nearly so, a trace of jelly-like particles only remaining on the filter - the fluid
now was a little more similar, though not alike - that of the gastrofin:
was opaque, of a light brown colour & afford^{ed} a dark brownish sedi-
-ment on standing - the other was also opaque, of a dark reddish
gray colour, depositing no sediment on standing - 3ij drachms of gall,
added to the gastric portion, threw down a fine colour reddish brown
precipitate & afford^{ed} an sem-transparent liquor, of similar colour

34 of the Sulfur added to the acid mixture. converts it a whole
into a mass of loose ~~coagulum~~^{mass}, & suspended throughout
the whole fluid, becoming finer by agitation & very shortly sub-
siding towards the bottom ^{after shaking, is not} offering a clear transparent
slightly yellowish fluid - I send them also for examination.

I would send more small experiments, but perhaps
they would not be of sufficient importance to excite
your interest ~~attention~~ or merit your attention -

The first paper shall be forth coming as soon as possible
& collect it in ~~get~~ ought support for you forward. -

I shall hasten the publication of my experiments as
fast as my abilities will permit, constantly with a view
to future benefit to science & credit to myself - Shall
be always happy to consult your judgment relative to
it - and ever ^{be ever} grateful ~~for your assistance~~ for your accustomed friendly
advice on the subject - Shall duly consider your suggestion
of making the ^{Dr. Hig.} "lim: down" of these 2 lemons. the nucleus of
any publication - I expect ^{soon} ~~shortly~~ to make an abstract
report of some of my most ~~recent~~ ^{recent} up to the
Sulfur you're reserving the main series for other &
further arrangement. which to my limited abilities seems
an Herculean labour - I shall attend to the experiments
suggested in your last. in due time & communicate the
result of my observations - I shall always feel gratified
grateful. for any communications & suggestions you
may be pleased to make on this or any other subject.

Please accept. Sir. the enclosed assurances
of my ^{very great} respect esteem & believe my

Professor Draper

Very truly & respectfully
W. B. Brewster