

An examination of Mr. Henry's strictures on Glass's magnesia / [Thomas Glass].

Contributors

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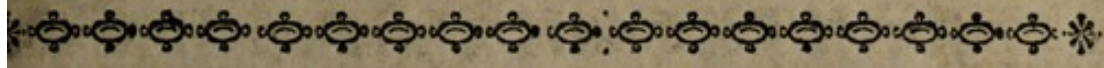
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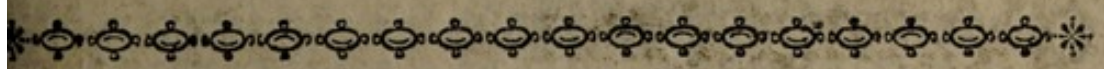
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A N
E X A M I N A T I O N
Of Mr. H E N R Y ' s
S T R I C T U R E S
O N
Glasf's M a g n e s i a .



[P R I C E] S I X - P E N C E .]



A N D

EXAMINATION

OF MR. HENRY'S

STRICTURES

ON

Glass's Magnets.



[PRICE SIX-PENCE.]

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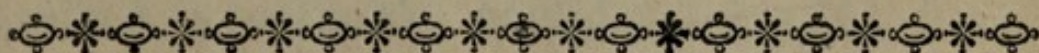
O F

M R . H E N R Y ' S S T R I C T U R E S

O N

Glass's Magnesia.

By T H O M A S G L A S S , M . D .



L O N D O N ,

Printed for R. BALDWIN, No. 47, in PATER-NOSTER-ROW ;
and B. THORNE, Bookfeller, in EXETER.

M, DCC, LXXIV.

EXAMINATION

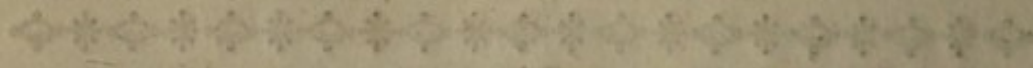
OF

MR. HENRY'S STRICTURES

ON

Glauk's Magnesia.

BY THOMAS GLASS, M.D.



L O N D O N

Printed for R. BALDWIN, No. 47, in Paternoster-Row;
and B. THORNE, Bookseller, in Exeter.

MDCCLXXIV.



EXAMINATION

Of Mr. HENRY'S

STRICTURES.

T
 O prevent the public from being deceived, and imposed upon, and the Person, of whom my Brother received a valuable consideration for his process of making Magnesia, from being injured in his reputation and property, by the false assertions and illiberal practices of *Mr. Thomas Henry, Apothecary in Manchester,*

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are

are the motives I had for taking on myself the very disagreeable task of examining his *Strictures on Mr. Glas's Magnesia*.

That there can be no calcareous matter in Magnesia, prepared from the bitter purging salt, and a lixivial salt of vegetables, dissolved in common water, I well know by the experiments, I long since made on that absorbent earth, which I discovered to be the basis of the Epsom, and common bitter purging salt. This discovery I communicated to several of my acquaintance, one of these was Dr. then Mr. Shebbeare, who, as the Public has been truly informed in the *Candid Enquiry into the Merits of Dr. Cadogan's Dissertation on the Gout*, p. 199, first of all prepared Magnesia, from that salt for medicinal use; and he sold Magnesia, produced from it, some time before Dr. Cadogan published his *Essay on the Nursing and Management of Children*; which was, if I am not mistaken, in the year 1748. For it was in consequence of
Mr.

Mr. Shebbeare's having shewn the Doctor some of his Magnesia, and acquainted him with the method of preparing it, that the Doctor first prescribed that Medicine.

If my discovery of preparing Magnesia from the bitter purging salt has been beneficial to mankind, I think that my Brother had, and that his Representative now has, on that account, as much reason to hope for the favour of the Public, as Mr. Henry, who flatters himself, that he has a superior title to it, because he has published a receipt for making Magnesia, which is in no respect better than that made according to the directions given by Dr. Black, and much inferior in purity, as well as lightness, to Mr. Glas's.

In the *Account*, which Mr. Henry communicated to the College of Physicians, of an *Improved Method*, as he calls it, of making *Magnesia*, he confidently affirms, *Medic. Transact.* vol. 2d, p. 229, "that he pro-

“duced Magnesia equally pure, white,
 “tasteless, light, and impalpable, with
 “that of Mr. Glas; nay, that sometimes,
 “that of his own preparing has been su-
 “perior to his.” The College not having
 seen, or at least, not having examined his
 preparation of Magnesia, gave him credit
 for the truth of his assertions, and ordered
 his account of it to be printed with their
 Medical Transactions.

But after his process had been published
 by the College, and the Magnesia, he had
 produced, came to be sold at Mr. Johnson's
 in St. Paul's Church-yard, any one, by
 taking up a box of it in his hand, might
 certainly know, that what Mr. Henry had
 affirmed of its lightness, was an absolute
 falsehood. And he then found himself ne-
 cessitated to acknowledge, that the Mag-
 nesia, he produced, was not equal to Mr.
 Glas's in lightness. But to ascertain with
 more exactness their proportional gravities,
 I made the following experiments: —

A pill-

A pill-box, being filled with Henry's Magnesia, reduced to a fine powder, its bottom was repeatedly struck upon a table to make the powder subside, and more of the powder was added from time to time, till it rose above the brim of the box, and could not be made to sink lower by the continuance of those concussions. After the heap had been struck off by a smooth thin rule, the Magnesia which remained in the box, and exactly filled it to the brim, weighed six scruples and one grain. The same box was filled, in the very same manner, with Glas's Magnesia, prepared by the person who purchased his process, and the Magnesia contained in it, weighed four scruples and nine grains. The same box was filled, as in the preceding experiments, with Magnesia, which, I knew, was prepared by Mr. Glas himself, and its contents weighed four scruples and seven grains.

Hence it is evident, that the Magnesia, now sold under the name of Mr. Glas, is
not

not lighter to an amazing degree, as Mr. Henry has endeavoured to make the Public believe, than that, which was prepared by Mr. Glas himself, after he had brought his process to perfection; but that Henry's is a third part, wanting but a trifle, specifically heavier than Glas's. When therefore this most accurate Experimentalist, to procure for his *Account of an Improved Method of making Magnesia* the honour of being inserted in the Transactions of that respectable Society, the Royal College of Physicians, affirmed that the Magnesia, he produced, was equally light with that of Mr. Glas, he affirmed a thing, which he could not possibly know to be true, but which, if he made any proper experiment to inform himself whether it was as light as Mr. Glas's or not, he certainly knew to be false. And from this flagrant instance of his want either of accuracy or of honesty, it may be guessed, what credit is due to the account he has given of his other experiments.

That

That the unequalled lightness of Glas's Magnesia is a sufficient proof of its superior purity, will be allowed by all proper judges. For Magnesia being lighter than any of the known absorbent earths, or neutral salts, as spirit of wine is lighter than any liquor, with which it can be mixt, and diluted, the purity of Magnesia, as well as that of brandy and rectified spirit of wine, is exactly proportioned to its specific gravity; so that the purer Magnesia is, or, which is the same thing, the less quantity there is of any heavier absorbent earth, or neutral salt, mixt with it, so much proportionably lighter must it needs be.

But Mr. Henry, whose view and design, whatever disinterestedness he may pretend, plainly is to ruin the credit of Glas's Magnesia, that he may introduce the sale of his own, assures the Public, that he has discovered the amazing light Magnesia, now sold under the name of Mr. Glas, to contain

tain no inconsiderable quantity of calcareous earth. I am confident my Brother made use of no other ingredient in preparing his Magnesia, than the bitter purging salt, the lixivial salt of vegetables, and running water. And the person who prepares the Magnesia, now sold as Mr. Glas's, solemnly declares, and says he is ready, if required, to make oath, that he has most strictly adhered to, and never deviated in any sensible particular from, the process delivered to him by Mr. Glas upon oath. And their preparations, so far as I can judge from the experiments I have made with them, as perfectly agree in all other respects, as in their specific levities. Having these presumptive proofs, that there is no calcareous matter in Glas's Magnesia, I suspected the Author of the Strictures on that Medicine might not have given a true and full account of his experiments, or have drawn wrong conclusions from them. And upon a fair examination of these it will plainly appear, that what he asserts of
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the impurity and calcareousness of Glas's Magnesia is evidently false.

The relation, which that very candid Gentleman has lain before the Public of his important and interesting discovery, is this. " On attempting to dissolve in the
 " vitriolic acid Magnesia sold under the
 " name of Mr. Glas by an agent of the
 " present proprietor at Manchester, I found
 " the solution very imperfect, and on cal-
 " cining half of the contents of the box,
 " it was with indignation, that I disco-
 " vered this Magnesia, so extolled, so puffed
 " in every News-paper, for its superior
 " purity and goodness, to contain no in-
 " considerable quantity of calcareous earth;
 " for the pungency of it was very disagree-
 " able in the mouth, and one scruple of
 " it impregnated an ounce of water almost
 " as strongly, as so much lime would have
 " done." Willing however, as he says, to believe, that this impurity might be accidental, he repeated the same experiments

on the contents of four other boxes of Glafs's Magnesia, bought of four different agents of the Proprietor. The Magnesia in each of them proved to be calcareous, and acquired the properties of quick lime by calcination; but that, which was in one of them, much more so than what was in the others. This inferior sort of Magnesia formed a very imperfect solution in the vitriolic acid, and the taste of the lime after calcination was so very disagreeable, that he was not free from it for some hours. The water, impregnated with it, was as strong to the taste as common lime-water, and the precipitate, which fell from it, on blowing air into it, was as copious, as he ever observed from that prepared with stone or oyster-shell lime.

From the strong impregnation of water with Glafs's Magnesia in a calcined state, it may be justly concluded, that the more subtilised particles of that absorbent earth, when it has been first purified and refined

to a certain degree, and afterwards deprived of its fixt air by calcination, unite with, and are suspended by the particles of water, in the same manner as the more subtilised and finer particles of the calcined absorbent earths of the calcareous class unite with, and are suspended by them. But it doth not follow, that calcined Magnesia is calcareous, because it partly dissolves in water, as the calcined calcareous earths do.

Nor will the disagreeable pungent taste of Glaſs's calcined Magnesia, and of the water, that is strongly impregnated with it, supposing this to be a real fact, demonstrate it to be adulterated with a calcareous substance. Glaſs's Magnesia, that has not been calcined, "is perceived by some particular persons to be not perfectly insipid, " which is a circumstance," as Mr. Glaſs has observed in his Essay on Magnesia, p. 11. "not owing to any defect in the " medicine, but entirely dependent on the " saliva, which is different in different
 C 2 " habits;

“ habits ; it may easily be obviated by first
 “ washing out the mouth with water.”
 This is certainly true, though an experimentalist, not able to account for it, should deny the fact. Every one however, who is not a stranger to Chemistry, well knows, that when quick-lime, or lime-water is added to urine, an exceeding volatile caustic spirit or vapour begins to arise on the first contact, which immediately strikes the nose by its fiery pungency. That the like kind of vapour is produced by mixing quick-lime with saliva and other animal matters. That the vapour thus produced owes its pungent odour to the volatile alkali, which entered into the composition, and made a part of those animal substances, before it was extricated from them by the lime. That those, who have attentively considered the natures and qualities both of quick-lime, and of the pungent vapor exhaling from animal substances, when they come in contact with the lime, attribute the corrosion of the skin and flesh, which follows

follows the application of quick-lime to a living body, not to the lime itself, but to the caustic vapor produced by it. *Boerhaave's Chem. Procefs.* xcvi. And that the disagreeable pungent taste of lime-water, complained of by most people, tho' by some more than others, is owing to the impression, made on the organs of taste by the volatile alkali, extricated from the saliva by the lime, which is in itself nothing else but an insipid absorbent earth, deprived of its fixed air by calcination.

It is also demonstrated by Dr. Black's experiment, related in *Essays and Observations Physical and Literary*, vol. ii. p. 209, that calcined Magnesia decomposes sal ammoniac, and sets at liberty its volatile alkali, in like manner as a caustic fixt alkali does. Now if the disagreeable pungent taste of water, impregnated with a calcined calcareous earth, is owing to the volatile alkali separated from the saliva by that earth; and, if the same volatile alkali which produces

duces that taste should also be separated from the saliva by calcined Magnesia; then water impregnated with lime, and water impregnated with the purest Magnesia in a calcined state, would have exactly the same taste. Was it therefore through ignorance of that well-known effect of lime on the saliva, that Mr. Henry, who has published *Experiments, Observations, and Remarks on the solvent qualities and powers of calcined Magnesia, and lime*, confidently asserts, that Glafs's Magnesia contains no inconsiderable quantity of calcareous earth; because the pungency of it when calcined is very disagreeable to the taste, and water impregnated with it, is almost as strong to the taste as common lime-water?

Hitherto it has been taken for granted, that Glafs's Magnesia is rendered acrid, pungent, and very disagreeable in the mouth by calcination; but as there is no proof of this, but the testimony of one interested person, who, as he has in another instance,
 may

may have also in this, affirmed a thing that is not; and as he himself “appeals for
 “proof of the truth of what he has af-
 “firmed, concerning the calcareousness of
 “Glafs’s Magnesia, to every respectable
 “person, who may now have any of it in
 “his possession, and will make the experi-
 ment,” and faith, “that he rests his cause
 “on that issue,” I determined to repeat the
 experiment.

Having in my possession part of a box of
 Glafs’s Magnesia, prepared by the present
 proprietor before Mr. Henry’s Strictures on
 it, advertised in the public papers to be had
 gratis, were published---I filled with it, being
 first powdered, a crucible, and covered it
 with another smaller crucible inverted. The
 crucibles after having been joined together,
 and closed with a lute, so that the Magnesia
 might not contract any impurity from the
 smoke, flame or ashes of the coals, were
 placed in a melting furnace, and kept in a
 strong melting heat for near four hours. On
 separating

separating the crucibles, that which contained the Magnesia did not appear to be half full. Some of this powder, thrown into water, made very acid with oil of vitriol, produced no air bubbles, and therefore was thoroughly calcined. A great number of persons, not at the same, but at different times, have been desired to taste this calcined Magnesia, without being told what it was, and being asked, what particular taste it had, each of them declared it to be quite insipid. Now as all the Magnesia, sold under the name of the late Mr. Glafs, has, as I am assured by the Proprietor, been prepared with the same ingredients, and exactly in the very same manner, if it had also been calcined, and treated in the same manner, in all respects, it is hardly possible, that one parcel of it, when calcined, should be quite insipid, and that other parcels of it should have the very pungent and disagreeable taste of lime.

But

But let the taste of Glafs's Magnesia after calcination be what it will, it may be absolutely ascertained by means of the vitriolic acid, whether any calcareous matter is contained in it or not. For Magnesia having absorbed as much of the vitriolic acid, diluted with a sufficient quantity of water, as it is capable of absorbing, forms with it a neutral salt, which perfectly dissolves in the water. But all the known calcareous earths, being fully saturated with the vitriolic acid, form in conjunction with it, an indissoluble, and nearly insipid concrete, which settles at the bottom of the vessel in the form of a white powder, or sediment. This is confirmed by the Experiments of Drs. Black and Lewis. See *Essays and Observations Physical and Literary*, vol. 2d. p. 166. *Lewis's Mater. Medic. Art. Calx viva*. If therefore uncalcined Magnesia, containing any calcareous matter, is put into water, acidulated with oil of vitriol, and the quantity of the acid is sufficient, or more than sufficient to saturate

the absorbent earths, and that of the water is sufficient to dissolve the regenerated salt, the saturated Magnesia will be entirely dissolved in the water, and the calcareous earth, that was combined with it, will be precipitated, and form a white even powder or sediment at the bottom of the glass; which white powder will be as exactly proportioned to the quantity of the calcareous earth, that was contained in the Magnesia, as the black powder, that falls to the bottom of the separating glass, when silver, containing some gold, has been dissolved in aqua fortis, is proportioned to the quantity of gold that was in the silver. Now if Mr. Henry, who gives directions and cautions to young experimentalists, as a perfect adept, is master of the art he professes to teach, he might, by a proper Essay of Glass's Magnesia with the vitriolic acid, have infallibly demonstrated it to be calcareous, if it really is so, and determined with the utmost exactness the proportional quantity of the calcareous earth, contained in the

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the Magnesia. But the account he has given the Public of his attempt to dissolve Glafs's Magnesia in the vitriolic acid, includes no proof at all of its being impure and calcareous, which will plainly appear from the following Experiment.

To eighteen drops of oil of vitriol, diluted with an ounce of river water, were added, being first reduced to a powder, twelve grains of Glafs's Magnesia, prepared by the present proprietor. The solution was very imperfect, and deposited a considerable quantity of a white powder. But this very imperfect solution of the Magnesia in the vitriolic acid is not a test, as Mr. Henry himself must know, of its having been adulterated with a calcareous earth. For eight drops more of the oil of vitriol, added to the solution, entirely dissolved the Magnesia, and there was not the least appearance of a white powder or sediment at the bottom of the glafs. To this solution were added half a grain of washed

chalk in powder, and three drops of oil of vitriol. The chalk, being saturated with that acid, subsided and formed a white even sediment or powder. Now as so small a quantity of a calcareous earth, added to a solution of Magnesia, and saturated with the vitriolic acid, produced a white precipitate or powder; the absence of a white precipitate or powder in the solution of Glafs's Magnesia, when it is fully saturated with the vitriolic acid, is an infallible sign and incontestable proof, that this Magnesia doth not contain any calcareous earth.

It may not be improper to observe, that lint washed off from the cloths, through which the solutions of the salts are strained, and particles of the spongy filtering papers, on which the powder is dried, as well as those of other foreign matters, unavoidably mix with, and adhere to the Magnesia; and that these particles floating in the solution attract the particles of the regenerated salt, unite with them, and form a very
small

small quantity of a light, flocculent, uneven sediment, which like other saline concretes, produced in the same manner, daily increaseth in bulk. If this sediment is mixt with hot water, and the water is boiled for a few minutes, the salt will be again dissolved, and if the liquor is poured into a glass, nothing will be deposited, but a trifling quantity of a brown or yellowish feculent matter. Whoever has seen this sediment, either before or after it was freed from the salt, and that white sediment, which is formed by a calcareous earth, saturated with the vitriolic acid, cannot possibly mistake one for the other.

But since it may be pretended that the purity of the Magnesia on which I made my experiments was accidental, I procured specimens of twenty-one different parcels of Glass's Magnesia; eleven of these were sent me by the person who prepared them, and he warrants them to be all of different makings. The other ten specimens I collected

lected from the like number of persons who bought it since Mr. Glas's disposed of his process, for their own private use, at Oxford, London, Bath, and Exeter. Twelve grains of each of those specimens being severally added to an ounce of water acidulated with twenty-six drops of oil of vitriol, the Magnesia was soon perfectly dissolved, and no sign of a white precipitate could be discovered in either of the solutions by myself or any one of the other persons who carefully examined them.

By the preceding Experiments it is, I apprehend, clearly proved, that there is no powder of chalk, crab's-claws, or any other calcareous earth, contained in Glas's Magnesia. That this refined Magnesia is nearly a third part specifically lighter than Henry's. And that it is as much superior in purity, as it is in lightness, to what is produced by that *ingenuous* Apothecary in Manchester. And I will now leave it with the judicious and impartial Public to determine, whether

ther what Mr. Henry asserts of the calcareousness of Glafs's Magnesia, in the Libel he obtrudes upon the many, to prejudice every body against the farther use of that Medicine, is not equally false, as what he asserted of the lightness of his own Magnesia, to induce the College of Physicians to publish his account of it in their Transactions; and make this a pretence to advertise in his bills, that his process for making Magnesia has been honoured with the patronage of that Learned Body.

F I N I S.

that what Mr. Henry asserts of the
 accounts of Olliv's Magazine, in the Libel
 is extended upon the many, to prejudice
 every body against the further use of that
 Magazine, is not equally fair, as what he
 says of the Libel of his own Mag-
 azine, to induce the College of Physicians
 to publish his account of it in their Tran-
 sactions; and make this a pretence to ob-
 vious in his Libel, that his account of
 the Magazine has been handled with
 the patronage of the learned body.