was neither pain nor tenderness of the abdomen, which was to the feel soft and natural; lochia natural. Wine was given in the quantity of a small glass every hour; and injections of beef-tea, each containing ʒss. of bark in powder, and 60 drops of laudanum. These were repeated as often as they were discharged, which was generally from one to two hours. After some hours the symptoms were improved. Next day the pulse was from 125 to 130; on the third day from 112 to 120. Thus she gradually recovered, having continued to take a bottle of wine in each twenty-four hours. For some time she suffered severely from an aphthous state of the mouth and throat, accompanied by burning uneasiness at the stomach, and pain in the bowels. These complaints yielded to a decoction of logwood.

II.

On the Doses of the Ancient Physicians. By E. Milligan, M. D. Lecturer on the Institutions of Medicine.

Happening, during last summer, to look into some ancient writers on medicine, my attention was particularly attracted by a feature of their practice of which I can no where meet with a satisfactory explanation. As the subject seems curious, it may, perhaps, be worth while to notice briefly in this Journal the results of a hasty inquiry into its origin and reality. To those possessed of more ample means of information they may appear jejune and puerile: and if any such condescend to correct their errors, by the same channel in which they are now humbly offered to their notice, I shall candidly acquiesce in this imputation.

The difficulty here alluded to occurs in the doses of medicines exhibited by the ancient physicians. These have long been observed to be very large; * and it was on remarking the impossibility, according to our ideas, of exhibiting them with safety to human life, or even of escaping destruction under their influence, that my observation was first drawn to the subject of ancient posology.

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* Arbuthnot on Ancient Weights and Measures, p. 286.

Dioscorides, who lived under Nero, and who, as he informs us, had attended to the subject of the materia medica from his earliest years, may be taken as indisputable authority on this point; especially, as we are informed by Suidas, that he practised as well as studied medicine; * and his work stood in such high estimation among the ancients as to be copied literally in many parts by Pliny, though almost a contemporary. Indeed, whoever peruses his own excellent work on the materia medica with attention, will seek little farther for proof of his accuracy and diligence; and he and Pliny must always be cited as examples of the triumph of genius and industry over the harassing toils and interruptions of a military life. † It was not the intention of Dioscorides to deliver formally the dose of each medicine along with its natural history and medical application, and, therefore, it is only occasionally that we find him particularly describe the quantities and forms in which they must be exhibited. He, indeed, explains in one place why the doses were not comprehended in his work; and as the passage leads to a curious fact in the history of physic, we shall deliver it in his own words. Whilst treating of the white hellebore, a most important article of ancient materia medica, he adds, "Mensura dispensatioque ejus ab HIS tradita est, QUIBUS praecipuum fuit studium de eo (περὶ τῆς δώσεως αὐτῆς,) docere. Nosque Siculo ab Ethna Philonidæ in ea re subscribimus, longum enim fuerit materiam medicam ex proposito tractantes, faciendae medicinae rationem docere." ‡ Hence it appears that the ancients carefully separated the posological part of medicine from the materia medica; and with good reason, as, besides being too bulky an addition to the multifarious information of that science, it would have put the more ostensible part of the art into the hands of the vulgar, as the uninitiated of those times dabbled quite as much in physic as they do at present. We see likewise that they were in possession of distinct treatises on the subject of posology, and that the person here mentioned, Philonides the Sicilian, was an eminent author in that department. This passage likewise explains to us why Hippocrates, Celsus, Dioscorides, Pliny, and all the earlier writers on medicine, so rarely mention the dose even of the most powerful medicines; and, without some such key to their motives, Dr Arbuthnot § might well wonder at Hippocrates so carefully dosing his slops and

* By himself, also indirectly, De ver. albo. Lib. IV.
† Dios. Praef.
‡ Dios. Lib. IV. de veratro albo.
§ Ancient Weights and Measures, 288.

asses' milk, whilst the most acrid remedies are apparently left to the discretion of the practitioner or his patient. I shall, however, in what follows, endeavour to throw some additional light on this peculiarity of the ancient physicians, though, from the above, it is evident that a reference to the books of posology was always implied in the passages where the quantity and circumstances in which a medicine should be given are not specified by these authors.

Wishing to discover, if possible, whether some general multiple of our present doses might not be detected in the doses of the ancient physicians, I selected from the work of Dioscorides, all the medicines of whose composition and identity no doubt can be entertained, noting particularly such as must, when given in excessive quantities, produce the most violent effects. The history of each of the *latter*, as given by Dioscorides, was then carefully inspected, and the doses, with their proposed object, written down. A medium of them all, if not already given by the author himself, was afterwards computed; and a corresponding medium dose, at the same time, extracted from the posological table given by Dr Duncan junior in his excellent Dispensatory. The results were set down in the following table, wherein the drachm is taken at 62 grains, as ascertained by the famous antiquarian Greaves, * and admitted by Dr Arbuthnot † as nearly correct. To enable the general reader to compare these measures of the text with the modern troy weight, another table is subjoined, containing most of the medical weights and measures anciently in use.

Comparative Table of Ancient and Modern Doses.

ALOES. In haemoptoe, cochl. ij. In icterus, ob. iij. ad ʒi.; for free purging ʒiij.

In grains 310 31 62 186 medium 62, modern medium 15, but $\frac{62}{15} = 4.133$

SULPHATE OF COPPER, for worms ʒi.

In grains 62 0 0 0 —— 20 —— 5 — $\frac{20}{5} = 4.000$

ELATERIUM, common dose, ob. j. smallest dose, ob. ss., to infants chalc. ij.

In grains $10\frac{1}{3}$ $5\frac{1}{6}$ 2 0 —— $10\frac{1}{3}$ —— 2 — $\frac{10\frac{1}{3}}{2} = 5.166$

OXIDE OF COPPER, as an expectorant, ob. iij.

In grains 31 0 0 0 —— 20 —— say 5 — $\frac{20}{5} = 4.000$

SCAMMONY, for a purge ʒi. aut ob. iiij., for a laxative ob. ij.

In grains 62 $41\frac{1}{3}$ $20\frac{2}{3}$ 0 —— 30 —— 8 — $\frac{30}{8} = 3.750$

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* Dissert. on Roman Denarius.

† Ancient Weights and Measures. He makes it $62\frac{2}{3}$.

SQUILL, to purge off bile, ob. iij.

In grains 31 0 0 0 medium 10 modern medium 2 but $\frac{10}{2} = 5.000$

BLACK HELLEBORE, to purge off bile or pituita ʒi., or ob. iij.

In grains 62 31 0 0 —— 42 —— 15 — $\frac{42}{15} = 2.800$

7)28.849

Mean quotient, 4.121

TABLE of Ancient Medical Weights and Measures, reduced to their equivalents in Modern Troy Weight.

1 sextans = 1 obolus = 10 chalci * = $10\frac{1}{2}$ grains.
1 drachm = 1 denarius = 6 sextantes = 6 oboli = 60 chalci = 62 grains.
1 uncia = 3 cochlearia = 7 drachms † = 7 denarii = 42 sextantes = 42 oboli = 420 chalci = 434 grains.
1 cyathus = 4 cochlearia = 10 drachms = 10 denarii = 60 sextantes = 60 oboli = 600 chalci = 620 grains.
1 cochleare = $2\frac{1}{2}$ drachms = $2\frac{1}{2}$ denarii = 15 sextantes = 15 oboli = 150 chalci = 155 grains.
1 acetabulum = 15 drachms = 15 denarii = 90 sextantes = 90 oboli = 900 chalci = 930 grains.
1 hemina = 60 drachms = 60 denarii = 360 sextantes = 360 oboli = 3600 chalci = 3720 grains.
1 sextarius = 2 heminae = 120 drachms = 120 denarii = 720 sextantes = 720 oboli = 7200 chalci = 7440 grains.
1 congius = 6 sextarii = 12 heminae = 720 drachms = 720 denarii = 4320 sextantes = 43200 oboli = 43200 chalci = 44640 grains.

The candid reader will easily perceive, that the numbers given in the former table as modern medium doses are not meant for *moderate* doses of the medicines there mentioned; they are merely the arithmetical mean of the extremes given in Dr Duncan's table; for this being the mode in which I have generally assumed the medium of the ancients, I thought it fair to compare it with the modern medium obtained in the same manner, besides the advantage of having the authority of a physician and author so justly celebrated in this department. It produces no other difference in the general result than that of making the disproportion between the ancient and modern doses too small.

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* My reasons for dividing the obolus into ten chalci, and not into six, as Arbuthnot and others have done, will be given at length in my edition of Celsus; meantime the reader may consult Pliny XXI. 34.

† Not 8 drachms, as the common ounce. The excellent Arbuthnot (284) was misled by not comparing the above passage of Pliny with Celsus. V. 18, 1.

As Dioscorides appeared the most authentic and judicious evidence, his doses merited the first place; his numbers, besides, are often written in compound Greek words, so as to preclude all possibility of mistake by the transcriber. But, on proceeding to examine the other authors who have given the doses of violent medicines, we shall find the coincidence appear so perfect as to remove any shadow of doubt that might still remain respecting the single testimony of Dioscorides.

The most perspicuous and precise author of all antiquity is Celsus; and being engaged at the time of the inquiry in preparing an edition of that author, I set about examining the few doses which he has delivered.

1. The famous antidote of Mithridates consisted of thirty-five different ingredients, mostly aromatics and bitters combined with opium, so that 10743 gr. contained $248\frac{1}{3}$ of opium or $\frac{1}{43}$. Celsus (179) gave this as an anodyne to the size of an Egyptian bean, whose dimensions, indeed, are not well known, but which, as Dioscorides informs us, was larger than a common bean. Rhodius, ad Comp. Larg. 95, makes it of the same weight as a victoriatus, or two scruples; but he makes the common bean a drachm, *Ad Scrib.* 13, and, therefore, we must consider the Egyptian bean as heavier than a drachm. But as an anodyne it was given to the bulk of an almond, or four times the size of the former, in which case it would contain about six grains; for $\frac{62}{43} = 1\frac{1}{2}$, and $1\frac{1}{2} \times 4 = 6$ grains nearly, which, instead of being an antidote for poison, might, in modern times, itself prove fatal; at any rate, the party who previously swallowed such a dose must have made a poor figure at those splendid but treacherous entertainments of the ancient great, where death so often lurked in the cup which the Dii Geniales had in vain consecrated to friendship and festivity.*

2. The cough mixture of Athenio, 248 grains to 62 of opium, dose, an Italian bean. Now, $\frac{248}{62} = \frac{4}{1}$. Call the bean even ℈ij or 40 gr. and $\frac{40}{4} = 10$ grains of opium in the dose.

3. Another cough-mixture had opium $\frac{248}{62}$, or one in four parts as before, and the same dose, or rather its double, being two catapotia of the size of a common bean; therefore, = 20 grains.

4. A composition for Ischuria had opium $\frac{4298}{434} = 1$ part in

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* "When thou sittest to eat with a ruler, consider diligently what is before thee; and put a knife to thy throat if thou be a man given to appetite. Be not desirous of his dainties, for they are deceitful meat."—Prov. XXIII. 1, 2, 3.

9.9 or 10; but $\frac{62}{10} = 6\frac{1}{5}$ grains of opium for a dose; for this is what was contained in the Egyptian bean.

Throw these together as above, and we have

TABLE of Doses from Celsus.

Mithridate, a dose of	6 gr.	$\frac{6}{4} = 1\frac{1}{2}$
Athenio's cough-mixture,	10	$\frac{10}{4} = 2\frac{1}{2}$
Another do.	10	$\frac{10}{4} = 2\frac{1}{2}$
A mixture for ischuria,	$6\frac{1}{5}$	$\frac{6\frac{1}{5}}{4} = 1\frac{5}{4}$

We see, by the above Table, that when the enormous doses of Celsus are divided by 4, which is the quotient of the mean ancient doses by the mean modern, * that they then assume a rational magnitude, and, indeed, such as would be given at the present time on his indications. Yet I am not inclined to insist much on the force of this coincidence, as the evidence from other authors is much more direct.

Hippocrates, like the rest, rarely mentions doses; but when he does it is exactly in the same excessive ratio. He gives an obolus, or $10\frac{1}{2}$ grains of elaterium, in a female case. † His other very few doses specified are not of substances that afford any decisive information to our inquiry.

Scribonius Largus gives a catapotium for a cough with expectoration, in which the opium makes $\frac{1}{2}\frac{3}{7}\frac{7}{16}$, or $\frac{1}{2}$ of the whole composition, yet he gives three or four pills of the size of a vetch pea in the course of the night. Say the pill weighed only 2 gr., yet 2×3 or 4, will give 6 to 8 grains of opium for one night's dose.

The same author gives another catapotium for an old cough, which has $\frac{62}{137}$ of opium, or $\frac{1}{2}$, and this is likewise given three or four times a night to the size of a bean, amounting to nearly a scruple of opium!

His cough pastilli, or lozenges, weigh 31 grains, of which the $\frac{1}{7\frac{1}{2}}$ is opium, or each lozenge contains four grains. For Ischuria he gives a drachm, or 62 grains of a medicine which has $\frac{62}{11}$ or $5\frac{1}{2}$ grains of opium in it.

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* P. 189, supra. † De Superfœtatione.

Marcellus lived under the Emperor Gratian and Theodosius, and is said to have been an empiric. He gives 31 grains of aloes for a laxative, and this in many formulae.

Of a purging medicine, $\frac{2}{3}$ of which consisted of scammony and black hellebore, he gave the size of a hazel-nut, probably a drachm.

He gave troches weighing ʒi. in Nephritic pains, and the $\frac{1}{6}$ of these was opium; hence $\frac{62}{6} = 10\frac{1}{3}$ grains of opium in each dose.

Rufus Ephesius orders pulp of colocynth for a purge ʒi. or 62 grains. Aloes ʒij. or 124 grains of the juice of tithymallus (very acrid) ʒi. = 62 grains. Paulus Aegineta gave for purging medicines the following doses: of aloes ʒi. = 62 grains; of black hellebore, ʒi. = 62 grains; of scammony, 4 oboli, or 42 grains; of colocynth, ʒi. = 62 grains; of elaterium, 3 oboli, or 31 grains; of the oxide of copper, 31 grains.

The same author gives compound purgatives, with doses agreeable to the simple ones just given. Thus the famous "Purgatoria ex Hermodactylo Podagrica," or Arthritic purgative of Colchicum, now ascertained * to be identical with the "Eau Medicinale d'Husson," is given by him as follows:

"Purgatoria ex Hermodactylo Podagrica."

"Hermodactyli quadrantem (= ℥iij.

"Anisi, Cumini Æthiopici, ameos, thymi corymborum, piperis albi, zingiberis, singulorum ℈iij., epithymi ℥ss. Dosis ℈iv.—aliqui sex dant. Dantur manè cum condito, aut aqua mulsa, aut mero fervefacto."

On calculation, it easily appears that one-third of the composition is colchicum root: and the less daring practitioners, therefore, who ordered ℈iv. of this medicine were giving $\frac{81}{3}$, or 27 grains of colchicum root to their patient.

Aretaeus seems to give similar doses, but, like the rest, mentions very few. To bring the whole of these observations into one view, we shall throw them into a tabular form.

Tabular View of Ancient Doses continued.

I. Hippocrates.

Elaterium, in dose of $10\frac{1}{2}$ gr.	but $\frac{10\frac{1}{2}}{4} = 2\frac{1}{2}$ gr.

* Vide Medico-Chir. Transactions.

II. Scribonius Largus.

Cough pill, having of opium	6 to 8 gr.	$\frac{6\text{-}8}{4\text{-}4} = 1\frac{1}{2}$, 2 gr.
Old cough-pill,	do. 20	$\frac{20}{4} = 5$
Cough-lozenge,	do. $5\frac{1}{2}$	$\frac{5\frac{1}{2}}{4} = 1\frac{1}{2}$
Medicine for ischuria,	do. $5\frac{1}{2}$	$\frac{5\frac{1}{2}}{4} = 1\frac{1}{2}$

III. Marcellus.

Aloes for a laxative, in many formulae,	31 gr.	$\frac{31}{4} = 8$ gr.
Purge of Scammony & Hellebore,	31	$\frac{31}{4} = 8$
Nephritic Troches, having opium	$10\frac{1}{2}$	$\frac{10\frac{1}{2}}{4} = 2\frac{1}{2}$

IV. Rufus Ephesius.

Purge of Colocynth pulp,	62 gr.	$\frac{62}{4} = 15$
——— Aloes,	124	$\frac{124}{4} = 31$
——— Juice of Spurge	62	$\frac{62}{4} = 15$

V. Paulus Aegineta.

Purge of Aloes,	62 gr.	$\frac{62}{4} = 15$
——— of Black Hellebore,	62	$\frac{62}{4} = 15$
——— of Scammony,	42	$\frac{42}{4} = 10\frac{1}{2}$
——— of Colocynth,	62	$\frac{62}{4} = 15$
——— of Elaterium,	31	$\frac{31}{4} = 8$
——— of Oxide of Copper,	31	$\frac{31}{4} = 8$
——— of Colchicum root,	27	$\frac{27}{4} = 6\frac{3}{4}$ *

* I have not taken the trouble to calculate Dr Duncan's arithmetical mean corresponding to these doses, but the reader can easily do this for himself.

From all these facts taken together, it appears that the ancients, from Hippocrates downwards, were in the habit of giving doses at least four times stronger than ours, and that this ratio obtains with remarkable uniformity through all their works, embracing a period of time little short of a thousand years. The coincidences are so numerous that no one can ascribe them to chance; indeed, we can easily trace the dose of Dioscorides and the older writers copied into the pages of the latest, as of Paulus and Marcellus. Let it not be imagined that these extraordinary doses are culled from amongst a great many where the quantity was moderate. I have no where done so, but have always noticed their ordinary doses when the ancients themselves mention them as such. Where, on comparison with the ancient authors, the learned reader may form a different opinion, I would beg him to consider that we, at this time, can only judge of their mode of prescribing by what I call the IMPOSSIBLE doses, just as we arrive at truth in other sciences by the "*reductio ad absurdum*." It is on this mode of reasoning, and the discovery of a secret quadruple subdivision of doses, that the interest of the present inquiry, if it has any, must rest; for the labour of turning over ancient books, and comparing examples, is a drudgery too trite and mechanical to deserve much attention from the readers of this studious, intellectual age. * He must remember that no judicious physician of the present day prescribes an active medicine to its utmost dose in compositions wherein it is only of collateral benefit; and our posterity would judge very much amiss of our ordinary doses of opium if they were to deduce them from the dose of the London Paregoric, or the Electuarium Catechu Compositum of the Edinburgh Pharmacopœia. It follows, that occasional moderate doses, did they even occur more frequently in ancient authors, could not decide the matter at issue.

On what principle, it may be asked, are these extravagant, nay, murderous, doses of the most acrid and poisonous matters to be explained? Does there, after all, exist some mistake in the numbers from long continued and careless transcription? or do we entirely mistake the true weight and relation of the Roman denarius † to our drachm troy?—Did the ancient phy-

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* Accordingly, wherever it was convenient, I have borrowed freely from the labours of Arbuthnot, just as any one is at liberty to borrow from these.

† The Roman denarius is still extant in abundance; and its relation to the other weights is so precisely described by the ancients, that its weight troy being known, all the others are obtained in grains by simple proportion. See the table given above. Pliny, xxxiv. 5, seems to insinuate that their alloy was

sicians really exhibit these doses to patients who, from early habits of activity and exercise then almost universal, had bodies able to resist their influence? Or, did they, in order to conceal the art from the profane vulgar, purposely falsify, and for convenience, do this in a certain quadruple ratio?—employing weights graduated indeed like those in common use, but secretly understood to be subject to this fourfold division? Each of these conjectures may seem to merit attention, and I shall close this communication with a few remarks on their individual probability.

I. That the doses above, extracted from the ancient authors, have not been altered by the transcribers, is clearly shewn by the fact, that many of them are not in characters, or numeral abbreviations, but in written words, Greek compounds, such as the word τριόβολος, for example, which could not, by any conceivable chance, have been substituted for its fourth part or eight grains; yet this is the term by which Dioscorides denotes the dose of squill requisite to purge off the bile. Indeed, had any error crept into the text of the older authors, it would never have been copied into the succeeding writers, who were generally practitioners, and could not mistake the dose of medicines so familiar, and whose mode of preparation is so precisely described.

II. There may still seem grounds for believing that the moderns have not a correct estimate of the weight denarius, and that there is, therefore, no accurate method of ascertaining the absolute relation of the ancient weights to those of our times. But the ancient denarius, or drachm, (for they are equivalent terms,) was a common Roman money, about the weight of three sixpences of our present* coinage, and is still to be met with abundantly amongst the dealers in old coins; and numbers of them exist in various public collections in a state of high preservation. Mr Greaves, the famous antiquarian, weighed many hundreds of them in different countries, and found the medium weight of the denarii consulares to be very steadily 62 grains, whilst the attic tetradrachm, corresponding to our crown piece, and which ought to weigh four times 62, or 248 grains, at an average, weighs four times 67, or 268 grains, making the drachm 67 grains. The latter, however, is evidently a provincial varia-

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$\frac{1}{8}$ in his time, though modern chemists maintain that the ancient coins are nearly pure.

* 1816.

tion, of which we have abundance of examples in our own country and times;* indeed, the measure of the congius of Vespasian, a standard vessel which is still in existence, agrees so exactly with the former weight of the denarius, 62 grains, that there cannot exist a rational doubt of its exactness. A judicious and learned friend, who has spent a considerable time in Italy, and whose connections and pursuits naturally gave an interest to the inquiry, found the present drachm used by the apothecaries of Italy to correspond exactly with the ancient Italian denarius or drachm, (ascertained by Greaves,) consisting of 62 grains troy. Indeed, it is natural to suppose, that, of all other places, the apothecary's shop must be that where uniformity would be longest and most exactly preserved; deviations there being attended with the most immediate and fatal consequences, whilst the usual motives for change are totally wanting, their goods being generally bought in by a different weight. The same excellent physician conjectures, and with great probability, that, were any one to make the experiment, the above weight of 62 grains troy would still be found in the apothecaries' drachm of modern Greece, unaltered, perhaps, since the days of Aristotle.

III. Did the ancient physicians then really exhibit the above doses to their patients, who, from early habits of activity and exercise, then almost universal, may be supposed to have had bodies able to resist their influence? This explanation cannot, I fear, be admitted. It is incontestibly established that the bodies of the Greeks and Romans, whose physic we are considering, were not larger than those of the present race of mankind; nay, more,—we have the constant unbiassed evidence of their own historians, orators, and poets, that their stature and bodily strength was considerably inferior to that of the Asiatics of the south, or of the Gauls to the north of their country. As it is probable that little change has taken place in the personal strength of the latter, who were true Celtae, that tribe, like the Jews, having a wonderful tendency to retain their primitive habits; so, reasoning upwards, it follows, that the ancient Greeks and Romans must have possessed less personal vigour, and, therefore, must have less resisted the action of excessive doses than a modern Welshman or Scotch Highlander, whose vis medicatrix would, notwithstanding, be somewhat staggered at

* The cause of this difference seems to have been the alloy, which is commonly $\frac{1}{12}$, and which the ancients probably did not consider of any value, and, therefore, only estimated the weight of these coins by the pure gold or silver contained in it. This supposition is simple, and explains the difference exactly.

a 20 grain dose of opium or sulphate of copper. Much, however, may be said on the other side of the question; and the almost total absence of diseases of debility, of scorbutus, the cutaneous tribes, affections of the heart, of typhus fever, of scrofula, of rickets, of chronic rheumatism, in the medical works of the ancients, would seem to savour something of modern degeneracy. Their lives were much more debauched than ours, and had their constitutions been as weak, the same consequences must have been observed. Indeed, their general practice of vomiting in order to sharpen the appetite must have given such a shock to the system as few of our modern gourmands would like to undergo for the enjoyment in prospective; yet this practice had prevailed from the most early times, since Hippocrates alludes to it, but thinks it wiser to vomit but once a fortnight. The instances of debauch given by their authors far exceed the eating and drinking matches of the English newspapers,—nay, many of them were habitual. Thus Cato allowed his slaves individually, during the Saturnalia, seven pints, or four bottles of wine, per diem, which would appear in this age rather a liberal allowance. Cicero's son was called Bicongius, because he was accustomed to drink two congii off at a draught. But two congii are seven quarts or eight bottles of wine! the wine may have been weak, but who of these times could have drank off as much water with impunity? Pliny and others abound in such examples, many of them much more wonderful, the present being selected merely for the eminence of the individual and the impossibility of mistake in respect of quantity. Lastly, we find the most execrable instances of corporeal and mental depravity among the ancients enjoying uninterrupted health. The infamous tyrant and debauchee, Nero, was only three times sick in fourteen years. "Nam qui luxuriae immoderatissimae esset, ter omnino per XIV. annos languit; atque ita, ut neque *vino*, neque consuetudine *reliqua* abstineret;" *—and the like is reported of many others. Even the satirists, whose style was exaggeration, and whose proper subjects were vice and luxury, never mention other consequences than crapula or indigestion, from the disgusting gluttony of the times; very rarely even gout. Notwithstanding all this, however, we must incline to the former opinion, that the ancients were less robust than we are; it being now well ascertained, † that of all the two legged varieties of the creation, whether wild or tame, an Englishman

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* Suet. de Nerone.

† See Lawrence's Physiology, Zoology, and History of Man.

possesses the highest muscular power; and hence, *a fortiori*, stronger than the Celts, who were, and are, as we have just seen, stronger than the ancient Romans.

IV. The only remaining mode in which this difficulty can be solved is by supposing, that, in order to conceal the art from the profane vulgar, the physicians of antiquity intentionally falsified their doses, and, for convenience, did it always in a certain uniformly quadruple ratio; employing weights, indeed, graduated like those in common use, but secretly understood to be subject to this fourfold division. We arrive at this inference by the method of exclusion, for we have seen above, that every other conceivable mode of accounting for the excessive doses of ancient medicine is without foundation. In supposing that this was the case, we do no more injury to the morality of the ancients, than to the moderns, in allowing that the practice of prescribing in Latin words and Roman characters is for the same purpose,* a thing which few deny, and many writers openly avow. That they CONCEALED their doses is manifest from their writings, and from the singular fact, that, though we have seen above that they had choice of books on posology, not one of these have reached us, either of Greek or Roman composition, being probably attainable to none but practitioners.

The facts are so obvious and striking, that Dr Arbuthnot, in the year 1727, formed nearly the same conjecture; and if concealment was practised, it is evident it was only by falsifying the weights and measures of the day in a *constant* ratio, that one medical man could become intelligible to another; or, indeed, have a motive for naming the dose at all, which otherwise must have been completely unintelligible to his readers. A secret understanding, then, of a diminution of the dose in a fixed ratio appears necessary, and as the tables given above show plainly enough that this ratio was a quadruple one, I shall not longer insist on it here, but with renewed request, that some one better qualified will take this curious circumstance into consideration, conclude these few remarks on a subject rather beyond my opportunities of inquiry.

21, *South College Street*,
Dec. 25, 1819.

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* "Scilicet qui non mulierculis aut circumforaneis medicis artem impertiar."—Greg. Consp.