

MILLAR'S MONTHLY MISCELLANY

Conversations,

BETWEEN

JAMES BLOCK, Esq.

AND

MILLAR, the Editor of the Monthly Miscellany,

UPON THE CAUSES OF

The Distresses of the Country,

AND THEIR PROBABLE REMEDIES.

FOUNDED UPON A FACT.

In which are noticed,

Debt, falsely called, National—Interest of that Debt—Sinking Fund—Seventy Millions of Taxes—Tax Eaters—£200,000 which the Borough Faction pocket annually out of the Taxes—Waste Paupers—Abolition of Sinecures, Pensions, Grants and Emoluments, not merited by Public Services—Sale of Seats in Parliament—Unequal State of the Representation, and Reform of the Commons House of Parliament—Equal Laws—Universal Suffrage—Annual Parliaments, &c. &c.

PART I.

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neers and Peers may flourish and may fade,  
Breath can make them as a breath hath made :  
But a bold Peasantry, their Country's pride,  
When once destroy'd can never be supply'd." GOLDSMITH.

A Y R :

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1817.

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## PREFACE.

As it is customary to say something by way of Preface, it may be noticed here, that these Conversations have made some noise both in Glasgow and Paisley. The *Blockites*, or perhaps they should rather be termed *Block-heads*, affirm that the victory was gained by Mr Block. This Millar's party as strenuously deny. In consequence of this difference of opinion, it was thought advisable to publish the whole controversy in detached parts, at a low price, and then all parties interested would have it in their power to judge for themselves, who had the better or worse of the dispute.

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### CONVERSATION FIRST.

On Monday evening, the 25th November, 1816, Millar was in his shop alone, perusing a mathematic author, up drives his shop door, and in steps Jam Block, Esq.

*Block*—Well, Millar, I hear that in a lecture which you delivered on Saturday night last, you had the audacity to insult the revered memory of LORD NELSON, the greatest Admiral that ever sailed upon the sea, who terminated his glorious career, in as glorious a manner. Not content with *Lord Admiral Nelson* you also basely attacked that worthy old veteran *Blocker*. Nor could you be satisfied with these two, but you must haul in by the head and shoulders, the ever-to-be admired Lord Wellington, whose deeds of fame shall shine in the annals of our country, till time itself expire. And those brave heroes, who fell in such a glorious cause, will be rewarded with crowns of glory in Heaven.

*Millar*—I think, Mr Block, you have a great deal of impudence, to come and treat me in such a manner in my own shop, whatever I said in my discourse on Saturday evening, I had a right to do so, independent of you, Sir. If you had attended upon that discourse yourself, and heard with your own ears, what I said, you would not have had the smallest reason to be in a passion about any expression that I used that evening, concerning these Characters you mention.

*Block.* It may be so, perhaps I may have got a bad set of it.

*Millar.* I recollect quite well, Sir, of that part of my discourse to which you allude. My Essay was upon “The causes of the different Seasons of the year.” In treating of vegetation in Spring, I said ‘Shall we on this occasion forget the ploughman, ‘who whistles o’er the furrow’d land, an’ toils for us the lee lang day,’ to supply us not only with the conveniences, but even the necessaries of life, without which we could not exist? The man who makes two blades of grass to grow, where only one grew before, deserves far better of the world than either an Alexander, a Charles the Twelfth, a Nelson, a Blucher, or a Wellington; whose employments have been to diminish the numbers of the human race, and for which they have been covered with *glory*, and adored as *demi-gods*, while the Husbandman has been considered as a *poor Insignificant Clown*”. So Sir, you see that you are placed in the same predicament, for you adore *Nelson, Blucher, and Wellington* as *demi-gods*.

*Block.* No, I do not, I consider them only as men like myself. But men whose love of their country red their bosoms to heroic actions. If such men had not arisen our *Tight Little Island* would have been totally ruined. Buonaparte, that base usurper of the Crown of France, would have deprived us of our existence as a Nation, and reduced us to the situation of subject slaves.

*Millar.* I have no such idea, nor ever had. Without prejudice, Mr. Block, let us just take a view of our existence as a nation at present. See how it languishes. Thousands of industrious mechanics are out of employment in every district of the country. Many persons have already died for perfect want of the necessaries of life. Of these facts too many particulars can be given. The reason of these distresses, as has been falsely said, *by a sudden transition from war to peace!* No, these mournful distresses, which the country is involved in, are the effects of that late sanguinary war, which was carried on to support *the Divine Cause of Legitimacy*, and to destroy the Rights and Liberties of Mankind. Is not the Pope's full power, and the Inquisition in full force, to destroy religious liberty? and have not the *beloved FERDINAND*, and others, attempted the demolition of Civil Liberty? One Mr Davies, in a speech which he delivered at a meeting held in the Relief Church, Paisley. On Saturday the 5th October, 1816, observed "The late unjust, unnecessary and sanguinary war have cost this nation nearly two thousand millions sterling; a sum, which if divided equally among the labouring men of Great Britain, would give each of them £500, the interest, at £5 per cent. (for one year) would pay James Madison's salary, of six thousand pounds a year, as President of the United States of America, since the creation of the world, and maintain upwards of 250 families, at 50l. a year, since the flood of Noah besides. This vast sum has been not only squandered in the cause of Legitimacy, and against the rights and liberties of mankind."

*Block.* Paisley Weavers may indeed *ken* something about heddles, treddles, heel-pins, tintoes, dressing boxes, harnesses, nets, lappets, imitation shawls, plaids, or gown pieces. But they know nothing at all about the affairs of Government. Nor have they any business to know about the affairs of Government either

That they have got to do, is to work at their employment, and pay up their taxes. A parcel of lazy, ignorant weavers, holding meetings to discuss about the affairs of Government, just as if the Government were accountable to them, how they disposed of the Seventy Millions taxes. What business have they with George Rose, and the rest of the Tax Eaters? Or the two hundred thousand pounds, which the Borough Faction gets out of the taxes every year? What business have they, whether seats in the Commons House of Parliament be sold like stalls in a market or not? Or the Liberty of the Press either? If they get liberty to weave, what more liberty need they ask for? They discuss about Reform in Parliament, and say we should have Universal Suffrage, and Annual Parliaments, and that we are so unequally represented. They make a great noise about Glasgow, and Manchester, and say what a shame it is, for such large and populous cities, not to send a single member to Parliament, while these small Boroughs send to Parliament.

|                |   |          |       |   |          |
|----------------|---|----------|-------|---|----------|
| Newton,        | 1 | Elector  | sends | 2 | Members, |
| Old Sarum,     | 1 | do.      | sends | 2 | do.      |
| Midhurst,      | 2 | Electors | send  | 2 | do.      |
| Castle Rising, | 2 | do.      | send  | 2 | do.      |
| Marlborough,   | 2 | do.      | send  | 2 | do.      |
| Downton,       | 4 | do.      | send  | 2 | do.      |

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Total. 12 Electors send 12 Members.

Although these 12 Electors have in their power to send 12 Members to Parliament, and to be sure *they* may be easily corrupted; yet the Members of the House of Commons are not all returned by so few Electors, which I will shew you out of Tegg's Chrono-

(Reads)



|              |        |          |      |   |         |
|--------------|--------|----------|------|---|---------|
| London,      | 7,000  | Electors | send | 4 | Members |
| Westminster, | 10,000 | do.      | send | 2 | do.     |
| Middlesex,   | 3,500  | do.      | send | 2 | do.     |
| Surry        | 4,500  | do.      | send | 2 | do.     |
| Southwark,   | 2,000  | do.      | send | 2 | do.     |

Here are 27,000 Electors to 12 Members

*Millar.* Sir, what you have just now stated, is the absolute necessity of a Reform in the Commons House of Parliament. In that Petition which the inhabitants of Paisley sent to the Prince Regent, they say "Of the 658 members, which compose what is called the Commons House of Parliament, only 33 are appointed by the people, the great Lords appointing the remainder, is an incontestible proof, that those who are the Representatives of the people, are but the servants and tools of this oligarchic borough-mongering faction, in plundering the pockets of his Majesty's industrious people of the fair fruits of their labour, in order to the interest of a debt contracted for the worst purposes, and to squander upon men wholly unknown to the public, or if known at all, are remarkable for nothing so much as hostility to the imprescriptible rights of man, and their execrable intrigues, in supporting that system which enables them to riot in luxury at the expence of the industrious part of the nation." Mr Campbell, who also spoke at the Paisley meeting, observes "By the actual state of the representation the subjects fundamental right is openly violated, thousands are taxed, who have no voice in the election of Members of Parliament; and the present constitution of Parliaments, is of a most dangerous and unconstitutional duration, because Parliaments ought to be chosen for one year only agreeably to the Constitution."

*Block.* Campbell has copied out that speech from some book, or other, which had been written by some Member of Parliament. It is surely a laughable circumstance for ignorant folk to be

their superiors about, a standing Army of 150,000  
 in time of Peace. Abolition of sinecures, pen-  
 sions, grants, and emoluments not merited by Public  
 services, useless offices, state paupers, Parliament set-  
 tling the Nation at defiance about the last corn bill,  
 sinking fund, National Debt, interest of the National  
 Debt, excessive taxation occasioned by payment of  
 National Debt, &c.

*Fillar.* Sir, riches appear to dazzle your eyes.  
 Because people are poor you think they can know no-  
 thing at all. I'll find you men among the Paisley weav-  
 ers that are well skilled in Politics, Mathematics,  
 Astronomy, Languages, Chemistry, and all kinds of  
 Natural Philosophy. Besides all this, I will find you  
 Paisley weavers that will preach you a better sermon,  
 than nine parish ministers out of ten. Although you  
 seem to hold the Paisley weavers in such contempt.  
 Cobbet has a very different opinion of them. In  
 the Register, in taking notice of that meeting which  
 was held in the Relief Church, Paisley, on the 5th of  
 October, 1816, to consider the present *Distresses* of  
 the Country, their *Causes* and *probable Remedies*, He  
 says, "My very best acknowledgements are due to the  
 gentleman who has been so kind as to send me a small  
 pamphlet, containing the speeches and Petition of the  
 meeting in Paisley. The principles expressed in  
 the publication are admirable. The clearness of the  
 arguments contained in the speeches; the manage-  
 ment of the matter; the ingenuity and force of the  
 arguments; the spirit, eloquence, and impressiveness  
 of the language; all these give to these proceedings  
 a stamp of superiority, and do great honour to Scot-  
 land. I wish the accounts of these proceedings could  
 be read by every man in the kingdom. I do not be-  
 lieve that so much talent is possessed by all the 16  
 Peers, and the 45 Commoners as is possessed by the  
 Paisley weavers at the Paisley meeting. I have read with

great attention the accounts of the proceedings at the popular meetings which have been held of late; I have no hesitation in giving it as my opinion, that the proceedings at Paisley bear away the palm. They are the model for the imitation of every town and county in the kingdom. It appears from the declaration of the speakers themselves, that they are tradesmen, or manufacturers. They apologized for the want of ability for the task they had undertaken, one of them observed, that he had been urged forward in part, with a view of rescuing Scotland, from the disgrace, which the general servility of his countrymen in high life was but too well calculated to bring upon her. Look then, at these tradesmen; read their luminous, eloquent and powerful speeches; compare these with the few disjointed members of sentences which

Lord frequently, on such occasions, stammers out, or with the redundant and senseless trash of a bring "Learned Friends;" make this comparison rather, and then say, whether that you believe that this is an age when hereditary and professional privileges are likely still to make mankind bow implicitly to their power. Great national evils generally in the end, bring their own antidotes; and as this is a season of uncommon distress and peril, so it has brought forth such a portion of public spirit, and of talent as to convince every man that the cause of freedom is in able hands, and that the affairs of the country would not suffer by the change that may be expected to take place. Canning called the Reformers "a low degraded crew." I have selected the best parts of his hundreds of speeches, and they would not amount in point of talent to what I find in the speeches delivered at Paisley, on the 10th of October. It is a very false notion to suppose, that men in this country, are possessed of talents and talents, because they possess power and emolument. Thus far Cobbet. I will now ask you a single question



on, Mr Block: How much space do you think the National Debt, if it were all in guineas would occupy?

*Block.* I cannot pretend to say exactly. Two, or three, sugar hogsheads, full of guineas, would certainly amount to a far greater sum than would pay all the National Debt.

*Millar.* The Paisley Weavers would be ashamed to shew their ignorance to be so great as you have shown yours to be just now. I have been at the trouble of drawing up a few problems concerning the National Debt. After you hear them read, you will never afterwards think, that two or three Sugar Hogsheads full of guineas, or a hundred either, will be able to pay off the National Debt. The truth is, that few persons reading in a Newspaper, that we have "Eleven hundred millions of National Debt", have the smallest idea what an enormous sum the National Debt is. Indeed, they can form no idea in their minds between the whole of that sum and the hundredth part of it. However, I am of the opinion, that the solution of these problems will give a more distinct conception of the magnitude of this Debt, Although Mr. Cobbet, and others, have stated the National Debt at 1100 millions, these calculations I take it only at a £1000,000000.

Suppose this sum, of one Thousand Millions of pounds, were in Guineas, Shillings, or Half pence, allowing each of these to be an inch in diameter, and distributed in equal rows: many English acres would they cover?

Answer  $151\frac{1}{2}$  acres guineas;  $3,188\frac{1}{2}$  acres shillings; 76,525 acres half pence.

Suppose this sum were either in Guineas, Bank of England Notes, Three Shilling pieces, Shillings, Sixpences, Penny, or Halfpence, and allowing one to tell over 60 of them in a minute, for ten hours in the day, and 315 days in the year, which days for Sundays deducted: How long, at that rate, would it take to tell over the National Debt?

Answer

84 years and 163 days for Guineas.

88 years and 233 days for Pound Notes.

591 years and 235 days for Three Shilling pieces.

1,774 years and 341 days for Shillings.

3,549 years and 317 days for Sixpences.

21,299 years and 79 days for Penny pieces.

42,598 years and 159 days for Half pence.

If any Being had begun to tell out this sum in half pence, at above rate, thirty six thousand years before the creation of the world and continued telling it out till the present, at the end of six hundred years after this it would not be all told out.

III. Suppose this sum were either in gold, silver, or copper. What length of a wall 56 inches high, and 10 inches thick, would it build in each of these metals? Also: What area of square paces of land would each of these walls inclose?

Ans. A Gold wall of one mile and  $344\frac{1}{2}$  yards nearly, which would inclose a square piece of land  $57\frac{1}{8}$  acres. A Silver wall of  $28\frac{3}{4}$  miles, which would inclose a square piece of land of 50 square miles. And a Copper wall of 147 miles, which would inclose a square piece of ground of  $1350\frac{1}{2}$  square miles.

IV. Suppose this sum either in Bank of England Pound Notes, or 512 to a pound weight, gold, silver, or copper: How many horses and waggons will it require to carry the national debt? Also the annual interest of the national debt at four and a half pound per cent? Allowing the Bank Notes, and Copper, avoirdupois weight, the gold and silver troy weight; and each horse and waggon to carry a ton weight.

Ans. The horses and waggons necessary to carry the National Debt, will be for Bank Notes, 87,000; Gold 9522, Silver 148,809, Copper 6,696,478. The annual interest at  $\text{£}4\frac{1}{2}$  per cent. is 45 millions. The horses and waggons necessary to carry the annual interest will be for Bank Notes  $392\frac{1}{2}$ , Gold  $428\frac{1}{2}$ , Silver 6696 $\frac{1}{4}$ , and for Copper 301,341.

V. How many miles of a road would these horses and waggons cover, allowing each horse and waggon 20 yards?

Ans. For the National Debt. 99 miles and 14 yards carrying Bank Notes, 108 miles carrying Gold, 1,000 miles carrying Silver, and  $76,026\frac{1}{8}$  miles carrying Copper: which in copper is upwards of three times round the globe of our earth.

Ans. For the Annual Interest.  $4\frac{1}{2}$  miles carrying Bank Notes, 4 miles and 1530 yards carrying gold.

6 miles and 176 yards carrying silver, and 3424 miles and 1740 yards carrying copper.

VI. How many Soldiers will it require to carry either the National Debt, or the annual interest of the National Debt, in Bank of England Pound Notes, gold, silver or copper; allowing each soldier to carry 40 pound weight in his knapsack?

Ans. *For the National Debt.*

488,281 Soldiers carrying Bank Notes.

524,232 Soldiers carrying Gold.

8,833,304 Soldiers carrying Silver. And

375,002,768 Soldiers carrying Copper.

There are not as many men upon the globe of our earth as would sufficient to carry the National Debt in Copper?

Ans. *For Annual Interest of the National Debt.*

21,972 Soldiers carrying Bank Notes.

23,590 Soldiers carrying Gold.

294,998 Soldiers carrying Silver. And

16,875,124 Soldiers carrying Copper.

It would require more Soldiers to carry the annual interest of the National Debt, in copper, than all the inhabitants of Great Britain and Ireland, put together.

VII. Suppose these Soldiers, one man deep, at three yards distance from each other: How far would they extend in marching either the National Debt, or Annual Interest of the National Debt, in Bank of England Pound Notes, Gold, Silver, or Copper?

Ans. *For the National Debt.*

2 miles and 543 yards carrying Bank Notes, & 893 $\frac{1}{2}$  miles carrying gold, 14,204 $\frac{1}{2}$  miles carrying silver, & 9,209 miles carrying copper; which is farther than the moon, and one half back again; or upwards of times round the equator of our earth.

Ans. *For the annual interest of the National Debt.*

$\frac{1}{2}$  miles nearly carrying Bank Notes, 40 $\frac{1}{4}$  miles nearly carrying Gold, 639 $\frac{1}{4}$  miles nearly carrying Silver, and 28,761 $\frac{1}{4}$  miles carrying Copper; which would go round the globe of our earth 1 $\frac{1}{8}$  times.

VIII. How many Ships would the National Debt, in Copper, load at 500 tons to each?

Ans. 15,593 ships nearly.

The tonnage, of the Navy of Great Britain, together with the commercial vessels belonging to her, is estimated at about 2,300,000

tons in whole; therefore the National Debt in copper would them all nearly three times over.

IX. Suppose the number of the members of the three estate Parliament to amount to 1200, and allow the weight of each member to be 168 lbs. Would their weight in gold discharge the National Debt?

Ans. 1200 members multiplied by  $1\frac{1}{2}$  cwt is 90 tons only: whereas the weight of the National Debt in gold is upwards of 9522 tons; which is upwards of 105 times the weight of 1200 persons at  $1\frac{1}{2}$  cwt. each.

X. Suppose this sum to be either in a cubical piece of silver, or copper: What would be the length of one of its sides?

Ans. In Gold  $25\frac{1}{2}$  feet cubic. In Silver upwards of 72 feet cubic. In Copper upwards of 138 feet cubic.

XI. If all the inhabitants on the whole globe of the earth, to pay up our National debt among them. (which, by the bye, are under no obligation to do) How much would each person's share of the national debt be?

SOLUTION. Of the numbers of mankind, authors have differed widely in their opinions. Riccioli estimates the numbers of mankind at 1000 millions, Vossius 500 millions, Brackenbridge 400 millions, Teller at 370 millions. If we take Riccioli's estimate it will be one pound to each, Vossius' will be two pounds to each, and Teller's estimate nearly three pounds to each persons share.

XII. Great Britain is allowed to contain nearly 12 million inhabitants. If we allow 6 persons on an average to each family the number of families will be two millions. Suppose this number of families to pay up the national debt among them. How much will each family's share of the national debt be? Ans. £

XIII. Suppose this sum was either in guineas, shillings, or pence, and laid singly down in a strait line, each touching another edge: How far would the line of each of these coins extend?

Ans. In Guineas upwards of  $15,031\frac{1}{2}$  miles; which is more than  $\frac{2}{5}$  round the equator of our earth. Shillings  $12\frac{1}{2}$  times round the globe, or to the moon and one fourth part back again. In Halfpence 30 times round the earth, or  $31\frac{1}{2}$  times betwixt the earth and the moon, or upwards of  $4\frac{1}{2}$  times round the moon's orbit, encompassing the earth.



A very nice metal orbit might be made of this national debt for the moon to roll upon, when performing its monthly revolution round the earth.

XIV. The whole land in Great Britain and Ireland is thought to be worth £12 per acre, on an average; but allowing it to be sold at that rate per acre: Would it pay the national debt?

Ans. According to Smith's New English Atlas, Great Britain and Ireland contain 74,668,800 acres; which multiplied by £12 would leave £103,974,400 the National Debt unpaid.

XV. Suppose this sum to be either in Guineas, Shillings, or Half pence, and each of these coins heaped up in a pile by themselves.—Allowing the thickness of 15 guineas, 20 shillings, or 12 half pence, an inch. Required the height of each pile?

Ans. In Guineas, upwards of one thousand miles; which would form a golden ring round the globe of the earth of one fifth of an inch in diameter. In Shillings, 15,788 miles; which would form a silver ring round the globe of the earth of upwards of 7 tenths of an inch in diameter. In Halfpence, 631,312 miles, or upwards of 25 times round the globe of our earth. A great copper cable, as thick as a tree of five inches diameter, might be formed of the national debt to go round the globe of our earth.

If one part of this copper ring, which is made of the British National Debt, were to pass through the very middle of the Island of Great Britain, it would then cross the Equator. Some of our ingenious artists might easily construct a machine, to whirl round the globe, upon this thick copper ring, with perhaps six, eight, passengers travelling in it, making the tour of the world. After one of these machines was found to answer the purpose, more might easily be constructed. Having written thus far, a thought has struck me, which puts me into a complete dilemma, about the selling of these machines. I am aware that plenty of people would be extremely fond of making the tour of the world. But I am afraid, that if these machines were to turn out to be any way lucrative, to either the



inventor, or the proprietors of them, that Government would strike in as usual for the greatest share of profits. Parliament could easily lay a heavy tax either the machines, or the passengers, and the proprietors of the machines would be reduced to the situation of mere tax gatherers. In that case perhaps might have been as well for neither the copper ring or machines ever to have been thought of. But if this objection is obviated, and it be fully determined upon, that the copper ring shall be made, and the machines set a going on it, with travellers in them making the tour of the world. If these travellers possess any ability at all, they never can be at a loss to find the latitude of the place where they are. At least, we may rationally suppose, that in each machine, there will be always some passenger or another, that will know how to find the latitude. Indeed it would be no great difficulty for all travellers, going the tour of the world, to know how to find the latitude before they set out. It is a very easy matter the finding of the latitude; but the great difficulty lies in the finding of the longitude. I would strongly recommend to engrave in large characters, on this great copper ring, so plain that who runs may read, the degrees, minutes, and seconds of longitude. Travellers would then know at once the machine whirled along the ring, what part of the globe they were upon. But in case of objections being raised against the copper ring and machines, I am prepared for the worst. I have got two strings to my bow. I will submit to your consideration another scheme. A copper ladder may be made of the National Debt, to reach from the earth to the moon. Each of the sides of the ladder will be more than a tenth of an inch in diameter, twelve inches each length, and 14 inches asunder. As Philosophers have long disputed about the Moon's atmosphere—its height of its mountains—its seas; The Moon's in-

is, their religion, their Arts and sciences, their size, be, &c. &c. &c. By means of such a metal ladder could be very convenient for them to ascend, and descend, to, and from the moon; and an end might put to this controversy by ocular demonstration. We are at a great loss, for a market to dispose of manufactures, at present, we might open up a concordance with the Lunar inhabitants, and get our goods disposed of to them, and their productions, might be brought down to us. They would add greatly to the luxuries of the tables of our State Paupers.

LOCK. You are very satirical, Millar. However I must acknowledge, that you have not studied arithmetic in vain. You have amused me with your wonderful calculations. I had no idea that the National Debt was such an immense sum, as the solution of the questions shew it to be. But I am firmly of opinion, that as the Nation has jogged on with this burden of national debt, upon the shoulders, for these hundred and twenty years past: So it may move on for ever without stopping for a single moment.

MILLAR. Your sophism, Mr. Block, will not go down with me. It brings to my mind a passage of scripture. As, "There shall come in the last days scoffers, walking after their own lusts, saying, Where is the promise of his coming? for since the fathers fell asleep, all things continue as they were from the beginning of the Creation": So you think, that because the nation has patient-ly lived on, without stopping, for these hundred and twenty years under the heavy pressure of the National Debt, that the increasing load will never be able to break the Nation's back. If so, there must be something supernatural about this Debt. There is a certain MAXIMUM to which the National Debt may arrive at; but it must stop. In order to demonstrate the absurdity of your reasoning, for my next problem, I shall pitch upon some period, a certain number of years hence, and allow the National Debt to accumulate, at the same ratio, till that year, which it has done for these hundred and twenty years past. From the solution, it will appear evident, that the interest of the National Debt must either be reduced, or the whole system will explode. In either case, the Fund-holders will be losers, for there is no alternative.

1. The present National Debt commenced, and was in 1697  
5,000,000.

|         |             |         |               |
|---------|-------------|---------|---------------|
| In 1702 | £16,594,702 | In 1786 | £2266,725,007 |
| 1740    | 43,532,350  | 1796    | 367,303,268   |
| 1747    | 64,595,797  | 1807    | 638,451,575   |
| 1755    | 75,077,264  | 1810    | 900,000,000   |
| 1765    | 146,982,844 | 1817    | 1,100,000,000 |

Duplicate Geometrical Progression of the National Debt in millions of pounds, each term being seventeen and a half years.

|      |                    |      |                    |      |                    |      |      |
|------|--------------------|------|--------------------|------|--------------------|------|------|
| 3    | 4                  | 5    | 6                  | 7    | 8                  | 9    | 10   |
| 8    | 16                 | 32   | 64                 | 123  | 256                | 512  | 1024 |
| 1698 | 1715 $\frac{1}{2}$ | 1733 | 1750 $\frac{1}{2}$ | 1768 | 1785 $\frac{1}{2}$ | 1803 | 1820 |

It appears from this statement, that the National Debt had doubled itself since its commencement, 120 years ago, in about seventeen and a half years, upon an average. Allow the national debt in 1820, to be 1024 millions of pounds, and to continue that ratio, what will be the amount of the national debt in 3045.

*Solution.* 1024 millions squared = 1048576 = 350 years additional, or till anno 1995. 1048576 millions squared = 1,099,511,627,776 millions = 350 years additional or 2345 A. D. 1,099,511,627,776 millions squared = 1,208,925,819,614,629,174,706,176 millions = 700 years additional; or anno 3045. Or, 1 septillion, 925 quadrillion, 819 thousand, 614 trillion, 629 thousand, 174 billion, 706 thousand 176 millions.

XVII. The diameter of the earth, from the latest experiment is 42073016 feet. A cubic foot of fine gold is 1506.135168 lbs. weight, and a pound Troy weight of fine gold is equal in value to 48 pound sterling. Required how many globes of fine solid gold and each of them as large as the globe of our earth, will the amount of the National Debt be equal to, on anno 3045, according to the increasing geometrical progression mentioned in last question?

*Solution.* The answer of the last question divided by £48 gives 25185951575304774473045333333 $\frac{1}{3}$  troy of fine gold. Then the cube of 42073016 feet is 74501628045372347908096 feet, cube of the diameter of the earth; then this last number multiplied by .5236, being the 6th part of 3.1416 (the circumference of a circle whose diameter is one) and the product will be equal to 39009052444556961364679.0656, the cubic feet in the globe of the earth. Then this last product being multiplied into 1506.135168 lbs. Troy gives 58752905757103609690560413.73354 lbs. Troy of fine gold: equal to the globe of our earth. Ans 428 $\frac{1}{2}$  globes of fine solid gold each of them as large as the globe of our earth. Interest at 2 $\frac{1}{2}$  per cent = 10 $\frac{1}{2}$  globes of fine gold, and each of them as large as our earth.