ESSAY III.

ON THE

NATURE AND PRINCIPLES

OF

PUBLIC CREDIT;

CONTAINING

A PLAN for putting the PUBLIC DEBTS into a regular Course of Redemption:

TOGETHER WITH

The General Variations necessary to be made, in order to render the same applicable, Practically, to the several and respective Circumstances, and Conveniencies of the different Classes and Denominations of the PUBLIC CREDITORS.

Gale

LONDON:

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M,DCC,LXXXVI.

P E E F A C E.

IN the following ſheets the reader is preſented with my Third ESSAY on the ſubject of Public Credit.

The Indulgence that the Public have been pleaſed to grant, with reſpect to the ſtyle and language of the former ESSAYS, demands my thanks. When I requeſted that indulgence, I entertained a hope that the Reader would find a ſatisfaction adequate *in ſome degree* to the labour that might be required in the peruſal. It gives me much pleaſure to find that my hope has been in a conſiderable meaſure realized; and, I cannot, now, but entertain an equal hope, that, by a like indulgence, the following Tract will be found to afford a ſatisfaction *fully* adequate to the labour that the peruſal may require.

LONDON,
Jan. 15, 1786.

S. GALE.

C O N T E N T S.

INTRODUCTION.

SECTION I.

SECTION II.

SECTION III.

Advertifement.

GENTLEMEN, who ftudy the whole of the THREE ESSAYS, will derive much advantage from the perufal of the following Introduction; particularly, if they re-perufe, at the beginning of each Section of each of the Effays, as much of the faid Introduction as fhall appertain to fuch Section.

E R R A T A.

The Reader is requefted to correct, with his pen, the following Errors of the Prefs, before he proceeds to the perufal.

Introduction, page xii. line 2d, *for* principle, *read* principal.

P. 1.	l. 14.	In fome of the copies *for* 'at one' *read* atone.
3.	18.	After the word 'cafe' compleat the parenthefis)
11.	9.	After the word 'flowing' put (;) inftead of (,)
	11.	After the word 'perpetual' put (,) inftead of (;)
15.	12. 13.	*For* fubtuting *read* fubftituting.
16.	4.	After the word 'flowing' put (;) inftead of (,)
	5.	*For* there of *read* thereof.
	6.	After the word 'perpetual' put (,) inftead of (;)
37.	9.	In fome of the copies, *for* £60 *read* £66.
		2d of the Note; in fome of the copies, *for* 5 per Cent. Stock *read* 3 per Cent. Stock,
39.	28.	*For* fave *read* ferve.

ERRATA CONTINUED.

Introduction, page v. line 27, from the word "Intention" put the under-written note*.

P. xii. l. 2, and xv. l. 17,		*for* poftcript *read* poftfcript.
2.	6.	of the note, after 92 *put* (.) *inftead of* (;) *and put* For *inftead of* for.
13.		Add the under-written to the note†.
17.	3.	The *R* fhould be *Italic*: but the old Englifh R prevents all poffibility of miftaking.

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* It is not improbable but their mifconception of my intention here, might have been occafioned by the manner in which the *head* or *caption* of this third fection (page 23 of the Firft Effay) is expreffed. It is therefore requefted that the reader will change the faid *head* or *caption* into the following words, viz.

SECTION III.

"*Of the damages or burthens fuftained by the members of a*
"*ftate in fupporting the expences of a war:—The conveniencies*
"*attendant on incurring a Public Debt:—And, the Savings that*
"*would be produced, fuppofing the monies were to be raifed by*
"*a fimple borrowing, at the actual market rate of intereft for the*
"*time being.*

This obfervation will, I would willingly hope, contribute to render my meaning clear, in any fimilar inftances that may occur.

† In their publication for January, 1786, they acknowledge this miftake; but this tract having been previoufly printed off, it was too late to make any alterations. No doubt is entertained but they will hereafter acknowledge their miftake in the other point of difpute refpecting the comparative value of a 5 per cent. ftock at the time of the loan of 1781. If they fhould not, further reafons fhall ftill be given, the refult of which will be the fame as the afore-mentioned refults. The point now in difpute is not, however, of any other confequence, than merely to eftablifh the accuracy of that *particular branch* of the inveftigation the final termination of which is, that fuch ftocks are entirely unfit for public ufe. If we agree in this terminating point, it feems hardly worth while to fquabble about the roads by which we were refpectively brought thither.

INTRODUCTION.

Containing a brief Account of the Firſt, Second, *and* Third Essays.

IN my two former Eſſays I endeavoured to inveſtigate, and aſcertain, the elemental principles of this important and intereſting ſubject. I ought, in the firſt Eſſay, to have laid down, by way of introduction, a general account of the method, or arrangement, which I intended to purſue with reſpect to the inveſtigation; but that being the firſt Tract I ever took the liberty of laying before the Public, the neceſſity of ſuch an introduction did not occur to me. I cannot but be exceedingly ſorry at the circumſtance of ſuch an omiſſion; becauſe, my Readers, in general, have been put to an additional degree of labour on that account; and ſome few of them have likewiſe conſidered particular parts of the Firſt and Second Eſſays, in a different light from that which I intended. To prevent this, in future, I muſt here beg leave to obſerve, that, the *Elemental Principles only* were ſought in the former Eſſays; and that, the Elemental Principles, ſo ſought, and at length, with much labour, aſcertained, proved to be ſimply, theſe two,—TO WIT,

Firſt.—That, in order to avoid the maladies, and to attain the benefits, with which a Public Debt may be attended, it is eſſentially neceſſary that the value of the public ſtocks ſhould be ſupported from depreciation;

preciation; and that, in order thereunto, it is eſſentially neceſſary that an *extra* proportion of revenue ſhould be appropriated to that channel of circulation (in *addition* to the intereſt) during the time of the advancement of new Loans, equal to the *premiums* neceſſarily required for the advancement of thoſe Loans.—This is the reſult of the Firſt Eſſay.

Secondly.—That, in order to produce the greateſt poſſible advantage and ſecurity, both to the Public and to the Creditors, the Public Debt ought to conſiſt of redeemable annuity ſtocks, bearing a rate of intereſt as high as (or higher than) the ordinary rate of the market; ſubject to a *limited tender* for the periodical redemption of the capital, equal to the *annuity* or *intereſt* therefrom periodically flowing.—This is the reſult of the Second Eſſay.

Theſe are the two Grand Elemental Principles of Public Credit; the aſcertainment of which was the ſubject of that laborious inveſtigation contained in the Firſt and Second Eſſays. It muſt therefore be obſerved, that all the intermediate principles, or poſitions, that occur in the courſe of the work, muſt be conſidered only as *ſteps* which at length lead to, and finally terminate in, theſe Elemental Principles. Every one of the examples, likewiſe, that are made uſe of, for the elucidation of the intermediate principles or poſitions, muſt be conſidered *ſolely* for the elucidation of thoſe particular poſitions to which they immediately appertain; and not as having any the remoteſt degree of connection with Syſtems intended to be recommended for actual practice.

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The ſyſtem of practice, to be adopted by any nation, ought to be ſuch as ſhall, in its nature, comprehend both of the above-mentioned Elemental Principles, compounded; but the manner of compounding them, ſo as to be the moſt applicable to the ſtate of the Finances of any particular nation, muſt neceſſarily depend on the ſtate of thoſe Finances for the time being. In the Poſtſcript, or Appendix, to the ſecond Eſſay (which was written in December, 1783) I gave a general ſketch of the out-line of a plan whereby the above-mentioned Elemental Principles might be applied to the then ſtate of the Public Debts and Finances of Great-Britain.

But it may not be amiſs to be a little more particular with reſpect to the contents of the Firſt and Second Eſſays, in order to enable the reader to peruſe them with a leſs degree of labour and difficulty, and with a greater degree of pleaſure and ſatisfaction.

The First Essay is divided into two parts; to wit, a body of inveſtigation: and a Poſtſcript, or Appendix, containing detached matter.

The former part is ſubdivided into nine ſections, of which I ſhall here ſay a word or two in their order.

In the First Section, are laid down the oppoſite opinions that have been entertained by different people, reſpecting the advantages and diſadvantages of a Public Debt. Theſe oppoſite opinions are diſcuſſed and examined; and on examination, they are *both* found to be exceptionable and inconcluſive.—This induced me (as I mentioned in the concluſion of this firſt Section) to purſue a method of inveſtigation that ſhould be totally independent of each of theſe opinions.

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The Second Section contains the definitions of the particular kinds of Public Debts intended to be investigated: The *data* or *postulata* intended to be made use of in the investigation: And a brief recital of the positions (or rather, of *part* of the positions) which, in the course of the work, are found to result from those *data*. As the truth of the whole investigation would necessarily depend on the verity of the *data*, it was of course, indispensibly necessary, that the *data* so to be taken, should be exceedingly simple, and self-evidently true.—They are five in number, and, in substance, briefly as follows, viz.

First, That, a time of war be always followed by a time of peace; and that a time of peace be always followed by a time of war.

Secondly, That, the public expences of a nation be greater in times of war than in times of peace.

Thirdly, That, for the purposes of conveniency in making payments and exchanges, there be one commodity, to wit, *Money*, that shall be considered as a general medium; and that the value of any other commodity be denominated according to the quantity of money that may be obtained therefor, as an equivalent.

Fourthly, That, the comparative value of commodities for the time being be governed by the *demand*, and the *ease* or *difficulty* with which such demand may be supplied.

Fifthly, That, money be productive of a *rent* or *interest*; and that, on account of the extraordinary demand for money in times of war, the rate of interest be then higher, than it would be, if such extraordinary demand did not exist.

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There cannot, it is imagined, be any the least doubt with respect to the *verity* of these *data*; and from these, the investigation proceeds, step by step as it were, until we at length arrive at the *Elemental Principles* before mentioned.

The Third Section treats of the damages attendant on the expences of war; and shews, that, if money be raised for the public service in time of war, by borrowing on annuity stocks at par, redeemable at the pleasure of Government, the variation in the rate of Interest mentioned in the 5th Postulatum, will be productive of a saving to the Public. This, however, must be considered only as a *step* in the investigation.—It must not be absolutely taken for granted that money can actually be so raised, particularly after a different kind of practice shall have prevailed: nor, indeed, were it even admitted that money could be so actually raised, it must not, even then, be taken for granted, that such would be the *most proper* method for practice. The *Monthly Reviewers*, in their publication for *November*, 1784, seem to have considered the examples contained in this third Section, as if those examples had been intended to elucidate a system recommended for actual practice; but this was quite foreign from my intention.—Those examples are given only to elucidate this particular position, or step of the investigation,—to wit, That if money be so actually raised, a public saving will be the consequence. But whether, in actual practice, money could be so raised, especially after a different system of practice has prevailed; or, even if it could, whether it would be the most *proper* system for practice, or not; are questions that require much further consideration.

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The Fourth Section points out the loſſes attendant on the raiſing of money for the public ſervice, by borrowing on ſtocks below par; or, on long temporary annuities.—The *loſſes* pointed out in this fourth Section, and the *ſavings* pointed out in the above-mentioned third Section, naturally introduce a very important queſtion,—How far theſe *loſſes* may, in actual practice, be avoidable? For, without ſuch avoidance, it muſt be evident that the *ſavings* mentioned in the third Section could not, in actual practice, be obtainable.

The Fifth Section contains an examination of the objections that appear, with reſpect to the cauſes from whence the before-mentioned loſſes may originate, and with reſpect to the practicability or impracticability of actually avoiding them. And the reſult of this examination is, that thoſe loſſes are, in their nature, avoidable; but are ſo connected and interwoven with the fluctuations of the rate of Intereſt, and the conſequent fluctuations of the values of annuity ſtocks, that the means to be uſed for the *actual* or *practical* avoidance of them muſt depend on the natural laws and principles (whatever thoſe laws and principles may be) which govern the *rate of Intereſt*; the *comparative value of money* conſidered as a circulating medium; and, the *conſequent fluctuations* of the values of annuity ſtocks. The great object, therefore, with reſpect to the *practical* part of the buſineſs (independent of which, all theory would be of but little *real* conſequence) muſt neceſſarily depend on thoſe laws and principles, whatever they may be found to be; and the inveſtigation of them takes up the 6th, 7th, and 8th Sections.

The Sixth Section treats of the nature of the rate of Intereſt, and the *general principles* by which the comparative value of money, and the fluctuations in the value of annuity ſtocks, are governed: with a ſhort digreſſion concerning the effects of taxes.—In this Section it is ſhewn that the rate of Intereſt for money (with which the fluctuations in the value of annuities are inſeparably connected) depends on the force of its circulation into the hands of the lenders:—And, that taxes, if properly laid, and applied to the rendering of the Intereſt on money cheaper, are capable of producing a benefit to the ſtate at large, inſtead of being burthenſome.

The Seventh Section purſues the ſubject further, and aſcertains the depreciations that would naturally take place in the value of the ſtocks, in conſequence of new loans, according to the proportions that ſhall be kept between the loans and the revenue thereto appropriated*. In this Section it is ſhewn, that, (barring and excepting the effects that may be produced by the locking up of money on ſpeculation; and barring and excepting alſo, ſuch effects as might be produced by invaſions, inſurrections, or ſuch other great calamities as might obſtruct the regular collection and appropriation of the Revenue; circumſtances which muſt naturally ſupercede all ſyſtems

* The Reader will pleaſe to correct with his pen, the following error, which, in the laſt examination from the preſs, eſcaped notice; viz. page 136, line 16, *for* 'in the ſame ſimple proportion', *read* 'in nearly the ſame ſimple proportion'.

systems of investigation and computation); the *extra Revenue* required to counteract those particular depreciations in the value of the stocks, that are the immediate consequences of the demand for loans, must be equal to the *premiums* necessarily required for the advancement of those loans; in *addition* to the periodical Interests.

The Eighth Section contains a simple enquiry into the principles which govern the comparative value of money, considered as a circulating medium.—It shews that the comparative value of money is not, in an inverse proportion, as the *quantity*; but, as the product, of the multiplication of the *quantity* by the *force* of the circulation; by which product it is, that the demands for money are supplied.—The result of this enquiry coincides with, and thereby supports, the doctrines contained in the 7th Section.

The Ninth Section contains enquiries respecting the ability, or inability, of nations, to raise the revenue required for supporting the value of the stocks; and the consequences that must be attendant on their depreciation. And it is shewn, that (barring and excepting invasions, insurrections, and such like great calamities, that may obstruct the regular collection and appropriation of the revenue, and thereby render all computative investigations nugatory), the revenue that will be required for the payment of the bare Interest of the loans, in consequence of a depreciation in the value of the stocks, during a long war (as seven or eight years), will be greater than the revenue that would be required for the counteracting and preventing of that depreciation, and for the payment of the Interest of the self same loans; so that nations that are able to raise a sufficient revenue for the payment of the interest of the

the loans required for the support of a long war, must be very able to raise the revenue that would be required to support the value of the public stocks from depreciation.—It is likewise shewn, in this ninth Section, that a depreciation in the value of the stocks must necessarily terminate in a public bankruptcy, unless proper measures shall be taken to prevent it:—And the Section concludes with the promise of a second Essay, containing an investigation of further principles, whereby this direful calamity may be prevented; and whereby the Public Credit of any nation may be restored to its pristine state.

These nine Sections therefore, put together, form the first of the Elemental Principles mentioned in the first and second pages of this Introduction; to wit,

> That, in order to avoid the maladies, and to attain the benefits, with which a Public Debt may be attended, it is essentially necessary that the value of the public stocks should be supported from depreciation; and that, in order thereunto, it is essentially necessary, that an *extra* proportion of revenue should be appropriated to that channel of circulation (in *addition* to the Interest) during the time of the advancement of new loans, equal to the *premiums* necessarily required for the advancement of those loans.

The Postscript, or Appendix to the first Essay, contains detached matter, which has a connection with the subject, but does not immediately appertain to the investigation.—It is divided into three Sections.

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The firſt Section contains ſome brief obſervations, reſpecting the primary principles on which the art of levying taxes muſt depend, in order that the raiſing of any given *quantity* ſhall be attended with as little *burthen* or *inconveniency* as may be poſſible. Together likewiſe with ſome brief obſervations reſpecting the principles of Paper Money, conſidered as an auxiliary medium of circulation: an auxiliary that was heretofore of very eſſential ſervice in ſome of the American Provinces.—Theſe obſervations aroſe from what was contained in the 6th, 7th, and 8th of the before-mentioned Sections, with reſpect to the nature and effects of the circulation of money. But theſe ſubjects are not purſued further, than juſt to form the *primary baſes*, or *foundations*, as it were, whereon regular inveſtigations of thoſe ſubjects may be built, by Gentlemen that may chooſe to undertake them.—For my own part, I have found ſo much labour in inveſtigating the principles of Public Credit, (ſimple as thoſe principles are, after they become aſcertained) that I ſhall leave further inveſtigations to Gentlemen of more eaſy circumſtances, and of greater mental abilities.

The ſecond Section of the Poſtſcript, contains ſome brief remarks reſpecting the actual ſtate of the Public Credit, and the current prices of the public ſtocks, from time to time, in Great Britain: Theſe are compared with the general principles deduced in the afore-mentioned Sections, in order to aſcertain how far thoſe general principles might agree or diſagree with the ſtate of things, as produced in actual practice. And, when it is conſidered that ſundry of the leſſer cauſes which affect the value of the ſtocks, are in

in their very nature, entirely incapable of being reduced within any regular ſyſtem of computative inveſtigation; ſuch, for inſtance, as temporary demands from foreign countries: temporary influxes and effluxes of wealth:—temporary fortunes and misfortunes in war, and in commerce: together likewiſe with the temporary ſpeculations that are naturally attendant on every of theſe conſiderations:—When, I ſay, it is conſidered, that every of theſe circumſtances, with many others of a like nature, have a temporary effect on the value of the ſtocks; and, that none of them are capable of a computative inveſtigation; the agreement that is found between the actual prices of the ſtocks, and their computative values, as deduced from the general principles before inveſtigated, is ſo much greater than could have been imagined, that no kind of doubt can reaſonably be entertained with reſpect to the truth of thoſe general principles.—The *Monthly Reviewers*, in their publication for *November* 1784, undertook to point out an error in this Section, reſpecting what would have been the comparative value of a 5 per cent. ſtock, at the time of the loan of 1781; but, on examination, the *error* happens to be in the *Reviewers*.—This point is re-diſcuſſed in the firſt Section of the third Eſſay, and will therefore be noticed, in turn, when we come to ſpeak of the third Eſſay.

The third and laſt ſection of the Poſtſcript, or Appendix to the firſt Eſſay, contains ſome brief remarks reſpecting the ſtate of the Paper-Credit of the American Provinces (now United States), at different times; and the agreement thereof, with the obſervations on the principles of Paper-

 Money,

Money, &c. contained in the first Section of this Postcript. The principle use of this Section is similar to that of the last; to wit, to ascertain how far the principles that had been theoretically deduced, would, or would not, hold true in actual practice; by comparing them with the effects that had been, in practice, actually produced. And it is hoped that the agreement which is thereby found, will be satisfactory to every attentive reader.

THE SECOND ESSAY takes up the subject of Public Credit where the ninth Section of the first Essay leaves it.—This Essay is also divided into two parts; to wit, a body of investigation; and a Postcript or Appendix, containing detached matter:—The former part is subdivided into three Sections; and the latter part into two Sections.

THE FIRST SECTION of the second Essay treats of the nature and progressional power of any Sinking Fund that shall be appropriated to the redemption of a public Debt.—It shews the necessity of securing the progressional power of the Sinking Fund from decreasing; and the equal necessity of securing the Annuity or Interest appertaining to the Creditors from being reduced.

THE SECOND SECTION contains an investigation, ascertaining the necessary principles of an annuity stock, that shall naturally produce an equal security to the progressional power of the Sinking Fund, and to the Annuity or Interest appertaining to the Creditor. The result is, that the stock ought to bear a rate of Interest (as high as, or) higher than the ordinary rate of the market, and be subject to a *limited tender* for the periodical redemption of the Capital, equal to the *Annuity* or *Interest*.

THE THIRD SECTION treats of the superior advantages attendant on an annuity stock of the abovementioned principles, in preference to any other kind of annuities; and the mutual benefits flowing therefrom, as well to the Creditors as to the Public; whereby the Public Credit will naturally become restored to its pristine state.

The second Essay, therefore, gives us the second of the Elemental Principles (as mentioned above in the second page of this Introduction,) to wit,

> That, in order to produce the greatest possible advantage and security, both to the Public and to the Creditors; the Public Debt ought to consist of redeemable annuity stocks, bearing a rate of Interest (as high as, or) higher than the ordinary rate of the market, subject to a *limited tender* for the periodical redemption of the Capital, equal to the *Annuity* or *Interest* therefrom periodically flowing.

The *Monthly Reviewers*, in their publication for *December* 1785, undertake to point out an Error in the Demonstration of the Theorem which forms the above principle; but, on examination, the *Error* is found to be in the *Reviewers themselves*.—This will be shewn in the first Section of the third Essay, which I shall mention again in its turn.

THE FIRST SECTION of the POSTSCRIPT or APPENDIX to the second Essay, (which was written in *December* 1783) contains some general observations on the then state of the Public Debts and Finances of Great Britain; together with the general out-line of a Plan for reducing them to the above mentioned principles; but the subject is not, there, pursued any farther than just to lay down such out-line:—The remainder was reserved for a third Essay; in which third Essay, a *little* remainder is still reserved; as will by and by be mentioned in its turn.—The out-line of the plan, as laid down in this Section, relates principally to a conversion of the debt into a *six per cent. stock*, subject to the aforementioned principles of redemption. At that time, it may be remembered, we had a very large outstanding debt remaining to be funded; the Revenue also fell short of the ordinary expenditure; and the stocks were falling in value, so that the rate of interest in the public market was near $5\frac{1}{2}$*l.* per cent. In this state of the debts and finances, a 6 per cent. stock was the most proper for the conversion. But since that time the state of things has been considerably altered. The unfunded debt (or at least the chief part of it) has been since funded; the Revenue has been encreased; and the stocks have risen in value. On this account a 5 *per cent. stock* is the most applicable to the *present*† state of the debts and finances; and a 5 *per cent. stock* is, accordingly, made the basis of the practical part of the subject as laid down in the third Essay.

The second and last section of the Postscript or Appendix to the second Essay contains remarks on a plan for raising money by public Loans, and for redeeming the public debts, as laid down in a pamphlet published in the spring of the year 1783, by Doctor Price; some parts of which, as they appeared to me, the Doctor had not sufficiently considered.

THE

† January 1786.

THE THIRD ESSAY relates, principally, to the practical part of the subject. This part requires a much less degree of labour, in the persual, than is necessarily required for the perusal of the investigative parts contained in the first and second Essays: And, for the benefit of those who may not have sufficient leisure to go through those investigative parts, I have endeavoured so to arrange this part of the subject, as that it may be read either with, or without, a previous perusal of the former Essays.

This third Essay is divided into three sections. The original manuscript contained only two sections; but, the Monthly Reviewers having, as was mentioned above, represented two points (the one contained in the second section of the Postscript or Appendix to the first Essay, and mentioned in their Review for November 1784; and the other contained in the second section of the second Essay, and mentioned in their Review for December 1785) as being erroneous;—and the latter of these two points being very intimately connected with the practical part of the subject; I thought it right to discuss these two points over again, before I proceeded to lay the practical part before the Reader.

THE FIRST SECTION, therefore, of the third Essay, contains observations in support of the abovementioned parts of the first and second Essays, in answer to the remarks of the Monthly Reviewers. These observations are confined (as closely as the necessary examinations would well admit) to the points actually in dispute;—*to wit*, —*First*, The comparative value of a 5 *per cent.*

stock

ſtock at the time of the Loan of 1781; and *ſecondly*, the Propoſition and Demonſtration contained in page 16 &c. of the ſecond Eſſay, reſpecting the comparative values of Annuity Stocks, bearing a higher intereſt than the ordinary rate of the market, ſubject to a periodical *tender*, equal to the *intereſt* or *annuity*, for the redemption of the capital. And I cannot entertain a doubt but the obſervations contained in this ſection will clear up the points in diſpute to the perfect ſatisfaction of all that ſhall examine them.

THE SECOND SECTION of the third Eſſay contains brief Obſervations reſpecting the nature and preſent ſtate of the public debts of Great-Britain; with the out-line of a plan for putting them into a regular courſe of Redemption: this ſection points out the neceſſity of a regular attention to the redemption; the neceſſity of a previous converſion of the debt into ſtocks bearing a rate of intereſt (as high as, or) higher than the ordinary rate of the market:—and, the neceſſity of ſecuring the *new* ſtocks from a reduction of the intereſt (by limiting the tender to which they ſhall be ſubject for their redemption) in order to give them a free capacity for riſing in value; whereby *alone* the loſſes that have been ſuſtained by the depreciations that have taken place in the value of the *old* Stocks, can be regained by the creditors.

THE THIRD AND LAST SECTION of the THIRD ESSAY contains a more particular account of the plan propoſed; together with the variations neceſſary to be made, in order to render it applicable, in practice, to the ſeveral and reſpective circumſtances and conveniencies of the different claſſes

claſſes and denominations of the Public Creditors. The plan, with its variations, is briefly this, viz.

Firſt. To convert the public debts into a *5 per cent. ſtock*, by offering to the creditors, a certain proportion of ſuch *5 per cent. ſtock* in exchange for their *preſent* ſtocks and annuities.

Secondly. To ſecure the new ſtock from a reduction of the intereſt; by making it liable *only* to a *periodical tender* for its redemption, equal to the *annuity*.

Thirdly. To provide for the conveniencies of thoſe to whom the periodical redemption might be inconvenient; by allowing a ſuſpenſion of the tender on certain fixed principles.

Fourthly. To provide for the conveniencies of thoſe whoſe ſituations and circumſtances might be ſuch as to require temporary annuities, for lives or years; by allowing a tranſcription of the redeemable ſtock into ſuch temporary annuities, on certain fixed principles, according to their reſpective values.

Fifthly. To give a further general encouragement for the converſion of the debt; by granting a preference, in all future Loans, to the holders or proprietors of the new ſtock.

Such are the Contents of the three Eſſays. There is, however, a little circumſtance which aroſe in the courſe of the inveſtigation, that has not been laid down in either of the Eſſays. The knowledge of this little circumſtance is of importance

portance only to practical Financiers:—To them indeed, it is of much importance; because, without it, the public must be saddled with certain prodigious losses, that are, in their nature, as easily to be avoided, as permitted. But when it is considered that the investigation of this important subject has been attended with an immensity of *labour*; the reservation of this little circumstance, for the benefit of the *labourer*, will not, it is humbly hoped, be deemed unpardonable.

ESSAY III.

SECTION I.

Observations in Support of certain Parts of the First and Second Essays; being in Answer to the Remarks of the MONTHLY REVIEWERS, *contained in their Publications for* November 1784, *and* December 1785.

1. IT was, as I mentioned in the preface to my first Essay, the importance of the subject only that induced me to communicate to the Public, the Result (or rather certain parts of the Result) of a very laborious Investigation. The same motives that induced me to undertake so arduous a labour, cannot fail of actuating me to undertake a defence of the doctrines I have laid down. With respect to style and language, I should make, perhaps, but an aukward figure in a literary disputation with the *Monthly Reviewers*. I cannot, however, but entertain the fullest hopes that the soundness of the doctrines I shall advance in the present instance, will be found to at one for the want of elegance in manner of expression.

2. In their *Review* for *December* 1785, they inform the Public, that they had given an account of my first Essay in a former *Review*; viz. that of *November*, 1784:—That they received from me,

 by

by a private Conveyance, ſome *Manuſcript* Remarks on ſome paſſages of it; and, " that they " have nothing to add or alter with reſpect to that " account." I have, therefore, to point out, before I proceed further, that (if they would wiſh their report to be near the truth) they *really have* ſomething to add or alter with reſpect to that account.

3. The only actual *point* (for I do not regard general expreſſions unleſs they are brought to a point) in diſpute between us, reſpecting the firſt Eſſay, is,—What would have been the comparative value of a 5 per cent. annuity ſtock, at the time of the Loan of 1781, ſuch 5 per cent. ſtock being redeemable at pleaſure? I have ſaid (in a Note, page 207 of the firſt Eſſay, as is mentioned in the *Monthly Review* for *November* 1784) and I ſtill continue to ſay, that the then comparative value of ſuch 5 per cent. ſtock would have been about $78\frac{2}{5}$*l.* as nearly as may be. The Reviewers ſay, in the latter part of their account of the firſt Eſſay, and (inaſmuch as they refuſe to correct it after receiving my Manuſcript) they continue to ſay, that the then comparative value of ſuch 5 per cent. ſtock, would have been about 92*l.** On theſe values we join iſſue.

4. It

* The 4 per cents were, then, actually taken at 70; and, as 4 : 5 :: 70 : $87\frac{1}{2}$ only. How then could a 5 per cent. ſtock have been worth 92?—We may *poſſibly* (but I ſhould think *not probably*) differ, on *further* reflection, with reſpect to what it really was worth; but I am perſuaded we ſhall agree, thus far *at leaſt*,—that it could not have been worth 92; for, it is evident, that an annuity of 5*l.* in the 4 per cent. ſtock, would not have been redeemable, without the conſent of the Annuitant, but on a future payment of 125*l.* An annuity of 5*l.* in the ſuppoſed 5 per

4. It is not, indeed, a matter of real conſequence to the Public, who ſhall agree, or who ſhall diſagree, with reſpect to the comparative values of annuity ſtocks, bearing different rates of intereſt, and being each redeemable at pleaſure by par payment. Whether the Monthly Reviewers and I may hereafter agree or diſagree, with reſpect to the comparative values of ſuch ſtocks; we ſhall, I doubt not, agree perfectly in this, to wit,—That ſuch ſtocks muſt, in actual practice, be attended with great diſadvantages and inconveniences, either to the Creditors, or to the Public, or finally to both. If ſuch ſtocks are *above par*, the Creditor muſt be liable to ſudden reductions of the intereſt; and if they are *below par*, the Public muſt be liable to immenſe loſſes in the redemption; or elſe (which, in practice, will naturally be the real caſe) no material redemption of ſuch ſtocks can ever be effected. Stocks of this kind are, therefore, entirely unfit for a public debt, whoever ſhall agree, or whoever ſhall diſagree, with reſpect to their comparative values.

5. But, although (on account of the abovementioned diſadvantages attendant on this particular kind of annuity ſtocks) their comparative values are not matters of *real conſequence* to the public; yet, ſeeing that they are the *points at iſſue* between the Monthly Reviewers and me, it

is

5 per cent. ſtock would have been redeemable, whether the annuitant would conſent or not, on a future payment of 100*l.* The former was actually obtained for $87\frac{1}{2}$*l.* It is evident, therefore, that the latter could not in poſſibility, have been worth ſo much as $87\frac{1}{2}$*l.*; inſtead of 92*l.* however we may, or may not, on further reflection, agree or diſagree, with reſpect to what it *really was* worth.

is highly proper, if it can be done without giving the reader too much trouble, that we ſhould either ſupport our reſpective aſſertions, or acknowledge our Miſtakes.

6. The abovementioned comparative value of a 5 per cent. ſtock at the time of the loan of 1781, viz. $78\frac{2}{5}$; was, it muſt be remembered, the reſult of a computation made from the value of the 3 per cent. ſtocks, and the nature of the Loans that had been made previous to the Loan of 1781, without having any regard to the value of a 4 per cent. ſtock. But if we take to our aid, the value of the 4 per cent. ſtock, in the ſtead of the nature of the Loans, the reſult will (or at leaſt *ſhould)* be nearly the ſame: and this latter method of computation will probably be much eaſier, and perhaps more convincing, than the former method, particularly to thoſe that have not made the nature and principles of Public Credit their peculiar ſtudy.

7. It is evident to every body, that, if there be a 3 per cent. a 4 per cent. and a 5 per cent. ſtock, each redeemable at pleaſure, by the payment of the ſame ſum of 100*l.* an annuity of 5*l.* in the 5 per cent. ſtock, will be redeemable at 100*l.* whether the Annuitant conſents or not; whereas, the ſame annuity of 5*l.* in the 4 per cent. ſtock, will not be redeemable, without the conſent of the annuitant, for a leſs ſum than 125*l.* and, the ſame annuity of 5*l.* in the 3 per cent. ſtock, will not be redeemable, without the conſent of the Annuitant, for a leſs ſum than $166\frac{2}{3}$*l.* Hence, then, the 3 per cent. ſtock muſt be worth more, in proportion to the annuity, than the 4 per cent. ſtock; and the 4 per cent. ſtock muſt be worth more, in proportion to the annuity, than the 5 per

5 per cent. ſtock. The truth of this obſervation is ſupported, in actual practice, by the daily prices of the ſtocks in Exchange Alley; although our preſent 5 per cent. ſtock is not redeemable at pleaſure, and is therefore worth more than it would be if it *was* redeemable at pleaſure.

8. The *little* or *no* probability of the 3 per cents ever riſing to *par*, renders a very great part of the privilege, which that ſtock, in particular, affords, with reſpect to the conſenting or not conſenting to the redemption, to be, indeed, of but very little real value; and it may, therefore, be conſidered, as a general rule, that, by ſo much as the value of any annuity in the 3 per cent. ſtock (ſuppoſing all the ſtocks to be, as aforementioned, redeemable at pleaſure by *par* payment) ſhall exceed the value of an equal annuity in the 4 per cent. ſtock; by ſo much, at leaſt, the value of ſuch annuity in the 4 per cent. ſtock will exceed the value of an equal annuity in a 5 per cent. ſtock*. If we admit this rule to be ſufficiently near the truth for our preſent purpoſe,

* Our preſent 5 per cent. ſtock is not redeemable till 25 millions of the other ſtocks ſhall have been previouſly redeemed. On this account our preſent 5 per cent. ſtock is worth ſomething *more* than this rule would give; but a 5 per cent. ſtock, redeemable at pleaſure (which is the ſtock actually in diſpute) would be worth rather *leſs* than this rule would give.—To prove this by an example,—Let it be ſuppoſed that a 4 per cent. ſtock ſhould be worth 90*l.* when a 3 per cent. ſtock is worth 70*l.* which is evidently a *very poſſible* caſe; and far from an *improbable* one. In this caſe, the above rule would give. $108\frac{1}{3}$*l.* for the value of a 5 per cent. ſtock; but, it muſt be evident to every body, that no man, conſiſtent with his own intereſt could give $108\frac{1}{3}$*l.* for a 5 per cent. ſtock, redeemable at pleaſure, when he could buy a 4 per cent. ſtock for 90*l.* That is, no man, conſiſtent with his own intereſt, could give $108\frac{1}{3}$*l.* for an annuity of 5l. redeemable at pleaſure, on the future repayment

purpoſe, we ſhall find by it, that the value of a 5 per cent. ſtock, at the time of the loan of 1781, would have been nearly the ſame ($78\frac{2}{5}$) as I mentioned in page 207 of my firſt Eſſay: for, at the Loan of 1781, the 3 per cents were taken at 58, which is $19\frac{1}{3}$*l.* for each *one pound* of the annuity; and the 4 per cents were taken at 70, which is $17\frac{1}{2}$*l.* for each *one pound* of the Annuity; the difference is $1\frac{5}{6}$*l.* which, being ſubſtracted from $17\frac{1}{2}$*l.* leaves $15\frac{2}{3}$*l.* for the then value of each *one pound* annuity in a 5 per cent. ſtock; ſo that, according to this rule, a 5 per cent. ſtock would have been worth about $78\frac{1}{3}$*l.* This agrees ſo very nearly with the abovementioned $78\frac{2}{5}$*l.* that the Public will, I doubt not, do me the honour to believe, that my principles hold true in a much greater degree than the Monthly Reviewers have been pleaſed to allow. If the Reviewers ſhould not think proper to admit the above rule, and the conſequents flowing from it, I ſhould take it as a favour, that they would aſſign ſome *good reaſon*, why, when each ſtock is redeemable at pleaſure, by *par* payment, the value of any annuity in a 4 per cent. ſtock ſhould not exceed the value of an equal annuity in a 5 per cent. ſtock, in as great a degree, as the value of ſuch annuity in a 3 per cent. ſtock ſhall exceed the value of an equal annuity in a 4 per cent. ſtock. If ſuch *good reaſon* do not exiſt (and I do not think it can exiſt) the value of ſuch 5 per cent. ſtock could not, it is evident, have been *higher* than I have mentioned.†

9. Having

repayment of 100*l.* when he could buy for $112\frac{1}{2}$*l.* an equal annuity of 5*l.* not redeemable, without his own conſent, but on the future re-payment of 125*l.*

† In the laſt note, I pointed out a *probable* caſe, in which the value of a 5 *per cent.* ſtock, redeemable at pleaſure, would be

9. Having ſaid enough with reſpect to the *truth* of my own aſſertion, viz. That, at the time of the Loan of 1781, the comparative value of a 5 per cent. ſtock, redeemable at pleaſure, would have been about $78\frac{2}{5}$*l.* I have, next, to point out the *error* of the Reviewers in ſuppoſing that it would have been about 92*l.*

10. The foundation of their error is this,—They take a Caſe, in Auguſt 1784, at which time the 3 per cents were at $57\frac{3}{4}$*l.* and the 4 per cents at 75*l.* and they reaſon from it, as if they conſidered it to be a parallel caſe with that of the Loan of 1781, at which time the 3 per cents were at 58, and the 4 per cents at 70*l.* Every body muſt ſurely ſee that theſe caſes are not parallel; and that any concluſions that ſhall be drawn from the one, can by no means be applicable to the other.

11. The Monthly Reviewers ſay (page 366, line 13 to 16) that my obſervations on the circulation of money, trade, taxes, and paper credit, are very ingenious and uſeful, though not perhaps true in the degree that I ſuppoſe. Had they examined the *whole* of what I ſaid (in the 6th, 7th, 8th, and 9th ſections) reſpecting the circulation of money, with that ſtrictneſs of attention which the nature of the ſubject indiſpenſibly requires, they would have found that the value of a 4 per cent. ſtock was capable even of much greater variations than thoſe above mentioned, from 70*l.* (as in 1781) to 75*l.* (as in Auguſt 1784) although the value of a 3 per cent. ſtock ſhould be, in each caſe (as it nearly

be *lower* than the above rule would give; but I know of no *poſſible* caſe in which it could be *higher* than the above rule would give. This obſervation will juſtify my having ſaid, in page 207, &c. of my firſt Eſſay, that no Man, conſiſtent with his own Intereſt, could actually have given ſo much as $78\frac{2}{5}$*l.* for ſuch 5 *per cent* Stock, had it been created.

nearly was), at 58*l.* And they would likewiſe have found, that it muſt be abſolutely impoſſible for a 5 per cent. ſtock to be worth 92*l.* when a 4 per cent. ſtock was worth only 70*l.* whether the value of a 3 per cent. ſtock ſhould be *higher* or *lower* than 58*l.*

12. It is evident to every body, that, at the time of the Loan of 1781, a man could obtain, for 87*l.* 10*s.* (in the 4 per cent. ſtock, which was then at 70*l.*) an annuity of 5*l.* not redeemable without his own conſent, but on a future payment of 125*l.* The preſent point in diſpute, therefore, reſpecting the then value of a 5 per cent. ſtock, becomes reduced to this queſtion, viz. When a man gives 87*l.* 10*s.* for an annuity of 5*l.* not redeemable without his own conſent, but on the future payment of 125*l.* how much ſhould he give for an annuity of 5*l.* that ſhall be liable to redemption, whether he conſents or not, on the future payment of 100*l.*? This queſtion, in itſelf conſidered, without calling ſome futher *data* to our aid, admits of no *preciſe* or *determinate* anſwer. The only anſwer that can be given, without ſome further *data*, is this *general one*; That its value muſt neceſſarily be ſomewhere between the extremes of 70*l.* and 87*l.* 10*s.* but whereabout, between theſe extremes, muſt depend on further conſiderations, whereby to aſcertain the value that may or may not (according to the actual ſtate of things for the time being, and the cauſes from whence ſuch ſtate of things ſhall have ariſen,) be put, on the privilege of *conſenting* or *not conſenting* to the redemption; and in the courſe of this latter conſideration we ſhall find, that, ſuppoſing each

ſtock

ſtock to be redeemable at pleaſure by *par* payment, the ſelf ſame cauſes that ſhall render a 4 per cent. ſtock worth only 70*l.* when a 3 per cent ſtock is worth 58*l.* will render a 5 per cent. ſtock worth only $78\frac{1}{3}$*l.* when a 4 per cent. ſtock is worth 70*l.* as is ſufficiently evident from what has been ſaid in the foregoing 8th article. This field of the variations of the comparative values of this particular kind of ſtocks, is, however, ſo very extenſive, and theſe ſtocks are likewiſe (for the reaſons mentioned in the aforegoing 4th Article) ſo entirely unfit for public uſe, thatit would be wrong to trouble the Public with any further arguments reſpecting their comparative values.

13. Whether, by this time, the Monthly Reviewers agree with me, or whether we continue to diſagree, with reſpect to the comparative values of the above kind of Annuity Stocks, it is not, in either caſe, a matter of any *real* conſequence: But, be that as it may, I have proved, *at leaſt*, what I ſat out to prove, as mentioned in the aforegoing 2d Article: (to wit), That (if they would wiſh their Report to be near the truth) they have *ſomething* to add or alter with reſpect to their account of my firſt Eſſay.—They muſt, for inſtance, either acknowledge, that their caſe of *Auguſt* 1784, when the 3 per cents were at $57\frac{3}{4}$, and the 4 per cents at 75, from whence they conſidered the value of a 5 per cent. ſtock to be about 92; was not applicable to my caſe of the loan of 1781, when the 3 per cents were at 58, and the 4 per cents at 70; and conſequently, that their concluſion was erroneous:—or elſe, they muſt ſupport this very ſtrange doctrine, that a 5 per cent. ſtock ſhall be worth 92, when a 4 per cent. ſtock is worth

only

only 70.—This latter, I ſhould preſume, they would not attempt to do; becauſe, even ſuppoſing a 5 per cent. ſtock to be no more liable to a reduction of the Intereſt than a 4 per cent. ſtock, it muſt be evident to every body, that their comparative values, even then, could only be in the proportion of 4 to 5; and, as $4 : 5 :: 70 : 87\frac{1}{2}$ only.

It is unneceſſary to ſay any thing further reſpecting their Remarks on my firſt Eſſay; ſave only, that I am exceedingly ſorry at being put, in my own defence, to the diſagreeable neceſſity of pointing out to the world, how little attention they pay to their Examinations.—A neceſſity, which the manuſcript I formerly conveyed to them, and which they acknowledge to have received, was principally intended to prevent.

14. I proceed now to point out the Miſtake into which they have fallen, in their *Review* for *December* 1785, reſpecting my ſecond Eſſay.

Their miſtake here, is of much more importance to the Public than their former Miſtake:—It is, indeed, of very eſſential importance to the Public; becauſe, it ſtrikes at the root of one of the moſt material Elemental Principles of Public Credit.—It cannot, however, but give me much ſatisfaction, that the point in diſpute ſhould fall on this particular part; becauſe it admits of Mathematical Demonſtration; and is therefore liable to no differences of opinion, among thoſe who ſhall carefully examine it.

15. The Point (and the only Point) in diſpute between us, reſpecting the ſecond Eſſay, relates to the *Truth* or *Erroneouſneſs* (which ever of the two it ſhall be) of the Poſition which I have

have laid down in page 16 of my ſecond Eſſay, and which they have juſtly repeated in page 422 of their *Review*:—To wit, That,

"If any Annuity Stock, bearing any Rate "of Intereſt higher than that of the "Market, be ſubject to a periodical Tender, in diſcharge of the Capital, equal "to the Annuity or Intereſt therefrom "periodically flowing, the value thereof "will be preciſely the ſame as if ſuch "Annuity was perpetual; and the rate of "Intereſt half-way between that of the "Market and that of the Stock*".

They ſay (page 422 of their *Review*) that my Demonſtration of this Poſition is *defective*: I anſwer,—It is *not Defective*, but *Perfect*: and thus we join iſſue with reſpect to their Remarks on the ſecond Eſſay.

16. It gives me much ſatisfaction, as I ſaid in the aforegoing 14th Article, that the Point in

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* That is to ſay,

Let r = the Rate of the increaſe, or amount of *One Pound* with its intereſt for one period (whether Year or Half-year), according to the actual Rate of Intereſt in the Market.

R = the Rate of the increaſe, or amount of *One Pound* with its Intereſt for one period, according to any Rate of Intereſt higher than that of the Market.

A = the Periodical Annuity, or Intereſt flowing from any Stock or Capital, bearing the ſaid higher Rate (R) ſubject to a periodical Tender for its redemption at *par*, equal to the Annuity (A) therefrom periodically flowing.

V = the capital value of ſuch Annuity A, or which is the ſame, the value of the Stock or Capital from whence it flows.

Then, I ſay, (as in the above Poſition), $V = \dfrac{A}{\frac{r+R}{2} - 1}$

in difpute has fallen on this particular part; becaufe it admits of Mathematical Demonftration, and is therefore liable to no differences of opinion, among thofe who fhall carefully examine it. To give the Demonftration in this place, might perhaps be interruptive to a part of the Readers: I have already given it in page 16, &c. of my fecond Effay, and I fhall give it again at the end of this fection. Whether Gentlemen of greater ability than I can pretend to claim, might, or might not, have given a Demonftration fomething different in its *manner*, is a queftion that I fhall not take upon me to determine: but, however that may be, I appeal to the World for the verity of its *matter*. And, as the Monthly Reviewers have undertaken to reprefent it to the Public as being erroneous, their readers may naturally expect, that they fhould either acknowledge, their *Miftake*; or, fupport their *Allegation*.

17. Their Miftake is owing entirely to their not having attended to the diftinction between the Roman Symbol R, which reprefents the Ratio of the Decreafe of the Capital by Redemption; and the *Italic Symbol R*, which reprefents the Ratio of the Increafe by Intereft; in the manner mentioned (to avoid interrupting the Non-Algebraic Reader) in the note below†.

18. I

† They alledge, that I have put, in the 8th ftep of my Demonftration, $R = \frac{1}{2-R}$ but, on re-examination, it will be found that I have not done fo.—The R which I put on the left-hand of the Equation is the Roman Symbol, which reprefents the Ratio of the Decreafe of the Capital by the tender to be made for

18. I cannot, indeed, but wifh, that the Printer had ufed (in the 6th, 7th, and 8th fteps of the Demonftration) types that had been more ftrikingly diftinguifhable—this fhould have been done, had I been in England at the Time. I muft, however, do the Printer the juftice to fay, that he made no Miftake in the Symbols, although he took them from a copy printed at St. *Auguftine*, (where choice of types could not be had) in which copy, the Symbols were not *more* diftiguifhable than thofe he has made ufe of.—I muft likewife add, in juftice to the Printer, that many Gentlemen, as well in America as in England, have examined the Demonftration, without being, in any the fmalleft degree, at a lofs, to diftinguifh the Symbols the one from the other; and without finding, in any other refpect, the fmalleft Degree of difficulty. I may alfo venture to fay, that the Critical

for its redemption.—The *R* in the denominator on the right-hand of the Equation, is the *Italic Symbol*, which reprefents the Ratio of the Increafe made by the addition of the Intereft or Annuity.—If the Tender be equal *in quantity* to the Intereft, it muft be perfectly evident that R, the Roman Symbol, cannot be equal to *R* the *Italic Symbol*: It muft evidently be, as I have put it in the 8th Step, viz.

$\mathrm{R} = \frac{1}{2-R}$; and the other Steps of courfe follow. In a 5 per cent. ftock, for inftance, R the Roman Symbol reprefents the Ratio of the Decreafe of the Capital made by the tender of 5*l.* whereby 100*l.* becomes decreafed to 95*l.* viz. the Ratio $\frac{1}{\cdot 95}$; whereas *R* the *Italic Symbol* reprefents the Ratio of the Increafe made by the addition of the Intereft, whereby 100*l.* becomes encreafed to 105*l.* viz. the Ratio $\frac{1.05}{1}$: wherefore $\frac{1}{2-R}$ is $\frac{1}{2-1.05} = \frac{1}{\cdot 95}$; and the like univerfally.

Critical-Reviewers* found no difficulty.—They, indeed, ſay, that "the language is dry and un-"ornamented"; but they ſay, "this is inſepar-"able from the nature of the ſubject"; and they ſay alſo—"We think the Plan equally clear, con-"ſiſtent, and practicable. We would ſtrongly "recommend it to the powers that be". And in another place, "Mr. Gale's arguments are "ſupported by great ſtrength of Reaſoning, and, "what ſeem to us, Accurate Calculations‡". Had there been any inſurmountable difficulties, they certainly would not have given ſuch a report.—Indeed, the mere circumſtance of the difference that there muſt *evidently* be, between the Ratio of the Increaſe by Intereſt, and the Ratio of the Decreaſe by Redemption, when the Tender to be made for the Redemption ſhall be equal in *quantity* to the Intereſt, would naturally point out the neceſſary diſtinction between the Symbols, had that diſtinction been even leſs apparent than it is:—or,—even, if the *Italic R* had been actually put by miſtake, in the ſtead of the Roman R (which, in fact, it is not) it might, one would imagine, have been conſidered as a typographical error; unleſs, after mature and full examination, the *Propoſition itſelf* ſhould have been found to be erroneous.—The Monthly Reviewers do not ſay whether the *Propoſition itſelf* is erroneous or not; although many people, from reading their Account, would naturally be led to imagine, that they conſidered it to be erroneous.—The Fact, however, is, that

* The *Critical Review* and the *Monthly Review* are different publications.
‡ Critical Review for April 1785.

that both the Propoſition, and the Demonſtration, are juſt and true.

19. "The importance of the Subject, and the "danger to the Public in leaving errors relating to "it undetected," obliged them, they ſay, to point out *my miſtake*.—As the *miſtake* happens to be *theirs*, and not *mine*; the ſame good motives will, it may reaſonably be expected, induce them to acknowledge it, with that candour which is on all occaſions due. And, to prevent any further Miſtakes with reſpect to the Roman and *Italic* Symbols, I ſhall give the Demonſtration over again, ſubſtituting the Old Engliſh 𝕽 in the room of the Roman R.

20. I have only to repeat, that I am exceedingly ſorry at being put, in my own defence, to the diſagreeable neceſſity of pointing out to the Public, the little attention with which the Monthly Reviewers examine things; and (from the idea I would willingly entertain of their regard for truth) I ſhall naturally expect, *at the leaſt*, their candid acknowledgement of the verity of theſe two Points that have been in diſpute between us, viz.

Firſt, That, when a man can obtain (as was the caſe at the time of the Loan of 1781) a 4 per cent. ſtock for 70*l.* he cannot, conſiſtent with his own Intereſt, give for a 5 per cent. ſtock, redeemable at pleaſure, ſo much as 92*l.* And,

Secondly, That, putting r, R, A, and V, reſpectively, as mentioned in the note to the aforegoing 15th Article, we ſhall have this Equation, viz.

$$V = \frac{A}{\frac{r+R}{2} - 1}$$

PRO-

PROPOSITION.

In which is comprehended, one of the chief Elemental Principles of PUBLIC CREDIT.

If any annuity ſtock, bearing any rate of intereſt higher than that of the market, be ſubject to a periodical tender, in diſcharge of the capital, equal to the annuity or intereſt therefrom periodically flowing, the value there of will be preciſely the ſame as if ſuch annuity was perpetual; and the rate of intereſt half-way between that of the market and that of the ſtock.

DEMONSTRATION.

I. If any annuity, $a = C \times \overline{r-1}$, ſhall flow from any perpetual annuity ſtock or capital C, bearing a rate r, equal to the ordinary rate of increaſe by intereſt in the market; then it is evident that the value or preſent worth of ſuch annuity a, or of ſuch ſtock C, will be - - - - - - - - - - - - - - - - $C = \dfrac{a}{r-1}$

II. But the value or preſent worth of ſuch annuity ſtock, and the preſent worth of all the periodical annuities, ſo flowing therefrom, *ad infinitum*, are preciſely one and the ſame thing; wherefore we have,

$$\frac{a}{r} + \frac{a}{r^2} + \frac{a}{r^3} + \frac{a}{r^4} + \frac{a}{r^5} + \text{ \&c. ad infinitum, } = \frac{a}{r-1}$$

III. Again, if any annuity $A = C \times \overline{R-1}$, ſhall flow from any redeemable annuity ſtock or capital C, equal in nominal capital to the former, but bearing a rate of increaſe by production R, higher than the ordinary rate r, of increaſe by intereſt, in the market; then it is evident, that the value or preſent worth of ſuch annuity A, or of ſuch ſtock C, muſt be greater than the former, according

ing to the terms or conditions, on which the ſaid ſtock or capital ſhall be redeemable; whereby the extra part $A - a$ of the annuity (or the extra intereſt $C \times \overline{R-r}$) ſhall, ſo far forth, expire.

IV. And if ſuch ſtock or capital C, bearing the ſaid rate R, be ſubject to any given periodical ratio $\mathfrak{R}$ of redemption, by par payment; then it is evident, that the ſaid extra part $A-a$ of the annuity, muſt periodically decreaſe in that given ratio, and muſt therefore become periodically as follows, viz.

$$\frac{A-a}{1}, \frac{A-a}{\mathfrak{R}}, \frac{A-a}{\mathfrak{R}^2}, \frac{A-a}{\mathfrak{R}^3}, \frac{A-a}{\mathfrak{R}^4}, \text{ \&c. ad infinitum;}$$

the value or preſent worth of which is

$$\frac{A-a}{r} + \frac{A-a}{r^2\mathfrak{R}} + \frac{A-a}{r^3\mathfrak{R}^2} + \frac{A-a}{r^4\mathfrak{R}^3} + \frac{A-a}{r^5\mathfrak{R}^4} + \text{ \&c. ad}$$

infinitum; which (per II.) is equal to - $\dfrac{\overline{A-a} \times \mathfrak{R}}{r\mathfrak{R}-1}$

V. Wherefore (I. & IV.) the value or preſent worth (which let be called V) of the ſaid annuity A, or ſtock C, bearing the rate R, is

$$V = \frac{a}{r-1} + \frac{\overline{A-a} \times \mathfrak{R}}{r\mathfrak{R}-1}$$

VI. Now if the periodical tender, to which the ſaid ſtock or capital C, bearing the ſaid rate R, be ſubjected, ſhall be equal to the annuity A, therefrom flowing; then it is evident, that - - - - - $\dfrac{C}{\mathfrak{R}} = C - A$

VII. Which (III.) is - - - $\dfrac{C}{\mathfrak{R}} = C - \overline{C \times \overline{R-1}} = 2C - CR.$

VIII. Wherefore, - $\mathfrak{R} = \dfrac{C}{2C - CR} = \dfrac{1}{2-R}$

 IX. In

IX. In this cafe, therefore, the abovementioned value or prefent worth (V.) of the annuity A, or of the ftock C, bearing the rate R, will be

$$V = \frac{a}{r-1} + \frac{\overline{A-a} \times \frac{1}{2-R}}{\frac{r}{2-R} - 1}$$

X. Which (by reduction) is $V = \frac{a}{r-1} + \frac{A-a}{r+R-2}$

XI. But (I.) $a = C \times \overline{r-1}$ wherefore the above value or prefent worth (X.) is $V = C + \frac{A - C \times \overline{r-1}}{r+R-2}$

XII. Which (by reduction) is $V = \frac{CR - C + A}{r+R-2}$

XIII. Again (III.) $A = C \times \overline{R-1} = CR - C$; wherefore the above value or prefent worth (XII.) is - - - - - - - - - $V = \frac{2A}{r+R-2}$

XIV. Which (by reduction) is $V = \frac{A}{\frac{r+R}{2} - 1}$

WHICH WAS TO BE DEMONSTRATED.

S E C-

SECTION II.

General Obfervations refpecting the Nature and Prefent State of the Public Debts of GREAT BRITAIN; *together with the General Out-line, or Elemental Principle, of a Plan for putting them into a regular Courfe of Redemption.*

1. IT is univerfally admitted, it is, indeed, felf-evident, that wherever it fhall become neceffary to incur a large Debt, a provifion ought to be made for the difcharge or diminution thereof.—All men agree, that there ought to be, in addition to the Intereft, a Surplus or Sinking Fund, applied to the redemption of the Principal: but although mankind are agreed thus far, they do not agree with refpect to the manner of applying fuch Sinking Fund.

2. It might be eafily conceived, that, if the application of a Sinking Fund to the redemption of a Debt was productive of *one*, and *only one*, fimple and determinate effect, there could be no room for a difference of opinion. The difference of opinion arifes, therefore, from this, viz. The application of a Sinking Fund is productive (not of *one* fingle effect, but) of a *chain* or *feries* of effects; which, in the natural courfe of Commercial Circulation, become extended through all parts of the Community, or Body-Politic; in much the fame manner as the effects of a medicine become extended, by the natural courfe of Circulation, through all parts of the Body-Natural. Hence it is, that Gentlemen differ in their opinions, according as they examine the nature of this *chain* or *feries* of effects, with a greater or leffer degree of attention, ftrictnefs, and accuracy. Two of thefe effects require to be particularly attended to.

 3. FOR

3. FOR EXAMPLE, It is univerfally known and underftood, that if a Surplus or Sinking Fund be periodically applied, without interruption, to the redemption of Annuities, at any *fixed* price; the redemption will be effected in a Geometrical Progreffion:—that is, in the fame manner as fuch Surplus or Sinking Fund would become accumulated, by being improved at Compound Intereft. A Surplus or Sinking Fund, for inftance, of one Million a year, (or rather 500,000*l.* *per* half-year, fuppofing the payments to be made half-yearly) reckoning Intereft at 5 per cent. per ann. (that is, reckoning the *price* to be paid for the redemption of each 1*l.* Annuity to be *fixed* at 20*l.*) would, by being uninterruptedly applied for 60 years, redeem 367,166,800*l.* of Capital Stock bearing 5 per cent. and would thereby releafe an annual Revenue or Intereft of 18,358,340*l.* But this, it muft be *ftrictly* obferved, depends on the fuppofition, that the *price* to be paid for the redemption of each 1*l.* Annuity, be actually *fixed* at 20*l.*—If, therefore, the price be not fo fixed, the conclufion does not hold good.

4. It is likewife univerfally known and admitted, that the application of a Sinking Fund to the redemption of a Public Debt, will naturally produce a *rife* in the value or price of the Annuities, in cafe they fhall have a capacity for rifing in value. Now, if, inftead of fuppofing the price for the redemption of each 1*l.* Annuity to be *fixed* (as in Article 3) at 20*l.* we fhould fuppofe the faid price to *rife* from 20*l.* to 21*l.* 22*l.* 23*l.* 24*l.* and fo on, annually, the progreffional power of the Sinking Fund would be fo defeated, that the uninterrupted application of the aforefaid Sinking Fund of one Million a year, during the aforefaid

aforefaid term of 60 years, would, in fuch cafe, redeem or releafe only 3,000,000*l.* of annual Revenue or Intereft, inftead of the abovementioned 18,358,340*l.* It is therefore, indifpenfibly neceffary, when we fpeak of the Debt of any particular Nation, to be ftrictly attentive to the nature of the cafe, before we venture to draw conclufions.

Having thus premifed, we may proceed to confider the Public Debt of Great Britain.

5. The great bulk of the Public Debt of Great Britain confifts, it is well known, of 3 per cent. Annuities*; the market value whereof, has been varying backwards and forwards, again and again, fince the conclufion of the Peace in *January* 1783, between 18*l.* and 24*l.* for each *one Pound* of the Annuity:—That is, between 54*l.* and 72*l.* for each 100*l.* of 3 per cent. Stock; but they are not fixed at any of thefe prices. They have a capacity for rifing to $33\frac{1}{3}$*l.* for each *one pound* of the Annuity; that is, the Stock has a capacity for rifing to 100*l.* and were a Sinking Fund to be applied to the redemption of the Debt in its prefent ftate, this *rife* would naturally be thereby produced, and the progreffional power of the Sinking Fund would be thereby (in great meafure) defeated, as mentioned in the aforegoing 4th Article.

6. It

* Gentlemen who would wifh for hiftorical information, refpecting the exact quantity of our Debts at different times, and the manner in which they have been incurred, will pleafe to read Mr. Sinclair's Hiftory of the Revenue. This Effay not being of an hiftorical nature, I fhall

6. It is alſo well known, that the above men-tioned *riſe* in the value of the Stocks, would oblige the Public to pay, in the redemption, im-menſe ſums that have never been received.—A very conſiderable part of our 3 per cents, it is well known, brought leſs than 60*l.* but were a ſufficient Sinking Fund to be applied, they would quickly require 100*l.* for their redemption†. This would evidently be unjuſt, and it ought, conſe-quently, to be avoided.

7. But,

ſhall only obſerve, that at this time (*January* 1786) the Funded Debts ſtand ſomething nearly (but the Statements I have ſeen do not *exactly* agree) as follows,

	Millions,
1. £.187,613,244 of 3 per cent. ſtock, which, if we reckon them according to their average value for the laſt three years, viz. about 63*l.* (being half-way between their late extreme prices of 54*l.* and 72*l.* will be worth, about - - - - - -	118¼
2. £.32,750,000 of 4 per cent. ſtock, which, reckoning after the ſame manner, will be worth about - - -	27¼
3. £.17,869,994 of 5 per cent. ſtock, by which were cancelled ſundry outſtand-ing debts, amounting to about - - -	16½
4. Sundry Temporary Annuities of diffe-rent lengths; worth about, for even numbers, - - - - - -	20
Total value, about	182 Ms.

But were we to attempt an effectual redemption, in the preſent ſtate of the Debt, ſuch redemption would require above 250 millions.

† It is imagined by ſome, that this *riſe* in the value of the Stocks, and the loſs to the Public thereon attendant, might be avoided, by employing the Sinking Fund in pur-chaſing up the Stocks privately and ſilently; but this is a very

7. But it is perfectly evident that this im-menſe loſs to the Public cannot poſſibly be avoided, unleſs the *price* to be paid for the re-demption ſhall (on ſome principle or other) be prevented from *riſing* in conſequence of the ap-plication of the Sinking Fund; nor can this be done, but by a New Agreement with the Credi-tors. It muſt likewiſe be obſerved, that many of the Creditors have ſuſtained great loſs by the depreciation which has taken place in the value of their Stocks or Annuities; which loſs can never be reſtored to them, but by a future *riſe* in their value.—This being the caſe, the *capacity* for the Stocks or Annuities to riſe in value, muſt not be done away; becauſe thereby the Credi-tors would be ſaddled with an immenſe loſs; which would be equally unjuſt, and ought, of courſe, to be as effectually avoided, as the loſs to the Public mentioned in the aforegoing 6th Article.

8. Hence then, it is eſſentially neceſſary, in order to adminiſter that mutual juſtice which ought always to be obſerved, that the plan or ſcheme to be agreed on for the redemption of our Public Debt, ſhould be ſuch as ſhall, in its nature, avoid effectually, each of the above-mentioned Loſſes. That is to ſay,—The plan to be adopted, ought to be ſuch, as ſhall in its nature *fix* the *price* to be paid for the redemption, and

B 4 leave,

very great miſtake. The additional demand for the Stocks, and the diminution of their quantity, muſt neceſſarily raiſe their price in proportion to that demand and diminu-tion; however ſilently it might be conducted. A ſmall re-demption would, indeed, produce but a ſmall effect; but the loſs would neceſſarily encreaſe, as the redemption ſhould become encreaſed.

leave, at the fame time, a free and fecure capacity for the Annuities or Stocks, appertaining to the Creditors, to *rife* in value.—This may be done feveral ways.

9. If, for example, an Annuity of 3*l.* 5*s.* or 3*l.* 10*s.* more or lefs, to continue a certain number of years and then ceafe, fhould be given in exchange for 100*l.* of 3 per cent. Stock; then, the additional 5*s.* or 10*s.* a year, fo given, would be, in effect, a finking Fund, whereby the redemption would be effected, according to the *fixed* rate on which the exchange of the Annuities, the *one* for the *other*, was founded; and the unexpired term of the Annuity, fo given, would always have a free and fecure capacity for rifing in value, according as the Rate of Intereft for Money might fall. The fame obfervation would hold equally true, if Annuities for Lives were to be given in exchange for the prefent Annuities. It is, however, juftly allowed, on all hands, that a converfion of the Debt into Annuities for Years, or Lives, would not be practicable, to any very great extent. It is unneceffary, therefore, to enlarge here, either on its advantages or its defects.†

X. An-

† Temporary Annuities, either for lives, or years, might, with very great propriety, be granted as a *collateral* meafure, in order to fuit the conveniencies of fuch of the Public Creditors as might, from their peculiar fituations and circumftances, particularly defire them: but an eftablifhment of fuch Annuities, on a great fcale, would be highly improper and difadvantageous. The difadvantages attendant on long Temporary Annuities, are well obferved by Mr. Sinclair, in his Hiftory of the Public Revenue of the Britifh Empire, Part II. Chapters iv. and v. Life Annuities on any very large fcale, would be, of the two, ftill more difadvantageous to the Public than Long Annuities for years: becaufe, the value to be given for fuch Life Annuities would, naturally, be reckoned, according to the *ordinary* degrees of the Probability of the Duration of human Life; but the moft healthy perfons that could be pitched on, would naturally be felected, by the Purchafers, for *Nominal* Annuitants, in cafe any thing of this kind fhould be attempted on a great fcale.

10. Annuity Stocks are generally, and juftly, allowed to be far preferable to temporary annuities, in commercial countries like Great Britain. The Plan therefore, that I fhall beg leave to propofe, is, to fix the *price* to be paid for the redemption, by converting the debt (according to the actual value of the ftocks, to be agreed on with the creditors) into ftocks redeemable at *par*, bearing a rate of intereft as high as (or higher than) the ordinary rate of the market. And, to give the new Stocks a free and fecure capacity for rifing in value *above par*, by *limiting* the proportion which the creditors fhall be periodically liable to receive, if tendered, towards the redemption of the capital.

In the fecond fection of my fecond Effay, I inveftigated and afcertained the proportion which the tender, to be thus periodically made towards the redemption, ought to bear to the Stock or Capital fo to be periodically redeemed, in order to produce the greateft poffible advantages to the Public, and to the Creditors: And the refult of that inveftigation was, that it would be the moft advantageous for both parties, that fuch new Stock fhould be liable to a periodical tender towards the redemption of the capital, equal to the Annuity or Intereft therefrom periodically flow-

ing.

ing. The general out-line, therefore, of the Plan here propofed, is, to convert the debt into a new Annuity Stock of this kind; by offering fuch of the prefent creditors, as fhall think proper to accept of the propofed exchange, fuch a certain quantity of the faid new Stock, as fhall be equal in value to their prefent Stocks or Annuities; together with fuch an addition, by way of premium, as fhall be thought proper, in order to induce them to give the new Stock the preference.

So much for the general out-line, or elemental principle of the plan.—The variations intended, in order to fuit the particular *conveniences* of the Creditors, will be the fuject of the next fection.

11. It would be almoft endlefs to undertake a full enumeration of the effects that would naturally flow from this converfion of the debt: It may not, however, be amifs, before we enter on the next fection, to mention two or three of the moft obvious.

In the firft place, it is evident that the loffes which the Public would fuftain (as mentioned in the aforegoing 6th article) by paying, for the redemption, immenfe fums that have never been received, would, by this converfion of the debt, be effectually avoided. This is, clearly, an object of immenfe importance.

12. The debt being thus converted into Stocks bearing a higher rate of intereft; any finking Fund, that fhall be applied to the redemption, will have a much greater progreffional power, than it would have, if applied to the redemption of Stocks bearing a low rate of intereft.* This

* The Annual Revenue or Intereft that would be redeemed or releafed in 40 years, by a finking Fund of One

This doctrine is fo generally underftood, that it is unneceffary to enlarge on its immenfe importance.

13. The *limiting* of the *tender* to which the new Stocks fhall be periodically liable for their redemption, effectually fecures the Annuity or Intereft appertaining to the creditors, from being reduced; and thereby gives a free and fecure capacity for the new Stocks to rife in value; and the application of a finking Fund will naturally caufe them to rife higher and higher; whereby the creditors will regain, gradually, the loffes ~~that~~ have been hitherto fuftained by their depreciation.† The importance of this fecurity of

Million a Year (or rather 500,000*l.* per Half Year), applied to the Redemption of Stocks at par, would be as follows: viz.

If applied to	3 per Cent. Stocks	£2,283,072	The Difference is immenfe.
	4 per Cents	3,875,460	
	5 per Cents	6,209,100	
	6 per Cents	9,640.844	

† On this account it is equally the Intereft of the Creditors, as of the Public, that the Debt fhould be converted. If the Debt fhould remain unconverted, every reafon would remain for us to expect that the Stocks would depreciate during the next 30 years, in the fame manner as they have done during the laft 30 years. Some people have recommended, as a Preventative againft this Depreciation, the eftablifhment of an unalienable finking Fund, to be perpetually applied to the Redemption of the Debt, as well in time of War as in time of Peace; but they have confidered the nature of the fubject only in part. Such a meafure, without a previous Converfion of the Debt, would not only faddle the Public with the Loffes mentioned in the aforegoing 6th Article; but in time of War it would be attended with ftill further loffes; becaufe, the *Intereft* or *Revenue* that would be required to obtain

of the Interests of the Creditors, is likewise evident.

14. The above mentioned *rise* in the value of the new Stocks (which will naturally be produced by the application of a sinking Fund to their redemption) will secure the *perpetual* application of the sinking Fund to the redemption of the debt, as well in time of war as in time of peace; because, the market value of the Stocks being so carried above par, any monies, that may be wanted for the Public Service, will be obtainable in the market, for a *less* proportionate *revenue* or *interest*, than that which will be released by applying the sinking Fund to the redemption of the debt. This circumstance of securing the perpetual application of the sinking Fund to its proper line of service, and thereby causing the redemption of the debt to proceed in a perpetual geometrical progression, is likewise a matter of immense importance.

Such are the advantages which, with an infinity of others, would naturally flow from a conversion

obtain any Sum of Money in the Market, would be *greater* than the Interest or Revenue that would be released by applying an equal Sum to the Redemption of the Debt. It is, indeed, true, that the Financial System ought to be so constructed and conducted, as that the sinking Fund should be perpetually applied to the Redemption of the Debt, as well in time of War as in time of Peace; but it is *essentially* and *indispensibly* necessary, as a *previous* Requisite, that the sinking Fund, so to be applied, should be enabled to release, by the Redemption, a *greater Revenue* or *Interest* than would be required to obtain an equal Sum of Money in the Market. This *previous Requisite* will be obtained by the abovementioned Conversion of the Debt; as will be observed in the 14th Article.

version of the debt into Annuity Stocks bearing a higher rate of Interest, subject to the aforementioned *limited tender* for the periodical redemption of the capital.

SECTION III.

Of the General Variations necessary to be made, in order to render the aforementioned Elemental Principle applicable, practically, to the several and respective Circumstances and Conveniencies of the different Classes and Denominations of the Public Creditors.

1. THE Public Stocks and Annuities of which the Debts of the Nation are composed, are, it is well known, the property of a great diversity of people, whose views, occupations, situations, and circumstances, are very different. It is therefore impossible, in the nature of things, to devise any one Plan that shall, without variation, suit the conveniencies of the whole: and as nothing may be done, but by the consent or approbation of the Creditors, it becomes necessary to consider how far the proposed Plan may, without variation, be suitable to the conveniencies of *part* of the Creditors: how far variations may be made, consistent with the *spirit* or Elemental Principle of the Plan, in order to suit the conveniences of others of the Creditors: In what cases the Plan, by not suiting the conveniencies of others of the Creditors, may be inapplicable: and, what other Measures may be applied, in cases where the Plan proposed shall be inapplicable (if any such cases there should be) in order

order to effect the great object of reducing the Public Debt within more reasonable bounds, and preventing its excessive accumulation in future.

2. In order to ascertain how far the proposed Plan shall be applicable or inapplicable to the conveniencies of the Public Creditors, it is necessary to divide them into different classes.—These different classes of the Public Creditors may be comprized under the following Three General Heads: viz.

First—People to whom the *Value of the Capital* is of more Consequence than the *Interest* or *Annuity*. This is the case with people that are engaged in business, who place their Money in the Stocks occasionally, and occasionally draw it out by a Sale, as their business may, from time to time, render necessary or convenient.

Secondly—People to whom the *Value of the Capital*, and the *Interest*, or *Annuity*, are of *equal* Consequence. This is the case with Minors, and with People not immediately in business, who will naturally have occasion for their Capital at some distant day, and must live on the Interest in the intermediate time.

Thirdly—People to whom the *Annuity* or *Interest* is of more consequence than the *Value of the Capital*. This is the case with those who want the Annuity only, and who do not expect ever to have occasion for their Capital.

A further Subdivision, particularly of the Third General Head, may, in the course of the Discussion, become necessary. But it is perfectly

 evident,

evident, that every Individual of the Public Creditors, whether he be a Native, or a Foreigner, must necessarily fall under some one or other of these general heads: That is to say, he must, evidently, either regard the *Annuity* and the *Capital* in an equal degree; or else, he must have a greater degree of regard for *one* than he has for *the other*.

3. It must be strictly remembered, and may therefore, without unpardonable tautology, be here repeated, that the *effect* intended to be produced, is, a gradual diminution of the public debts and incumbrances, by such a fair and equitable discharge of the Capital or Principal, as shall be productive of the greatest advantages and conveniencies to ALL, and the least disadvantages or inconveniencies to *any*, that can, in the nature of things be possible.

It must likewise be remembered, that the general principle, or outline, of the plan proposed for this purpose, is, to *fix* (with the consent of the Creditors) the *price* to be paid for the redemption, by converting the debt, or as much thereof as may be, into *annuity stocks* redeemable at *par*, bearing a rate of interest as high as (or higher than) the ordinary rate of the market, subject to a *limited tender* for the periodical redemption of the capital, equal to the *annuity* or *interest* therefrom periodically flowing.* We have

* See the 10th article of the last section:—See also the second section of the second Essay; in which it is shewn, that no other tender, whether greater or lesser, would be equally advantageous to the public and to the creditors. A greater tender would, indeed, be more advantageous for

have, therefore, to consider, how far this principle will accord with the respective conveniencies of the aforementioned different classes of the Public Creditors; and what variations may be admitted, consistent with the general spirit of the plan, whereby to give it the greatest extent, in order to meet their respective conveniencies in the greatest possible degree.

4. The first general class of the Public Creditors, to wit, those to whom the *value of the Capital* is of more consequence than the *Interest or Annuity*, may be considered as comprehending all those that are engaged in business; as Bankers, Merchants, and inferior Tradesmen, who have alternately, from time to time, an occasion for their capitals in their respective callings; and who, when they have more money on hand than they have occasion for, lay it out in the Stocks, in order to obtain an Interest for sums that would otherwise lay, from time to time, idle and unproductive in their coffers. To this class of the Public Creditors the *Annuity* or *Interest* is of consequence, inasmuch, as it is a profit on monies that would otherwise lay dead. But the *value of the Capital* is still of greater consequence to them; because, by its depreciation, they might lose more, when they came to have occasion to sell out, than the Interest in the intermediate time might amount to; in which case they would, on the whole, sustain a loss.—By a *rise* in the value of the Stocks, they would, indeed, gain more than they would lose by an equal degree of *fall*; because the

for the public, but it would be less advantageous for the Creditors; and a lesser tender would be less advantageous both for the public and for the creditors.

the Interest would be received in either case:—But, without putting the Debt into a train for redemption, (which, for the reasons contained in the 5th and 6th Articles of the second Section, can never be expected without a previous conversion of the Debt) there can be little or no chance for any permanent *rise* in the value of the Stocks. On the contrary, there must be much chance for a permanent fall; as the experience of these last thirty years sufficiently evinces. If, however, we could suppose, (what both reason and experience contradict) that the chance of their *rising* might be equal to the chance of their *falling*, yet, (at least to this first class of the Public Creditors), a reasonable profit in hand would be far preferable to such chance. A reasonable profit in hand is always more acceptable to people, in any kind of business, than a *chance* of a greater profit at a distant day, attended (as is always the case) with the *opposite chance* of losing instead of gaining.

To this first class of the Public Creditors, the plan proposed is peculiarly suitable. The premium to be granted for the conversion will be an immediate profit:—The value of the New Stock will be subject to only about *half* the degree of fluctuation that our present Stocks (particularly the 3 per cents) are subject to; and the retention of the Sinking Fund in its proper line of service (as mentioned in the 14th Article of the last Section) secures, as far as human things are capable of being secured, the *rise*, and thereby precludes the *fall*, in the value of the Stocks. Neither can the proportion to be tendered towards the redemption of the Capital be a matter of inconveniency to this class of Public Creditors: for, to people in business, it is scarcely possible that

moderate

moderate ſums of money can come unſeaſonably†. It may not be amiſs to elucidate theſe Obſervations by an Example.

5. The market values of our 3 per cent. Stocks, have varied backward and forward, (as I obſerved in the 5th Article of the aforegoing Section) ſince the concluſion of the Peace in *January* 1783, between the extremes of 54 and 72, or thereabout; ſo that their average or middle value has been, for the laſt three years, about 63*l.* It is neceſſary however, to obſerve, that we have now, *little* or *no* outſtanding Debt remaining to be funded; and our Revenue is alſo greater (at leaſt I have heard ſo, and I have no reaſon to doubt the truth of it) than the expenditure.—This being the caſe, we may reaſonably (notwithſtanding their very fluctuating nature) conſider the actual or central value of the 3 per cents to be higher than 63*l.* And, as we may juſt as well elucidate the aforegoing Obſervations, by taking an Example ſomething nearly agreeable to the actual ſtate of things, as by taking any other Example, let it be ſuppoſed, for the purpoſe of elucidation, that the ſtate of the market ſhould be ſuch, that 63*l.* of 5 per cent. Stock, ſubject to the abovementioned principle of redemption, ſhould be equal in value to 100*l.* of 3 per cent. Stock; which would be nearly the caſe, if the 3 per cents were worth about 66*l.* in which caſe ſuch 5 per cent. ſtock would be worth about $104\frac{3}{4}$*l.* in the market. In

† If, however, there ſhould be any of this claſs of the Public Creditors, to whom the Tender might be at any time inconvenient, they will find their conveniencies ſuited, by the variations that will be hereafter propoſed, when we come to ſpeak of the ſecond claſs.

In this ſtate of the market (no material outſtanding debt remaining to be funded) it would be moſt proper to convert the debt into ſuch 5 per cent. ſtock:‡ And, for this purpoſe, let it be ſuppoſed

‡ If the general (or central) value of the 3 per cents ſhould be materially higher than 75*l.* a 4 per cent. ſtock would be better than a 5 per cent. ſtock. And, on the other hand, if the general (or central) value of the 3 per cents ſhould be as low, or lower than 60; or, if ſo large a debt ſhould remain to be funded as would carry them ſo low as 60; a 6 per cent. ſtock would be the moſt proper. See the ſecond Eſſay, from page 36 to page 73.

The following table ſhews the comparative value of a 5 per cent. ſtock, when a 3 per cent. ſtock is worth any where between 61*l.* and 80*l.* ſuppoſing the intereſt on the 5 per cents to be ſecured from reduction, by limiting the *tender* to which they ſhall be periodically liable for their redemption, in manner aforementioned, viz. That the *tender* ſhall not exceed the *annuity*. From this table, therefore, may be aſcertained, the quantity of 5 per cent. ſtock that might be given in exchange for 100*l.* of 3 per cent. ſtock, in any ſtate of the market in which a 5 per cent. ſtock could, with propriety, be applied.

Value of 100l. of 3 per cts.	Value of 100l. of 5 per cents.			Value of 100l. of 3 per cts.	Value of 100l. of 5 per cents.		
£.	£.			£.	£.		
61	100	16	$6\frac{1}{4}$	71	108	7	$11\frac{1}{4}$
62	101	12	$9\frac{1}{2}$	72	109	1	$9\frac{1}{2}$
63	102	8	$9\frac{1}{2}$	73	109	15	$5\frac{3}{4}$
64	103	4	$6\frac{1}{4}$	74	110	8	$11\frac{1}{4}$
65	104	0	0	75	111	2	$2\frac{1}{2}$
66	104	15	$2\frac{3}{4}$	76	111	15	$3\frac{1}{2}$
67	105	10	$2\frac{3}{4}$	77	112	8	2
68	106	5	0	78	113	0	$10\frac{1}{2}$
69	106	19	$6\frac{1}{4}$	79	113	13	$4\frac{1}{2}$
70	107	13	10	80	114	5	$8\frac{1}{2}$

It muſt not be expected that the actual prices of the Stocks in the market ſhould agree exactly with theſe comparative values; the difference, however, would be exceedingly ſmall. Our preſent 5 per cents are not indeed, worth ſo much as is here mentioned: The reaſon is this; the intereſt on our preſent 5 per cents becomes liable to reduction, whenever 25 millions of the other ſtocks ſhall be redeemed; but the 5 per cents in this table are ſecured from a reduction of the Intereſt, by the limiting of the tender.

ſuppoſed that 66*l.* of ſuch 5 per cent. ſtock were offered, by Government, in exchange for 100*l.* of 3 per cent. ſtock; and a like proportion, according to their value, for the 4 per cents, &c.§ Now, it is evident that this offer would afford an immediate profit of 3*l.* on every 63*l.* to thoſe who ſhould ſubſcribe to the converſion. The ſubſcribers would likewiſe obtain an additional annuity of *two ſhillings in the pound*: For, the 66*l.* of 5 per cent. ſtock would be attended with an annuity of 3*l.* 6*s.* whereas, the 100*l.* of 3 per cent. ſtock is attended with an annuity of only 3*l.** Should the ſtocks *riſe* in value, the creditors that ſhould ſubſcribe to the converſion would ſtill be profited by that riſe: and, ſhould the ſtocks *fall* in value, the profit granted by the converſion could not even then be defeated, be-

cauſe

§ In the ſtate of the market above ſuppoſed, $85\frac{1}{2}$*l.* of the new 5 per cent. ſtock might be given in exchange for 100*l.* of the preſent 4 per cents:—The propoſed *new 5 per cents* might be given, even-handed, for the preſent 5 per cents; in which caſe the annuity would be the ſame as at preſent, and the terms of redemption only would be altered from a *contingent* to a *regular* principle: 100*l.* of the new 5 per cent. ſtock might likewiſe be given for each 5*l.* of the long annuity, and 68*l.* of the new 5 per cent. ſtock for each 5*l.* of the ſhort annuity, to ſuch of the Annuitants as might wiſh to convert them. Indeed, a little more than is here mentioned might, without impropriety, be given, by way of encouragement, for the converſion. The propriety of converting temporary annuities into redeemable ones has been well obſerved by Mr. Sinclair, in the 4th and 5th chapters of the ſecond part of his Hiſtory of the Revenue.

* The advantages which the public would obtain in exchange for this additional annuity have been already ſhewn in the 11th and 12th articles of the ſecond ſection.

cauſe the annuity would be at all events encreaſed; ſo that the *fall* muſt neceſſarily be leſs than it would otherwiſe be. If, for inſtance, the value of 100*l.* of 3 per cent. ſtock ſhould riſe to 72*l.* the value of 66*l.* of the 5 per cent. ſtock would riſe likewiſe to 72*l.*† But, ſhould the value of 100*l.* of 3 per cents fall to 60*l.* the value of 66*l.* of the 5 per cents would fall only to about 66*l.* We may, therefore, ſafely conclude, that, in the ſtate of the market here ſuppoſed, this firſt claſs of the Public Creditors, who regard the value of the capital more than the intereſt or annuity, and who would prefer a reaſonable profit in hand, rather than run the uncertain chance of gaining or loſing at a diſtant day, would gladly accept the offer here mentioned; and, ſo far, the debt would be converted. A like kind of reaſoning would likewiſe hold equally true in any other ſtate of the market.

6. We come, in the next place, to conſider the ſecond general claſs of the Public Creditors; viz. thoſe to whom the *value of the Capital*, and the *Annuity* or *Intereſt* are of *equal* conſequence. This claſs comprehends all thoſe who have not an immediate occaſion for their capital, but who muſt neceſſarily have occaſion for it at ſome

diſtant

† The calculative reader will obſerve, from the table page 35, that, if 100*l.* of 3 per cent. ſtock ſhould be worth 80*l.* the value of 66*l.* of 5 per cent. ſtock would be only $75\frac{3}{7}$*l.* But, in the abovementioned ſtate of the market, 66*l.* of 5 per cents would, nevertheleſs, be far preferable to 100*l.* of 3 per cents. The chance of the 3 per cents riſing to 80*l.* would be ſo very improbable, that no rational man would forego a preſent profit for ſuch a chance. The chance of their falling to 60*l.* would be much greater than the chance of their riſing to 80*l.*

3

distant day, and must live on the Interest in the intermediate time. Minors, and many people who are not in business themselves, but have children to be hereafter provided for, come within this class.

This second class of the Public Creditors would be benefited, equally with the former class, by the *additional Annuity* or *Interest* to be granted for the conversion; and by the additional security (viz. the security of the *value of the Capital* from depreciation) which would be thereby produced: but the *tender* to be periodically made towards the redemption of the capital would be inconvenient to them. In order to remedy this inconveniency, it is necessary that the *tender* should be liable to a suspension, on certain reasonable conditions:—And, as sundry people who at one time may form a part of the first class, may, at a future time retire from business, and form a part of the second class; and, *vice versa*; it is necessary that this suspension of the tender should be always allowed to any Creditor that shall claim it: or, in other words, that any Creditor should be at liberty to *refuse* the tender, on certain stipulated conditions. It is necessary, however, to be exceedingly careful, that the conditions, thus to be stipulated for the suspension of the tender, be such, as to be entirely incapable of being perverted by speculations, into a contravention of the plan or general design of gradually diminishing the Debt by a fair and equitable discharge of the Capital.

7. The general principle of the plan, it has been repeatedly observed, is,—That the Creditors respectively, be periodically liable to receive, if tendered, towards the redemption of the Capital, a sum equal to the *Interest* or *Annuity* that shall be by them periodically demandable.

Now, it would not derogate materially from this principle, if the Creditors to whom a periodical tender should happen to be inconvenient, were to be at liberty to refuse the tender, during any term of time in which the sum total of the periodical Annuities should not exceed the Capital; on condition, that when the tender should cease to be inconvenient to them (which would of course be the case when they should come to have occasion to sell out) their capital should be liable to a tender equal to the sum total of the Annuities that had been received during the time that the tender had been so refused:—And, in case they should refuse the tender for so long a time, as that the sum total of the Annuities by them periodically received, should become equal to the Capital, they should then be liable to a tender of the whole Capital. By this stipulation, any Creditor, to whom the periodical tender might be inconvenient, would have it in his power to render his Capital irredeemable during any term of time that he might wish, not exceeding the time in which the periodical Annuities should become equal to the Capital (which, it is imagined, would be long enough to save the *general* purposes of conveniency†), without

† If the principle here proposed for the suspension of the tender, should not be sufficient to provide for the conveniencies of any *particular* cases, it might be varied so as to suit any possible case whatever, whether for years, or lives, by giving and receiving a reasonable equivalent, according to the nature of the case: But of this, more hereafter.

out any material interruption of the general design of gradually diminishing the Debt by a periodical redemption.

But although a suspension of the periodical tender, on the above condition, would not derogate materially from the general design, in case it should be made use of for conveniencies only; yet, if a great proportion of the Creditors should, from *speculative motives*, refuse the tender, until they had received in annuities a sum equal to their Capital, the general design of a periodical redemption would, in such case, be evidently obstructed:—it is necessary, therefore, that all *speculative motives* for suspending the tender should be excluded. And in order to exclude these speculative motives, it is necessary that the suspension of the tender should be attended with a further condition, in addition to the above, whereby it shall be of the two, more advantageous, with respect to pecuniary profit, to *receive* the tender periodically, although it should be laid out again immediately in the stocks, than to *refuse* it. This may be very easily effected by stipulating further, that those who refuse the periodical tender, shall, so long as they shall so continue to refuse it, relinquish a part (say about *half*) of the additional annuity granted for the conversion*.

8. To

* This stipulation would be perfectly consistent with every idea of reason, equity and justice:—For, as the *additional annuity* granted for the conversion of the Debt, is given *solely* for the purpose of putting the Debt into a capacity for a periodical redemption; so long as any Creditor shall, for his own conveniency, suspend or refuse such periodical redemption, so long he certainly ought to relinquish *at least a part* of the additional annuity that had been given for it.

8. To make these observations plain by an example,—Let it be supposed, that the state of the market, and the terms offered for the conversion of the Debt, be the same as mentioned in the aforegoing 5th Article. In this case, the Creditors who subscribe to the conversion, would receive an additional annuity of *two shillings in the pound*, as was explained in the said 5th Article; and would, according to the *general principle* of the plan, be liable to a tender of 5 per cent. per ann. on their capital, towards its redemption. But as this periodical tender may be inconvenient to sundry of the Creditors, it is further proposed, as a part of the plan, (agreeable to Articles 6 and 7) that any of the Creditors shall be at liberty to refuse the tender from time to time, during any term not exceeding *twenty years*†; on condition, that their capital shall, afterwards, be liable to a tender of 5 per cent. for each year that the periodical tender shall have been so refused; and that their annuity shall be liable to a deduction of *one shilling in the pound*, (which is only a part of the aforesaid additional annuity granted for the conversion), during the time that the periodical tender shall be so refused‡. A Creditor, for instance, who now holds 1000*l.* of 3 per per cent. stock, and receives thereon an Annual Interest of 30*l.* will, by

† Because, in twenty years, 5 per cent. per ann. on any capital, becomes equal to that capital.

‡ If the tender be not offered, it cannot be said to be refused; in such case therefore, there would be no deduction from the annuity. But, in the case above supposed, there is no doubt but the tender would be offered; because, any deficiency that there might be in the Revenue, might, with advantage, be obtained in the market; as was observed in the 14th Article of the second Section.

by subscribing to the conversion, hold 66o*l.* of 5 per cent. stock*; and will receive thereon an Annual Interest of 33*l.* in case he be willing to receive a further sum of 33*l.* towards the redemption of the capital: But, if he be unwilling to receive such further sum towards the redemption of the Capital, he may refuse it as long as he pleases, not exceeding *twenty years*; and in such case, he will receive an Annual Interest of 31*l.* 7*s.*† instead of the 30*l.* which he now receives.

9. The advantages, therefore, that this second class of the public Creditors, who refuse the periodical tender, will derive from the conversion of the Debt, will be,

First, An additional annuity of 1*l.* 7*s.* on every 30*l.* (or on every 1000*l.* of 3 per cent. stock so converted) and so in proportion, to continue twenty years; which is equal in value to rather more than 40*l.* payable at the end of that Term:—And,

Secondly, A security of the value of the capital from depreciation; for the redemption that will be made periodically to the first class of the Public Creditors, will effectually preserve (and more than preserve) the value of the new stock from depreciating:—so that, at the end of the twenty years, the Creditor who subscribes 1000*l.* of 3 per cent. stock in exchange for 660*l.* of 5 per cent. stock, will receive 660*l.* for its redemption; which, with the above mentioned 40*l.* makes 700*l.* that is, (exclusive of the present Interest) 70*l.* for every 100*l.* of 3 per cent. stock so converted.

Now,

* That is, 66*l.* of 5 per cents for every 100*l.* of 3 per cents, as mentioned in the 5th Article.

† That is, 33*l.* deducting *one-shilling* in the pound.

Now, whoever considers the depreciations to which our public stocks, in their present state, are naturally subject; of which the depreciations that have actually taken place during these last thirty years, are ample and incontestable proofs; Whoever considers that nothing but a gradual redemption can prevent these depreciations; and, that this gradual redemption cannot (for the reasons contained in the 5th and 6th Articles of the aforegoing Section) be carried into effect without a previous conversion of the Debt:—Whoever, I say, considers these things, must be convinced, that if the Debt should remain unconverted, there would be the greatest reason in the world to expect the value of our 3 per cents to fall down to 50*l.* or even lower, within twenty years, instead of being supported, as above mentioned, at 70*l.* We may therefore, safely conclude, that, in the state of the market above supposed, every rational Creditor, who expects hereafter to have occasion for his Capital, and who has therefore an equal regard for the *value of his Capital*, as for the *Interest* or *Annuity*, which is the case with this second class, would gladly subscribe to the conversion of the Debt on the terms above proposed. And a like kind of reasoning would hold equally true in any other state of the market.

10. The third general class comprehends those of the Public Creditors to whom the *value of the Capital* is of *less* consequence than the *interest or annuity*; and must of course consist, principally, of people who never expect to have occasion for their capital. To people who never expect to have occasion for their capital, it would be, indeed, a matter of but little consequence whether the *value* of such capital should be *higher* or *lower*,

provided

provided the annuity or intereſt was ſufficiently ſecured, and regularly paid. But here, a queſtion naturally ariſes, Can the intereſt be ſufficiently ſecure, if the value of the capital be not ſupported? Whoever conſiders this queſtion with attention, will anſwer, it certainly cannot. Many people, therefore, to whom the annuity or intereſt might thus be of more conſequence than the value of the capital, would be glad to co-operate in ſuch meaſures as may be found neceſſary for ſupporting the value of their capitals from depreciation. A fall in the value of the ſtocks cannot but be a very unpleaſant circumſtance to the Stock-holder, whether he expects to ſell out or not. Many would naturally conſider within themſelves, that, although they may not at preſent foreſee any occaſion they may have for their capital, yet, ſuch occaſion may nevertheleſs happen hereafter. Many others would reaſon (and they would certainly reaſon very juſtly) that the ſame cauſes that ſhall produce a depreciation in the value of the capital will, in the nature of things, render the annuity or intereſt leſs ſecure. If the taxes, that are from time to time appropriated to the payment of the *intereſt* of the debt, ſhall remain unredeemed, it muſt be evident to every one, that, by encreaſing the debt time after time, the ordinary ſources of taxation muſt, neceſſarily, become exhauſted; and a tax on the annuities muſt then become unavoidable. Thoſe who reaſon thus, would, it may naturally be preſumed, cheerfully co-operate in ſuch meaſures as may be found neceſſary for the gradual redemption or diminution of the debt; becauſe, thereby *alone* can the wiſhed-for ſecurity, either of the capital, or of the annuity, be

be obtained. By accepting the terms above propoſed for the converſion of the debt, the capital will be (as far as human things are capable) ſecured from depreciation. The annuity alſo, which is the principal object of this claſs of the Public Creditors, will not only be ſecured, but encreaſed; and, it will be irredeemable for any term of time, at the pleaſure of the creditor, not exceeding twenty years, which is certainly as long as many people, even of this claſs, would want it to be irredeemable.* We may therefore ſafely conclude, that, although there might, and would, without doubt, be ſundry exceptions, that may not be ſufficiently provided for by the terms above laid down; yet the aforegoing terms would certainly provide for the conveniences of, and would be very readily accepted by, a very *great part* of this third claſs of the Public Creditors, as well as by the former claſſes.

11. We come now to conſider what exceptions the aforegoing principles and obſervations may be *practically* liable to, among particular parts of the Public Creditors, and by what additional meaſures thoſe exceptions may be provided for.

All annuities muſt evidently be, in their nature, either *redeemable* or *irredeemable*: all the exceptions therefore, however *few*, or however *many* they

* If any of the creditors ſhould, on particular occaſions, wiſh to make it irredeemable for a longer time, it might be eaſily done, by ſubjecting the annuity to a proportionate deduction, whereby to draw back a proportionate part of the additional annuity granted for the converſion. But, in the ſtate of the market above ſuppoſed, a longer ſuſpenſion of the tender would not be conſiſtent with the *general* intereſts either of the public or of the creditors

they may be, muſt neceſſarily relate to people who would prefer irredeemable annuities, or, in other words, annuities that ſhould never be redeemable but at their own option, rather than the aforementioned redeemable ones.

Again, All irredeemable annuities muſt evidently be either of a *perpetual,* or elſe of a *temporary* nature; all the exceptions therefore that can take place muſt relate to people that would prefer being either *perpetual annuitants,* or *temporary annuitants.*

12. There cannot, it is imagined, be many, if any, individuals, that would prefer a perpetual irredeemable annuity, rather than a redeemable one that would naturally be attended with a greater immediate advantage, as well as a greater ſecurity of its being punctually diſcharged. Wherever it ſhall become neceſſary, from time to time, to incur large debts, nothing but a regular attention to the redemption of them, can, in the nature of things, render them ſecure. The circumſtance, therefore, of their being perpetually irredeemable, is inconſiſtent with their ſecurity. Beſides, annuities (however effectually ſecured) are matters of conveniency only; they are not things that give weight and conſequence to families. A land eſtate of a ſingle thouſand pounds a year, would, probably, give more weight and conſequence to a family, than an annuity of treble that ſum would do. Thoſe individuals, therefore, that would wiſh to make a *perpetual* proviſion for their family, would chooſe landed property, and not irredeemable annuities, even if we could ſuppoſe (what cannot, in the nature of things, be ſuppoſed) that perpetual irredeemable annuities ſhould be equally as ſecure as landed property.

3. But,

13. But, although perpetual irredeemable annuities would not be conſiſtent with the views and intereſts of individuals, or of families; yet, if ſuch annuities could be effectually ſecured, they would appear, at firſt ſight, to be exceedingly ſuitable and convenient for certain corporations that never die, particularly ſuch as are eſtabliſhed for charitable purpoſes; as hoſpitals, and other charitable aſylums. Corporations of this ſort, there can be no doubt, have, and always will have, large ſums in our public ſtocks; and it therefore becomes neceſſary to enquire how far the conveniencies of this branch of the Public Creditors may be ſufficiently provided for, by the principles already laid down; and what further proviſions may be added, if neceſſary, in order to meet their conveniencies in a ſtill greater extent.

It muſt, as has been repeatedly obſerved already, be evident to every body, that nothing but a regular attention to the redemption of a Public Debt can keep it within reaſonable bounds, or render it ſecure; and, ſo far as it ſhall be rendered *irredeemable,* ſo far this neceſſary attention muſt, evidently, be leſſened. It would not, indeed, be *materially* detrimental in the great ſcale, if a *ſmall* proportion of the debt ſhould be rendered irredeemable for ever ſo long a time; but ſhould a very large proportion of it be irredeemable, generation after generation, it is eaſy to ſee that the conſequence muſt be fatal, as well to the Creditors as to the Public. It cannot, therefore, be reaſonably imagined, that any people, whether corporations or others, who ſhall be fully ſatisfied of the abſolute and indiſpenſible neceſſity of a redemption, would ever wiſh for annuities that

2 ſhould

ſhould be perpetually irredeemable.* But were we even to ſuppoſe that an attention to the redemption was not neceſſary for the ſecurity of the debt; and that annuities might be ſecure, although they were perpetually irredeemable: Were we, I ſay, even to ſuppoſe this, a perpetual annuity would by no means be ſo ſuitable a property as might, at firſt ſight, be imagined. It is well known that the diſcoveries, which enlightened nations are continually making, of new countries, and new mines, introduce an encreaſe of gold and ſilver; and this encreaſe leſſens the value of thoſe metals. Other branches of induſtry being improved at the ſame time, prevents the difference in the value of the precious metals from being perceptible during the courſe of a few years, but it becomes very perceptible in the courſe of two or three generations. Every body knows that the value of gold and ſilver, compared with the neceſſaries of life, is much leſs now than it was during the laſt century. This decreaſe in the *value* of the precious metals muſt doubtleſs continue, while nations ſhall continue their purſuits to encreaſe their *quantity*; which, we may naturally ſuppoſe, will be for ever the caſe, while a deſire of improving or encreaſing in wealth ſhall pervade the minds of men. And, as the value of the

* A great part of our annuities are irredeemable, in their preſent ſtate, unleſs Government ſhould chooſe to pay 100*l.* although it had received leſs than 60*l.* as was mentioned in the 6th article of the aforegoing ſecond ſection. In their preſent ſtate, therefore, no reaſonable man can think them more ſecure than if they were actually irredeemable for ever. It would be abſurd to ſuppoſe that any nation ſhould tax herſelf in order to effect a redemption at ſo prepoſterous a rate.

the precious metals ſhall decreaſe, ſo, of courſe, the value of an annuity, payable in thoſe precious metals, muſt decreaſe alſo. If a perpetual annuity be purchaſed in an age when the general value of a pound of bread and a pound of meat be a *penny*, ſuch annuity will have loſt one half of its real value, when (by the encreaſe of gold and ſilver) the general value of a pound of bread and a pound of meat ſhall become *two-pence*. But, if inſtead of purchaſing a perpetual annuity, an eſtate in land ſhould be purchaſed, this loſs would be avoided, becauſe, the rent or annuity flowing from ſuch eſtate would naturally encreaſe, from time to time, as the value of the bread and meat which it produces ſhould become encreaſed; or, in other words, as the value of the precious metals ſhould become decreaſed. On every conſideration, therefore, *perpetual irredeemable annuities* are inconſiſtent with the intereſts of all ranks and denominations of men; and LAND is the only kind of Property wherewith to eſtabliſh a permanent proviſion for any very great length of time.

From theſe Obſervations we may ſafely conclude, that, ſo far as Corporations (which compoſe the particular branch of the Public Creditors now under conſideration) ſhall have a very large Capital beyond what they expect to have occaſion for, and with which they would therefore wiſh to eſtabliſh a perpetual Annual Proviſion, they would naturally, when opportunity might offer, lay it out in land for that purpoſe.* As a temporary

* If our Statutes of *Mortmain* ſhould ſtand in the way, the difficulty might be very eaſily removed, by a new Act of Parliament granting ſuch further latitude for the Purchaſe of Real Eſtates, as the nature of the preſent Caſe might

porary conveniency, indeed, they would naturally keep it in the Stocks until a suitable opportunity might offer for vesting it in landed property; and they would naturally choose to keep such Capital entire, by having it irredeemable, while they might so keep it in the Stocks. By the Provisions already laid down in the aforegoing Articles, they would be at liberty to render it irredeemable, during any term of time (as their own pleasure or conveniency might from time to time direct) not exceeding Twenty Years. This, one would imagine, would be a sufficient length of time for the purpose intended, with respect to this part of their Capital.

Such part of the Capital of this branch of the public Creditors as they might expect, in probability, to have a temporary occasion for, they would naturally choose to keep in the Stocks, on account of the ease and readiness with which it might be turned into Money, whenever such occasion might happen; and they would probably choose to have this part irredeemable, until they should so happen to have occasion for it. But, one would imagine, that the aforementioned term of Twenty Years would be sufficiently long for all convenient purposes with respect to this part of their Capital; for it may be observed, that, at the expiration of the Twenty Years, supposing the Capital to be then redeemed, it might, if not otherwise wanted, be re-vested in the Stocks, and would then become irredeemable

might be found to require. But it is most probable that the general preference, hereafter to be proposed in the 16th Article, for the advantage of the Proprietors of the *new Stock*, with respect to Subscriptions for *new Loans*, will render any alteration in the Laws of *Mortmain* unnecessary.

irredeemable again for any term of time not exceeding another Twenty Years; and so on, from Twenty Years to Twenty Years, as long as might be found convenient. It cannot, it is imagined, be seriously objected, that the Debt may in time become reduced to so small a Quantity as to be insufficient for these purposes. We have, alas! such an ample Provision of Debt before-hand, and may so expect the encreasing it in Times of War, as effectually to exclude all apprehensions of its being reduced to *too small* a size, however attentive we may be to its Redemption. On the whole, it is imagined that the Terms already proposed would be perfectly acceptable to this branch of the Public Creditors.

14. The Second Head of Exceptions, to wit, People who might desire Temporary Annuities, remains to be considered.

In every Nation there must, in the nature of things, be numbers of people whose conveniencies would be better suited by an Annuity during their Lives, than by any other Provision. Some people, likewise, who may have the *Reversion* or *Remainder* of an Estate, might be glad of an Annuity during the Life of the present Possessor, or during a certain number of Years, as the case might be, until such Estate should come into their hands. One would not, indeed, imagine that the people, by whom these Temporary Annuities would be preferred, can form any very great Proportion of the National Creditors; but whether they might form a greater or a smaller part, it would be highly proper that their Conveniencies should be suited. Were Annuities for Lives or Years to be regularly attainable, in exchange for the Stocks, by all such of the Proprietors

prietors as ſhould chooſe ſuch Exchange; there would, doubtleſs, be numbers of people, who are not now intereſted in the Stocks, that would buy in, for the purpoſe of obtaining ſuch Temporary Annuities in Exchange. This would always continue to be the caſe, as well after the converſion of the Debt as at preſent, if the people ſo wanting Temporary Annuities could regularly obtain them, on known and equitable Principles, in Exchange for their Stock.

A Proviſion of this kind would be a matter of great conveniency to numbers of people, without being productive of the leaſt difficulty or inconveniency to any. It would, indeed, be a matter of general Benefit to the State, as well as to the Individuals whoſe conveniencies were thereby ſuited; becauſe it would naturally bring Monies into that channel of circulation that would not otherwiſe be brought thither. And, were this Privilege granted only to the Holders or Proprietors of the propoſed *new Stock*, ſundry people would, very probably, be induced to ſubſcribe to the converſion, who might otherwiſe be indifferent about it.

15. It is therefore propoſed, as a part of the Plan, in addition to the Principles already laid down, that any Stock-holder or Creditor ſhall be at liberty, from time to time, and at all times, to tranſcribe or change all or any part of his or her Capital or Share in the new 5 per Cent. Stock propoſed to be eſtabliſhed, into an Annuity during his or her Life; or during the Life of any other Perſon or Perſons to be named; or during ſuch number of Years certain, as his or her conveniency ſhall require. And alſo, that any Annuitant for Years, or for Life, (being in good

Health) ſhall be at liberty, from time to time, and at all times, to tranſcribe or change his or her Annuity into the ſaid new Redeemable Stock: the *Rates* of ſuch Tranſcriptions, or Exchanges, to be regulated and computed according to approved Tables (to be calculated for that purpoſe) of the comparative Values of the Annuities ſo to be tranſcribed or exchanged.* Thus the conveniencies of all thoſe, whoſe ſituations and circumſtances might, at any time, be ſuch as to require Annuities for Lives, or Years, would be effectually provided for.

16. It cannot but be ſufficiently evident to all that ſhall peruſe the aforegoing Obſervations with attention, that by the above propoſed converſion of the Debt, both the Property of the Creditors,

* The liberty of tranſcribing *redeemable* Annuities into *temporary* ones, is intended *only* for the purpoſe of ſuiting the *conveniencies* of People in particular ſituations and circumſtances. Redeemable Annuities (on the Principles of Redemption herein before laid down) are much better than Temporary ones, both for the Creditors in general, and alſo for the Public. On this account, the *further* liberty propoſed above, for tranſcribing *temporary* Annuities into *redeemable* ones, is perfectly proper. On this account alſo it is neceſſary, in the calculating of the Tables of the comparative Values, that the *temporary* Annuities ſhould not be extended beyond a *convenient* length of Time; and that the turn of the Scale ſhould be in favour of the *redeemable* Annuities. Every Tranſcription of this kind (after the expiration of a certain Time neceſſary to be allowed for the general Tranſcription or Converſion of the Debt) ought likewiſe to be attended with a regular eſtabliſhed Fee, in proportion to the Quantity to be tranſcribed; whereby to confine the Tranſcriptions to caſes of actual *conveniency* only; and to prevent whimſical Tranſcriptions that might be founded on Motives of mere Speculation.

and the means of Redemption by the Public, would be in an infinitely better State than at present; nor does it seem easy to imagine many cases, among the whole diversity of the Public Creditors, but what would be effectually and conveniently suited, under some one or other of the aforegoing Propositions.† We may, however, with the utmost ease and propriety, and with a mutual benefit and advantage to the Creditors and to the Public, give a further general encouragement for the proposed conversion of the Debt, by granting a preference, in all new Loans, to the Holders or Proprietors of the new Stock. Such a preference would be a matter of much Consequence to the great Stock-holders (among whom, Corporations, that were the subject of the aforegoing 13th Article, may form a considerable part), and would, it is imagined, induce them to subscribe to the conversion of the Debt with great alacrity. It is therefore further proposed, that in all new Loans that may hereafter be made, the Subscriptions of the Proprietors of the new Stocks shall be preferred before the Subscriptions of any other Person or Persons whomsoever; such Preference to be proportionate to the quantity of the said new Stock which the Subscribers shall respectively hold, at the time of their subscribing to such new Loan. This Preference

† The cases of Stocks that may be in the care of Guardians or Trustees, cannot be considered as exceptions from this observation; because, they would be comprehended in it, if Parliament should grant to such Guardians or Trustees the necessary *powers* to convert. Such an Act might be very proper, particularly if there should be much of the Debt in that situation.

ference would be attended with much good consequence to the Public as well as to the Stockholder: It would prevent the locking up of Money on speculation, and contribute to raise the Value of the Stocks in time of War; because, all those who should wish to share in the advantages of any new Loan, must (if they have not got it before) purchase Stock in proportion.

17. Having gone through the necessary considerations, respecting the conveniencies and advantages of the Public, and of the different branches of the Public Creditors; it remains only to put the proposed Plan together, by summing up its different Parts, as follows: viz.

First, That, in order to put the Public Debts of the Nation into a regular and equitable course of redemption, for the mutual benefit and advantage of the Creditors and of the Public; the several and respective Proprietors of all or any of the Public Stocks or Annuities, of which the Debts of the Nation are composed, shall (from and after the day of until the day of inclusive) be at liberty to *transcribe* or *convert* all, or any part, of their several and respective Rights, Interests, or Shares, in all or any of the said Public Stocks or Annuities, into a *new Five per Cent. Stock*; according to the several and respective Rates, Principles, Limitations, and Conditions, herein-after mentioned; that is to say:

For

For every 100*l.* of the present 3 per Cent. Stocks (and so in proportion for any greater or lesser quantity) so to be transcribed, the Transcriber shall be entitled to £66 *(more or less, as may be thought proper)* of the *new Five per Cent. Stock.*†

For every 100*l.* of the present 4 per Cent. Stock - £85½ *(more or less)* do. do.

For every 100*l.* of the present 5 per Cent. Stock - £100 *(more or less)* do. do.*

For every 5*l.* of the present Long Annuity - - £100 *(more or less)* do. do.*

For every 5*l.* of the present Short Annuities of 1778 and 1779 - - - - £68 *(more or less)* do. do.*

Secondly.

† The Interest or Annuity on the new Stock may be made payable at the same times that the respective Annuities to be transcribed are now payable; in which case the new Stock will be composed of two parts, viz. New 5 per Cents of January and July; and New 5 per Cents of April and October. If the Revenue was equally productive in each quarter, it would be best to have the Interest on the New Stock payable *quarterly*; but as that is not the case, the above may perhaps be best. Any desired arrangement of this kind may, however, be very easily made.

* If it should be thought proper (on account of the incidental Expences of Transcription, to which some of the Creditors may be put) to give a turn of the scale to the present 5 per Cent. holders, and to the long and short Annuitants, it may be very easily done by giving them a little more of the new Stock than is above proposed. National Generosity, and, perhaps, good Policy, might agree with this; particularly as the new Stock will be subject to a deduction from the Interest, if the tender be refused: it could not, however, be considered as a Premium *absolutely necessary*; because the *new 5 per Cents* must be, in their very nature, more valuable than the *present 5 per Cents*, on account of the difference in their principles of redemption; and the market value of the long and short Annuities is not greater than the market value of the above proportions of the *present 5 per Cents*. The propriety of converting *temporary* Annuities into *redeemable* ones, sufficiently appears from Mr. Sinclair's History of the Revenue, part 2. chapters iv. and v.

Secondly, That, in order to remove any apprehensions that might otherwise be entertained of a Reduction of the *Interest* on the *new Five per Cent. Stock*; the said Stock shall be secured against a Reduction of the Interest, by being liable *only* to a *limited tender* for the periodical Redemption of the Capital, equal to the *Annuity* or *Interest* therefrom periodically flowing: And each Proprietor, respectively, shall be liable *only* to receive, periodically, towards the Redemption of his or her Capital, a sum equal to the *Interest* that shall be by him or her periodically demandable.

Thirdly, That, in order to suit the conveniencies of all those of the Public Creditors, to whom a periodical tender for the Redemption of the Capital may, at at any time, be inconvenient; any Creditor or Proprietor of the ſaid *new Five Cent. Stock*, ſhall, from time to time, and at all times, be at liberty to refuſe the ſaid periodical tender (and thereby render his or her Capital irredeemable) for and during any term of time, at his or her pleaſure, not exceeding *Twenty Years*: Provided always, that his or her Capital ſhall, afterwards, be liable to a tender of *Five per Cent.* for *each* Year that the ſaid periodical Tender ſhall have been ſo refuſed. And provided alſo, that his or her *Annuity* or *Intereſt* on the ſaid Capital, ſhall be liable to a deduction of *One Shilling in the Pound*,† during the time that the ſaid periodical Tender ſhall be ſo refuſed.

Fourthly. That, in order to ſuit the conveniencies of all thoſe whoſe ſituations and circumſtances ſhall or may be ſuch as to require Annuities for Lives or for Years, any Creditor, or Proprietor of the ſaid *new Five per Cent. Stock*, ſhall, from time to time, and at all times, be at liberty to *tranſcribe* or *change* all or any part of his or her Capital in the ſaid *new Five per Cent. Stock*, into ſuch Annuities for *Lives*, or for *Years*, as his or her conveniencies ſhall, or may, from time to time, require: And any Annuitant for

† The Propriety, Equity, and Juſtice, of this Deduction have been ſhewn in the latter part of the aforegoing 7th Article, and its Note, pages 39 and 40.

for Years, or for Life (being in good health), ſhall likewiſe be at liberty from time to time, and at all times, as his or her conveniencies ſhall require, to tranſcribe or change his or her Annuity into the ſaid 5 per Cent. Stock:* The rates of ſuch Tranſcriptions, or Exchanges, to be regulated and computed according to approved Tables‡ of the comparative Values of the Annuities ſo to be tranſcribed or exchanged.

Laſtly. That, in order to give a further general Encouragement for the propoſed converſion of the Debt into the ſaid new 5 per Cent. Stock, the Proprietors of the ſaid new Stock ſhall have the following Preference in all new Loans:—That is to ſay, the Subſcriptions of the Proprietors of the ſaid new Stock, towards any new Loan that ſhall or may hereafter be made, ſhall be preferred before the Subſcription of any other perſon or perſons whomſoever: Such Preference to be proportionate to the Quantity of the ſaid new Stock which the Subſcribers ſhall reſpectively hold at the time of their ſubſcribing to ſuch new Loan; and the Proprietors of the additional new Stock that ſhall be eſtabliſhed for ſuch new Loan, to be entitled to a like Proportion of ſuch Preference in all future Loans.

The

* See the Note to the aforegoing 15th Article, p. 53.

‡ These Tables ſhould be annexed to (and made part of) the Propoſal.

The carrying of this conversion of the Debt into effect would be peculiarly easy: It would require but *little* more than a general Offer, or Publication, of the Proposal, by Authority; with a Notification that Books were open at the Bank to receive the Transcriptions. And thus, it is humbly imagined, the Debt would be speedily converted, to the very great and mutual advantage both of the Public and of the Creditors.

The carrying of the conversion of the Debt into effect, would, I say, require but *little* more than a public Offer of the Terms proposed. But what this *little* is, has not been mentioned. The Observations that have been laid down, will, it is humbly hoped, sufficiently evince the equal Utility and Practicability of the Plan. The *little* Remainder that has not been mentioned, may, *in possibility*, be discovered by the studious Reader. The Discovery of it is, however, rather *improbable*, unless the subject should be re-taken up as far back as the *Postulata* in the second Section of the first Essay; and pursued from thence with an immensity of Labour, through Paths that I have purposely passed by in silence.—Should this *little* Remainder be unattended to, it must infallibly produce an unnecessary (and easily avoidable) Loss of some few Millions.—Its Explanation is reserved (as was mentioned in the Introduction) in humble Hope, that, as the *Labour* in the Investigation of this important Subject has been exceedingly great, the *Labourer* may not, amidst a Variety of other Considerations, be entirely forgotten.

THE END.