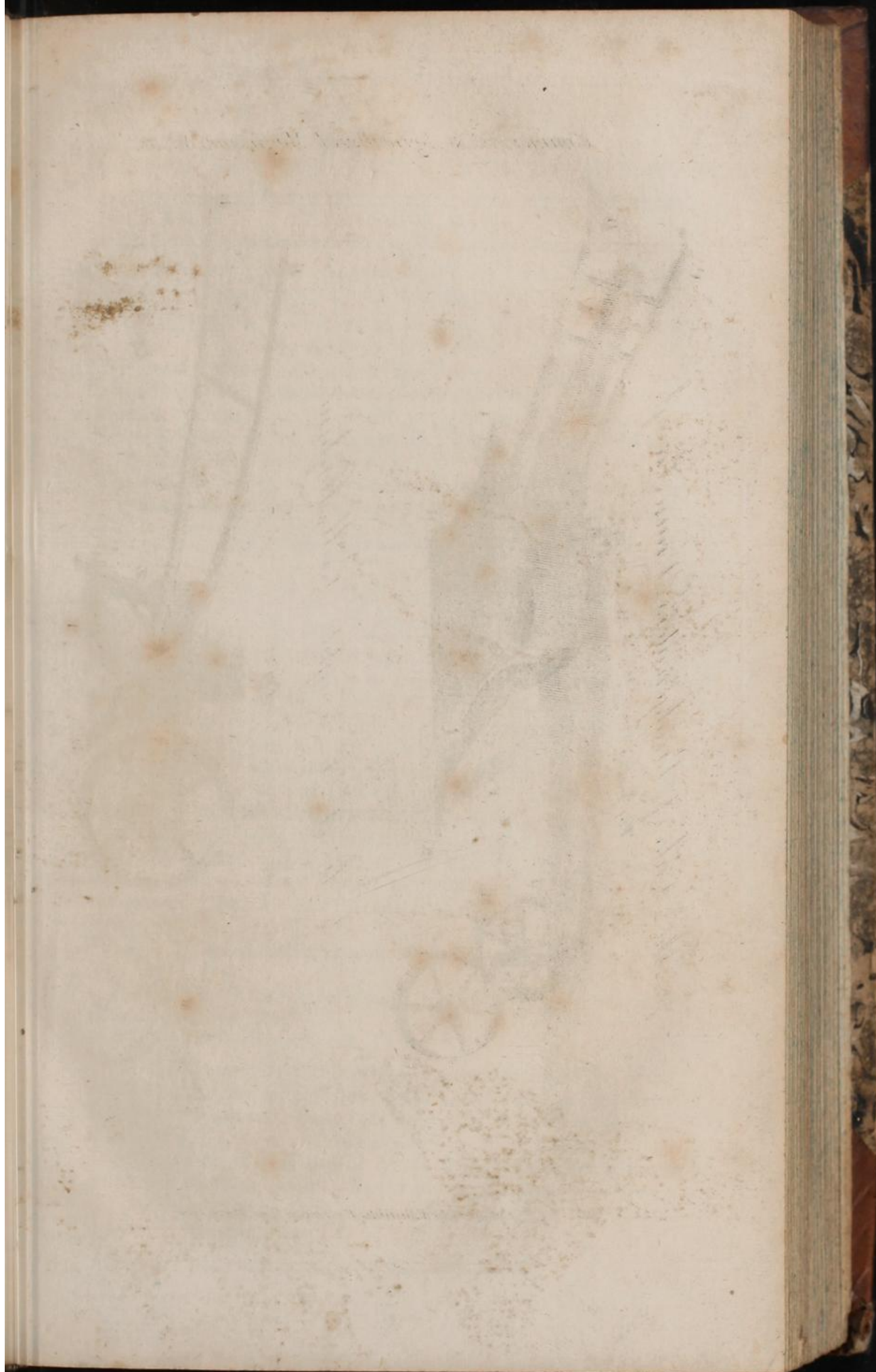




The Duke of Bridgewater's Drain Plough.

Fig 1.



Mr T. A. Knight's Drill Machine.

Fig 2.

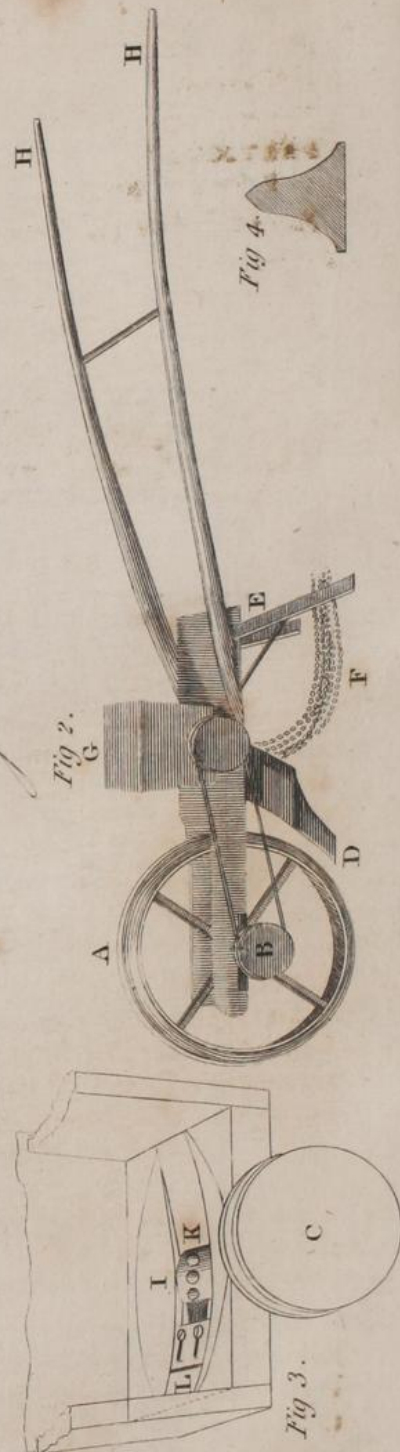


Fig 4.

Fig 3.

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[VOL. VI.]

PARTICULARS AND DESCRIPTION OF THE DUKE OF
BRIDGEWATER'S DRAIN PLOUGH,

*Extracted from the Transactions of the Society of Arts, Commerce, and
Manufactures, with a Plate.*

The thanks of the Society were this Session voted to his Grace the Duke of Bridgewater, for a model of a Drain Plough; presented by him to them, and sent with the following communication from his Grace's Agent, Mr. Thomas Bury, of Worsley Mills, near Manchester.

The model, which is made upon a scale of one inch to a foot, is placed in the Society's Repository for public inspection.

TO MR. CHARLES TAYLOR.

SIR,

I AM favoured with yours of the 15th instant. The model of the Gutter-Plough sent you, was a present to the Society from his Grace the Duke of Bridgewater, made by Robert Tomlinson, one of his Grace's constant workmen.

I procured the following account this morning from the Duke's farmer:—In clay or stiff land that lies flat, the plough cannot go too deep; but if it lies on a declivity, about five inches deep is sufficient. In soft light soil, the plough should go as deep as it can in all situations; because the sides moulder into the gutters. The best time of draining is about Michaelmas, or as soon as the grass is eaten; and the whole should be accomplished betwixt that time and Christmas.

In clay ground that has never been drained, six good horses will be requisite to draw the plough. In every following year the plough should be run through the same gutters, and four horses will then be sufficient.

I am, Sir, your most obedient servant,

THOMAS BURY.

P. S. The share of the plough must be well steeled, and should be ground sharp.

Worsley, September 18, 1800.

At Broughton, in the neighbourhood of Manchester, considerable quantities of stiff clay, pasture, and meadow-land have been much improved, under the inspection of the Secretary of the Society, by the use of this plough.

After the cattle were housed for the winter, three horses were employed to form drains with the plough at proper intervals: the small drains were made at the distance of about nine yards

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from each other, in old furrows of the ground, and about five inches deep; the sod, when cut out by the plough, was of a wedge-like form, and turned out by it upon the ridges of the land, entirely separated from the drain or gutter. These sods were afterwards divided across, by a spade, into lengths of about two feet each, then tossed by a pitchfork into a cart, and placed in a heap in the field, along with strata of quick-lime in a powdery state: the whole mass was reduced to a compost by the frost during the winter; and in the following spring was laid upon the surface of the land, and formed an excellent top dressing.

The water from the small drains was directed into larger drains, made by lowering the shares of the plough to the depth of nine or more inches. Little or no loss of land arose from the small drains, as natural grasses were produced therein, early in the spring. It will be highly advantageous to repeat the operation every winter: it is easily and expeditiously performed; and no person, without an actual experiment of the fact, can form a sufficient judgment of the great benefit arising to vegetation by the removal of cold stagnant water, during the winter, from land of every description.

Description of the Plate, Fig. 1.

A B, the beam of the plough. C D, the handles. E, the share or sock. F, the coulter, or first cutter of the sod; which coulter is fixed to the share. G, the other coulter, or second-cutter, which separates the sod from the land, and directs it through the open space betwixt F and G. This coulter is connected with the share and the beam. H I, the sheath of the plough. K, the bridle or muzzle, to which the swingle-tree is to be fixed. L M, two wheels of cast iron, which may be raised or lowered by screws at N, pressing upon the flat irons O O, to which the axis of each wheel is fixed. These wheels regulate the depth which the share is to penetrate into the earth. P, a chain with an iron pin to move the screws at O.

MR. KNIGHT'S DRILL MACHINE FOR SOWING TURNIPS.

The Silver Medal was this Session voted to THOMAS ANDREW KNIGHT, Esq. of Elton, near Ludlow, for his invention of a Drill Machine for sowing Turnip-feed: a Plate of which is annexed to the following description of its form and mode of application. A complete machine was presented by him, and is placed in the Society's Repository.

TO MR. CHARLES TAYLOR,

SIR,

I Have sent you a small instrument for sowing Turnips, which I have tried on several different soils, and think I can venture to assert, that it will sow the seed and cover it perfectly well, in

any soil that is nearly in a proper state to receive it. It is necessary either to harrow the ground *across*, or to roll it, previously to the instrument being used, that the labourer may see the rows he has made; but I have always found the crop to succeed better after the roller than after the harrow, though the ground has been very strong.

The instrument is so extremely simple in its construction, that it is almost unnecessary to give a description of its mode of action; but as parts of it may probably be broken in carriage, I have added the following sketch:—(See Plate I, Fig 2.) A, the iron wheel, which, running on its edge, formed by two concave sides, makes the groove into which the seeds fall. I have sometimes used a wheel with straight sides; but I think that concave sides, when well executed, are to be preferred in strong soils, and indeed in any soil. B is a wheel moving on the same axis with A, and turning the wheel C (which gives out the seed) by means of a strap. I have several sizes of the wheel B, in order to increase or diminish the rapidity of C; and consequently to sow more or less seed. D, the tube through which the seed passes, and falls into the channel made by the iron wheel. E, the feet of the instrument. F, six lengths of jack-chain; which I find cover the seed remarkably well. The chain is perhaps preferable to any kind of harrow; because it can never become encumbered by loose straw, which is almost always found on or close to the surface, when the ground has been manured; and the cutting-wheel has a similar advantage over any kind of share. G I, the seed-box. H H, the handles of the machine.

The labour of using the instrument is very small. My workman usually accomplishes four statute acres or something more in a day: and last night, with the one I send, he sowed an acre and a half after six o'clock in the evening. There are two holes before the axis of the great wheel, to receive two pieces of cane, which point out the proper width of the intervals between the rows. I usually place my rows at eighteen or twenty inches distance; and I wish my plants to stand at not more than six inches apart in the row; for I find that three small turnips weigh about as much as one large turnip, are more solid, and I think more nutritious, and certainly are much less apt to suffer by unfavourable weather. The ground between the rows is, of course, worked with the hoe. Should the Society, at their next meeting, approve of the instrument, and will afford it a place in their Repository, I will beg them to accept it, if not, I will request you to return it at your leisure.

I am, Sir,

Your most obedient servant,

THOMAS ANDREW KNIGHT.

Elton, near Ludlow, June 22, 1800.

N. B. The angle, which forms the edge of the wheel A, must be made more or less acute; and the instrument more or less heavy, proportional to the strength of the soil. I have sometimes added weights of lead over the axis of the wheel, but it will rarely be found necessary. I have tried the instrument on different soils, and I think it will answer on any. A great advantage may be derived by sowing turnips with it, at a time when horses, now commonly used for the same purpose, are engaged in other employments. A few days are frequently of importance in sowing turnips, which by fortunate rains have got a wonderful start of those which have been sown a day or two later.

Fig. 3. is a section, on a larger scale, of the seed-box G, in fig. 2. The wheel, marked C, is also the same as in that figure: it is fixed upon the axis of the cylinder I, which is pierced upon the surface with holes at K, for the seed. This cylinder turns round within a groove at the bottom of the box, and is so well fitted therein, that no seeds fall from the box but what are delivered by the holes K. A small brush, marked L, rubs against the cylinder, to clear out any seeds which may remain in the holes.

The seeds fall into the tube underneath the cylinder, and from thence into the channel, made by the indenting rim of the iron wheel.

The loose chains which follow, cover the seeds with earth, as before mentioned.

Fig. 4. a front view of the wheel, exhibiting its edge.

REMARKS ON THE RUTA BAGA.

To the Editor of the Commercial and Agricultural Magazine.

SIR,

I Beg leave to send you, though late, my long promised remarks on the Ruta Baga, or Swedish Turnip. Various circumstances prevented my transmitting them last year, till they would have arrived too late to have answered any effectual purpose.

The plant, which I have made the subject of my present letter, was first disseminated in this kingdom (I believe) about twenty years * ago by that excellent agriculturist, and truly respectable man, Lord Adam Gordon lately deceased: and as it has since that period engaged the attention of some of our most active and enlightened experimentalists, I trust some few observations, more particularly on its value as a crop, will not prove unacceptable to some of your readers. Indeed I am the rather induced to send them, as I have observed no communication on the subject in any of the numbers of your very valuable work: and, as I think those gentlemen whose letters have been published

* It was known in this country, 80 years since. E.

in the papers of the Bath Society, have been actuated by too enthusiastic a spirit; have treated it too much as the favourite of the day; and by attributing to it every possible perfection, have induced many to deny it even that meed of praise, to which it is justly and deservedly entitled. I shall not think it necessary to detail its mode of culture, as it scarce varies from that of the common field turnip. The Ruta Baga requires only to be sown about a fortnight or three weeks earlier: indeed, to ensure a full crop, it ought not to be sown later than the first week in June; but should the weather prove seasonable, and the land be in proper condition, I should certainly think the last week in May preferable. As they are not so luxuriant in their growth as the turnip, when hoed they do not require to be set out at so great a distance, plant from plant: a space of fourteen inches square is fully sufficient to bring them to perfection. In all other respects of soil, preparation of soil, mode of sowing, &c. they differ in nothing from the common turnip; where its culture is understood, none need be at any loss about the management of the Ruta Baga. A candid examination of its merits and defects will require a more serious investigation; and it certainly is a plant which possesses both in a very eminent degree. The principal objections to it are, the difficulty of obtaining a sufficient plant, and the numerous enemies to which, in every stage, it is exposed. In their earlier period, their seed-leaves being sweeter, and being much slower in their growth than turnips, they continue longer subject to the depredation of the fly. I have frequently been obliged to plow the land and sow them twice and sometimes thrice in the season, before I could ensure a sufficiency. Another consequence of this slow growth, is, that not being in a state of forwardness for the hoe so soon by a fortnight as the turnip, if the land be not in a state of high cultivation, they are liable to be overgrown by weeds: unwelcome intruders! Which will render the operation of hoeing extremely difficult if not absolutely impracticable. I would not advise a slovenly farmer ever to attempt their culture.—I will pass over the intermediate stages, and suppose them twice, or if necessary thrice hoed, a sufficient plant on the ground, and arrived at maturity. Even now they will have numerous and formidable enemies to encounter. During the winter months, hares, rabbits, partridges, pheasants, woodpigeons, and rooks will come from considerable distances in search of a favourite food. Their tops will speedily be so completely devoured that no vestiges of vegetation will remain; and should these marauders abound, the roots will exhibit innumerable marks of their devastation. It will be high time to clear the prospect by exhibiting a view of their good qualities, as a counterbalance to the black catalogue already depicted. They are in their nature extremely hardy so that no severity of the weather seems

materially to affect them. The texture of the root is so firm and close, that even those which are in part scooped out and hollowed, will retain water in the cavities during the winter, without any injury to the remaining part; a thin, brown crust will surround the hollow, but beyond that, it will, when cut, be as fresh and sound as those roots which have been untouched. Nor will the root be all which it has to recommend it: it will in the spring throw out a fresh sweet top in very great abundance. They certainly are a very excellent food, and highly coveted by stock of all kinds. For horses, they are a nutritious and very acceptable addition to their winter provender, little, if at all inferior to carrots. But their great merit seems to consist in their forming the connecting link between turnips and grass: between that distressing period (of about a fortnight or three weeks in the spring), when turnips cease to afford much nutriment, and grass is not in a state of forwardness to supply the deficiency. This they are enabled to do as well from the abundance of the top, as from the texture of the root, which differs in one very essential point from the turnip. The root of this, after it has thrown up its stem for blossom, becomes woody and hollow; but the Swedish turnip remains solid, juicy, and esculent even after it has perfected its seed. The greatest check which the cultivation of this plant has received, has arisen from the intemperate recommendation of those supposing themselves its warmest friends. It has been frequently placed in an improper point of view. It has been brought forward as something superior to, and consequently something to supercede the culture of the turnip. Here it will ever be found defective in the scale of merit. Its produce per acre will be much inferior to turnips in point of weight, nor will that deficiency be balanced by the superiority of its nutritive qualities. As a general crop, it can only be deemed a sort of half crop, with the merit of not being liable to be destroyed in those seasons when turnips fall a sacrifice to their rigour. But surely no prudent man will cultivate what is at best but an half crop merely because a season may be so severe. I would, however, still recommend them strongly to every farmer. The culture of a small portion each year he will find of infinite service, excellent for horses, from the hunter to the pack horse, and invaluable at a time when all other fresh vegetable food fails him. I cannot close this letter without noticing an objection which I have recently heard, and which in the opinion of some, may carry with it an appearance of weight. It is objected to them that by continuing on the land to so late a period in the spring, they not only considerably exhaust the soil, but will throw it out of its regular course, as the ground will not be cleared of them, till it becomes too late to sow the barley crop with any great prospect of success. Both these objections may be easily obviated, by drawing the roots at

any leisure time during the winter. And, if they are arranged close to each other, in an erect posture, either in a vacant stack-yard, upon a piece of bare pasture, or on the land destined for the future turnip crop, they will receive no injury from having their roots exposed to the weather; nor, will the vegetation of the top be materially checked by the removal. As I fear I have already trespassed too long upon your patience I shall only subscribe myself

Sir, your very obedient servant,

Jan. 30, 1802.

CASTOR.

REMARKS ON THE REPORT OF THE HAMPSHIRE EXPERIMENTAL FARMING ASSOCIATION.

To the Editor of the Commercial and Agricultural Magazine.

SIR,

IN your agricultural report for December last, page 442, you have favoured us with a statement of the account published by the Hampshire Experimental Farming Association, as the result of certain experiments which they had made in the course of the year 1801; the object of which experiments was to ascertain, on a fair competition, the comparative merits of the broadcast and drill systems of husbandry. The result there given exhibits the drill-system in a very captivating light; for the balance of accounts in its favour is made to exceed that of the other system more than two hundred pounds. And this too, say the members of this association, "though now only at the close of its first year."

I must beg leave here to ask either Henry Hood, the president, or Thomas And. Minchif, the secretary, a few questions.

Why are we told that this is *only the first year* of these systems having been placed in a fair competition by this Association? Are we to expect a more evident superiority of the drill husbandry to be manifested at the close of any future year? Did these gentlemen ever before witness a spring so friendly to the drill husbandry as that of last year: or have they any just reason ever to expect the like again? Or did they ever before experience the latter end of a year so favourable to the sowing of the wheat crop with the drill, as that of the preceding year? I would likewise ask these experimentalists, what would have been the result of their experiments, had they taken place in the year 1800? How would they have contrived to have worked the drill in the wet autumn of 1799; or what would have been the effect of their second hoeing in the dry spring of the following year?

I cannot help remarking, on a view of the account published by the above Association, that they appear to me better drill husbandmen, and worse broadcast farmers than ever yet fell under my observation. Can any other instance be produced of a far-

mer, tolerably competent to undertake the management of land and stock, having in the course of last year, (which was probably the most profitable year that the cultivator of land ever did or ever will experience) on a farm which cost 933*l.* to work it, only producing stock worth 982*l.*? These associated farmers produced only, on their broad-cast farm, a balance of 48*l.* 13*s.* 6*d.* as a remuneration for their skill, time, and labour, and likewise as interest for the capital made use of in the execution of their plan.

I have to remark, likewise, that the sum expended upon their drill-farm, amounting to 1938*l.* is in itself alarmingly great, and peculiarly forbidding; as it appears, at the same time, that the value of the stock produced by this expenditure only reached the value, even in the year 1801, of 2203*l.* What man, in moderate circumstances, will venture, if this be the common product of that system, to embark in that species of husbandry? It appears, in one view, a system calculated only for the amusement of the gentleman farmer, who is possessed of a large capital: but when seen in another light, as requiring more care, uncommon skill, and constant attention of the master himself, it seems a kind of husbandry fitted only for a farmer who daily handles his own plough, who never leaves any thing to the inattention of servants, but is his own *fac totum*.

I have repeatedly seen this husbandry extremely ill and destructively executed when left to servants: in the process of horse-hoeing, I have observed the boy lead the horse so as to tread for the length of a whole row upon the tender plants of pea-crops: I have frequently seen the hoe, at one time, turn up the roots of the plants, for whole yards together; and at another time, to throw the earth some inches short of the row.

If the drill system is ever to prevail generally in these united dominions, we must have a general change in the dispositions of those to whom the conduct of it must be committed. And I assert, that any thing that tends to render our husbandry more complex than at present cannot be desirable; cannot, without a change of men as well as measures, finally profit us. Even in its simple state, or conducted according to the broad-cast plan, agriculture requires more attention than any besides the real proprietor ever will give it: and in this state, likewise, it is so dependent upon seasons, that almost the whole of its success arises from seizing the favourable moment. Can it then be true wisdom to endeavour to add to our already too great necessity for vigilance, and to increase our already too numerous uncertainties?

Let me not, however, Mr. Editor, be here understood as cavilling at such experiments as those alluded to; for I think all experiments that are conducted upon rational principles, and have a tendency to remove doubts, are highly meritorious. My chief wish is, by what I have said, to guard your readers against the

effects of a fallacy involved in the words of the Association, who are led thereby to expect greater things in future than those already exhibited.

I am your's,

Jan. 23, 1802.

PRACTICUS.

For the Commercial and Agricultural Magazine.

ON THE GROWTH OF HEMP.

The Editor is happy in laying before his Correspondents the following general observations and inferences respecting the advantages likely to arise to this kingdom, if immediate and proper attention be given by Government to encourage the culture of hemp in Canada. They are extracted from Minutes, lately written and presented upon the subject by Mr. Charles Taylor, at the desire of the Lords of the Committee of Council for Trade and Foreign Plantations, for their further consideration.—The subject is interesting to the public.

MY LORDS,

YOUR Lordships will, I hope, approve the principle, that it is of importance to Great Britain to produce, if possible, all her necessary supplies within herself, or from her Colonies, and that it is sound policy to make some temporary sacrifices to obtain ultimately such advantages.

The average importation of hemp from foreign powers (principally from Russia) has been for the last seven years upwards of 30,400 tons weight annually, or in value, at 45l. per ton, 1,368,000l.

The soil and situation of both Upper and Lower Canada are particularly favourable for the culture of hemp; it even grows wild there luxuriantly.

The preparation of hemp from the stalk to a state fit for exportation, is a business which may be carried on within doors during the cold winter months, and would furnish advantageous employment for the Canadians.

To facilitate the object, well chosen seed should be sent from England to Canada, to be sold at moderate prices to such Farmers as wish to engage in the culture of hemp.

Every Farmer there would be interested to plant from half an acre to one and a half acre with hemp, or from one to two arpents, each of which is about four-fifths of an English acre.

The seed should be purchased here by Government, from several different persons and places, in order that some of it may be certain to be good; but none of the seed sent should be older than the preceding year.

Every arpent of land, sown with hemp, would require about two bushels of good seed, and such as has not been heated.

The produce of each arpent would probably be seven hundred pounds of good hemp, fit for importation into this country.

A less quantity of seed should be sent at first than would be likely to be wanted. Therefore, in order to prevent waste, only

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three thousand two hundred bushels of seed should be forwarded from England in the first instance, which, at nine shillings per bushel, would cost fifteen hundred pounds.

That one person should be appointed at Quebec, another at Trois Rivières, and a third at Montreal, to sell the abovementioned seed on account of Government.

That a set of common hand instruments for preparing hemp, viz. the break, hackle, and swingle, should be sent to each of the three persons abovementioned, as patterns for the natives to see, in order to prepare there others for themselves, the expence of each set here would be about two guineas.

The three persons abovementioned should receive all the hemp from the Farmers, when properly prepared for exportation, and pay for it such price as it might deserve, according to its quality; perhaps at first something more than the price paid in Russia, in order to encourage its culture in Canada: but no pecuniary bounties should be given by Government.

In order to promote the first endeavours for the culture of hemp in Canada, a simple and clear account of the most easy and likely mode of cultivating and preparing hemp there proper for use should be drawn up and printed in England, to be circulated in that country.

Such account should at present be confined to the broad-cast method of the culture of hemp, with a few engravings of the common instruments necessary in preparing it; so described that the Farmer there can make them.

The mode of culture recommended by the Abbé Brulles to your Lordships, contains much useful information: but local circumstances would require some material deviations from his plan; and he has mistaken the sexes of the hemp plants.

The instructions sent for the culture of hemp should be so formed as to encourage the production at first of a great quantity of seed for future growth, even if it curtailed the quantity, or affected, in a small degree, the quality of the female hemp, or later growth.

Government should engage to take all the hemp grown in Canada, within a certain time, at a fair price, if the quality be good, and pay the Farmer for it on delivery.

Hemp may be so compressed by Mr. Bramah's machines, without injuring its quality, as to admit a ship to carry her full tonnage of it.

Probably the duty on hemp imported into England should be relaxed with regard to the hemp produced in Canada.

There is reason to suppose that the money necessary for the establishment of the growth of hemp in Canada may be furnished under an Act of Parliament now in force for the encouragement of the production of hemp.

Proper vessels should be appointed in due time to carry out the hemp seed, and others to bring home the hemp when prepared.

Some persons, competent to the business, should examine the cargoes on arrival in England, and make reports thereon to your Honourable Board.

The Society for the Encouragement of Arts, Manufactures, and Commerce, have offered, and now offer premiums for the culture of hemp in Canada, with a public spirit which does them honour. They are also endeavouring to encourage its culture in such parts of Scotland, where it may not interfere with the growth of corn. They are also attempting to facilitate the means of conveying hemp here from Canada and the East-Indies. But it may be remembered that their funds are limited, and that their views extend to a great variety of other important objects. In the 1763, 64, and 65, they expended four hundred and twenty pounds in bounties for increasing the growth of hemp in this kingdom.

Upon the principles I have recommended to your Lordships' attention, I conceive that the importation of hemp from Canada would take place in the following proportions, viz.

The first year 500 tons in weight, the second year 2000, the third 4000, the fourth 5500, the fifth 7000, the sixth 8000, and the annual increase to proceed with an addition of one thousand tons at least in each succeeding year, until Canada supplied our whole demand.

Least I may be supposed too sanguine in my expectations, I beg leave to note to your Lordships, that when in a manner similar to the present I had the honour to state both personally and by letter to the Right Hon. William Pitt and the Earl of Liverpool, the possibility of rendering Great Britain independent of Spain for that valuable article Indigo, my statement was then supposed equally difficult as the present to accomplish. Your Honourable Board, however, printed the account of the experiments I had made upon the qualities of East-India indigo, and my opinions upon the subject. The trials of a few years in our Colonies there, along with instructions I repeatedly furnished by desire of the planters communicated direct to me, completed the fact, and preserved half a million sterling annually to this kingdom.

That I was the means of effecting it I have vouchers to prove if required. The quantity imported into England was in 1789 from the East-Indies only three hundred and seventy one thousand four hundred and sixty-nine pounds, but in 1796 had increased to more than ten times the quantity, being three millions eight hundred and ninety-seven thousand one hundred and twenty pounds.

I could adduce other cases in point: but in the present instance respecting the culture of hemp in Canada, I would rather refer your Lordships to men of abilities I have personally named to

you, from immediate acquaintance or correspondence with whom I have derived valuable information; their residences at sundry times in various parts of Upper and Lower Canada, have enabled them to attain much topical knowledge, and they can inform your Lordships how far my inferences are just. The object is certainly of great national importance, and demands very minute attention.

At your Lordships' desire I have given you my sentiments. I have no probability of personal advantages, but, on the contrary, a character at stake in risking them to public opinion. Your Lordships however will, I trust, make the distinction that this is not an official information from the Society of Arts, &c. but, during their recess, respectfully offered, at your request, as my own sentiments, after minute consideration of the subject.

I am, with great respect,

Your Lordships' obedient servant,

John-street, Adelphi, Jan. 1.

CHARLES TAYLOR.

CURIOUS PARTICULARS CONCERNING THE NATURAL PRODUCTIONS, AGRICULTURE, ANIMALS, AND MEN OF THE ISLAND OF MAURITIUS.

To the Editor of the Commercial and Agricultural Magazine.

SIR,

AS your valuable repository affords a place for pastoral, agricultural, and commercial information, exotic as well as indigenous, I send you some account of the state of Mauritius in point of natural and artificial productions. The substance is extracted from a very valuable work lately published by the Viscount De Vaux. The earth is almost universally of a reddish colour, and mixed with ferruginous matter, which often appears on the surface in small orbicular shapes of the size of a pea. In the dry seasons the ground becomes extremely hard, particularly in the environs of the town. It resembles potters' earth, and, when cut into trenches, it is divided like lead with hatchets. After rain it becomes viscid and tenacious, but it is very fertile when cultivated; and the cultivation does not require extraordinary labour. There is no real sand; and that which is found on the sea-shore is formed of madrepores, and shells, and calcined by fire. The island produces three kinds of grass: along the sea shore there is a thick elastic turf, whose herbage is fine, and the blade, which grows to a sharp point, sufficiently strong, when dried, to pierce woollen cloth. In the hottest parts of the island the pastures are composed of a kind of dog-grass, that runs along the ground, and shoots forth small branches from its stems; though it is very tough, the cattle are fond of it in its verdant state. But the best grass grows in the more moist parts, and the windward situations of the

island. It produces very large leaves, and is green and tender throughout the year. The other herbs and shrubs possessed by the Isle of France are, as follows: A plant that yields a kind of pod, filled with a kind of silky substance, of which, it is probable, some manufacturing use might be made: A species of asparagus, armed with thorns, which shoots up to the height of twelve feet, and attaches itself to trees, in the manner of brambles; but it does appear that any attempts have been made to discover its qualities as a vegetable food: A kind of mallow, with a small leaf, which flourishes most in court-yards of houses and by the side of highways: A plant which bears a resemblance of the lily, is fond of marshy spots, and bears an odorous flower: On walls, and by the sides of roads a tufted plant is frequently seen, whose flower resembles that of the common red single stock. At the foot of the mountains near the town is found a vivacious, sweet basil, whose odour is like that of the gilly-flower. Its stem is ligneous, and an excellent vulnerary.

The Isle of France possesses a fertile soil, with brooks that are never dry in the hottest of seasons, and water the island like a garden. Coffee, cotton, indigo, sugar canes, the pepper-plant, the cinnamon tree, the tea plant, the mulberry tree, the cocoa, and the roucou, have been cultivated in their turns. The cultivation of corn succeeds the best; and the land which is employed in tillage bears, in the same year, a crop of corn, another of rice or Indian corn, without ever lying fallow, or receiving manure, and with no great exertion of labour. There were originally brought from Madagascar into this island considerable herds of cattle, and flocks of sheep; but since it has been discovered that more is to be gained by individuals from importing slaves than cattle, the latter have been neglected, and continue to be diminished, by the consumptions of the island and the supply of vessels. Besides, the ground which has been prepared for pasturage has been so injudiciously disposed and managed, that there is not sufficient herbage for the maintenance of the cattle. In different districts there is a very fine grass, which shoots forth at the beginning of the rainy season, attains to the height of five or six feet, and arrives at its full growth in the space of three months, while that season lasts. At this time the colonists send their herds to graze on it, where they soon grow fat; but when the vegetation ceases, it becomes dry and hard, so that the cattle cannot eat it. By a thousand accidents the dried grass is frequently set on fire; a circumstance which sometimes occasions a conflagration in the woods. During the remainder of the year the flocks and herds are left to wander about the forests, in search of a precarious subsistence. The great error which has been committed in this island, and has proved most prejudicial to its agriculture, is, the injudicious manner in which the ground has been cleared. The first settlers effected their purpose by fire; so

that they opened large spaces of country, without leaving any intervals of wood, which could alone attract the clouds to the new formed fields. The rains are the best, and, indeed, the only manure in this island, and they confine their course to the forests, leaving unbedewed the tracts that are cleared.

Among the animals one of a very singular nature is mentioned, called the Great Bat of Madagascar. It is about a foot in length from its posterior extremity to its beak, and its wings stretch to about four feet; it has large canine teeth, consisting of four in the upper, and as many in the lower jaw. Its muzzle is black and sharp; its ears large and bare; its talons are hooked, large, and compressed; it has no tail. These bats are of different colours, some of a bright red, others brown, and some are almost black. They resemble the common bat in their interior conformation, the shape of their wings, and the manner of spreading them when they fly. When these animals repose, they cling to the tops of the highest trees, and hang with their heads downwards. At other times they fix themselves upon animals, and even repose upon man himself. They feed indifferently on fruit, flesh, and insects. They are so fond of the juice of the palm tree, that they sometimes intoxicate themselves with it, so as to fall to the ground. Their horrid shrieks are heard, during the night, in the forests, at the distance of two miles, but they retire at the approach of day. Nothing is safe from the ravages of these destructive creatures; they equally destroy the wild and domestic birds, whenever they have an opportunity; and they will sometimes attack the human kind, by seizing and tearing the visage. It is probable that the ancients borrowed their ideas of the harpies from these terrible animals. The Indians consider them as a palatable article of food, particularly in certain seasons of the year, when they are full of fat: and even some of the French people, both in this island and the isle of Bourbon, have brought themselves, in this particular, to follow the Indian example. The Negroes, however, hold them in the greatest horror; and no consideration whatever could induce them to have any other concern with these noxious creatures, but to destroy them; for which purpose they employ uncommon dexterity. It has often happened that persons have been attacked whilst asleep, and bled to death by them, as they are powerful and subtle blood-suckers; so that it is really dangerous to slumber in the open air, or to let them enter into an house during the night.

Another singular animal is a kind of lobster, whose hinder part is without a shell; but nature has instinctively taught it to lodge that part in any empty shell it can find. They are seen running about in great numbers, each of them carrying its borrowed house, which when incommodious, from its being too small, it changes, as opportunity serves, for one that is more capacious. Some time ago two very fine wild asses, male and fe-

male, of the size of a mule, were brought from the Cape. They were streaked on the shoulder like the Zebra of the Cape, though there is a considerable difference between them. These animals are of a nature that cannot be tamed. Cats have degenerated here; the greater part of them are thin and emaciated, nor do the rats discover any very great apprehension of them. Dogs are much more effectual in destroying these noxious animals; but in the course of time they lose their hair and their scent. It is said that they are never known to go mad in this island.

Respecting the manners of the inhabitants, the greater part of the married people live on their plantations; and the women seldom visit the town, but when they are tempted by a ball, or are called to perform some essential duties of their religion. They are passionately fond of dancing, and no sooner is a ball announced, than they come in their palanquins from every quarter, as the roads will not admit of wheel-carriages. The women have but little colour, but they are well made, and, in general handsome. Nature has given them a considerable portion of wit and vivacity; and if their education were not neglected, their society would be very agreeable: they are very fond mothers; and if they ever fail in fidelity to the marriage bed, it is too often owing to the indifference of their husbands, or to the Parisian manners which have been introduced. Their ordinary dress is fine muslin, lined with rose-coloured taffeta. They possess, in a great degree, the more estimable domestic qualities; they seldom or ever drink any thing but water, and their cleanliness is extreme. Their children are never confined in swaddling-clothes, but run about almost as soon as they are born; they are often bathed, and allowed to eat fruit at their own discretion. As they are left entirely to themselves, and are uncontrouled by the superintendence of education, they soon become strong and robust, and their temperament advances in proportion. The females are sometimes married at eleven years of age.

ON THE SUFFOLK BREED OF HORSES.

To the Editor of the Commercial and Agricultural Magazine.

SIR,

THAT the Suffolk breed of Horses, commonly called Woodbridge Horses, should ever be preferred, as it appears in your Magazine for December last that they are, to the black horses bred in the midland counties, is to me matter of no small surprize. Nay, even that a comparison of the respective merits of those horses should have been made, appears to me hardly tolerable. I mean a comparison as real cart-horses, calculated to draw after them heavy weights; for as horses intended for the plough only, or to travel quick on the road, with light weights, they may have peculiar excellencies. View them, however, in

situations in which the stout heart and strength of a cart-horse is particularly requisite, and their inferiority is manifest. View them when fastened to the ponderous machine of the public carrier, or to the heavy laden dray in the streets of London, and the light chestnut or sorrel horse, will, in almost every instance, appear the most "sorry horse" in the team.

By having resided a good part of my life in a district in which the black breed of horses are almost exclusively used, I may, perhaps have acquired a too great partiality for them; and your Norfolk correspondent likewise may, for the same reason, have formed too high an opinion of what he styles the Suffolk-moulds: it is requisite therefore that we should look for an unbiassed judgment to another quarter. Let us be guided in our decision by the value of each in a public fair; or by what each would fetch in the London Market; and by this criterion I have no doubt that a decided preference would be given to the black breed. The black horses are the only true cart-horses: the Suffolk moulds are evidently, as your correspondent A Breeder intimates, only a mixture or cross between the blood and cart-horse: and this opinion is confirmed by Mr. Arthur Young in his *Agricultural Survey of the county of Suffolk*, where he says, "of late years, by aiming at coach-horses, the breed is much changed to a hand-somer, lighter, and more active horse." Mr. Young had before allowed, a deterioration of late in the disposition of these horses to labour or draw: "Amongst the great farmers," he says, "in that county (the neighbourhood of Woodbridge), there was, forty years ago, a considerable spirit of breeding, and of drawing team against team for large sums of money. Mr. Mays of Ramsholt-Dock, was said to have drawn fifteen horses for 1500 guineas. And it is to be regretted," Mr. Young unmercifully adds, "that such a spirit of emulation was lost. I remember seeing many of the old breed, which were very famous, and, in some respects, an uglier horse could not be viewed; sorrel colour; very low in the forehead; a large ill shaped head, with slouching heavy ears, a great carcase and short legs; but short backed, and more of the punch than the Leicestershire breeders will allow. These horses could only walk and draw; they could trot no better than a cow."

Thus, if this account is to be relied upon, (and who can suspect Mr. Young of giving an account more unfavourable than what is true of the products of his native district), it appears, that what this breed of horses has gained in one species of excellence it has lost in another; what it has gained in form and activity, it has lost in weight and disposition to press against the collar; that by aiming at coach-horses the Suffolk Farmers have lost their cart-horses; that, in fact, at present, the Woodbridge horses partake of both characters, and are in reality neither one nor the other.

In the county of Stafford, and other parts where the black horses are raised, no spurious mixture of the above kind ever takes place. The breeders here are as nice and fastidious in the choice of a stallion, even as the man who breeds for the turf: and with as strict scrutiny and exact investigation, trace back his origin to Mr. Bakewell's horse Ball, as the high-mettled racer has his pedigree from the blood of Arabia. Our breeders do not esteem that roughness of leg, to which the Norfolk Farmer objects, as a meritorious qualification in a horse, but they look upon it as essential in the breed of cart-horses, and think it as impossible to have a good cart-horse without it, as to possess a good racer with it.

I hope I shall not appear more earnest in this matter that your readers may think the subject deserves. Surely it is a thing of no small moment to give public encouragement to the most useful species of this part of stock, as well as to the most valuable breed of cattle, which is a subject that has of late occupied the attention of his Grace the Duke of Bedford and other rational experimentalists, in so laudable, and, to my knowledge, already so profitable a way. I could wish that his Grace would make a fair trial of the black breed as well as of the Suffolk moulds.

I am, your obedient servant,

Jan. 23, 1802.

STAFFORDIENSIS.

ON THE CULTURE OF POTATOES FROM THE SHOOT.

To the Editor of the Commercial and Agricultural Magazine.

SIR,

IN my last letter to you, which I observe you have inserted in your January Magazine, I promised you a fuller account of the method recommended by the Rev. Dr. Maunsell, of Limerick for the culture of potatoes from the shoots. It was announced in 1794, by the Dublin Society, as having great merit, and likely to be of infinite service to the peasantry of Ireland. His observations are to the following purport:

In the month of April, when he intended to set potatoes by cuttings, in the common method, he observed in the heap of potatoes intended for this purpose, that they were fastened together by a great number of shoots, not thicker than straws, issuing from the different eyes. Those shoots appearing so early, he considered as the strength of the potatoe, or rather its first efforts to vegetation; and it appeared to him, from the state the potatoes were in, that they must be greatly weakened by those several shoots proceeding from them. He was in doubt, however, whether the shoot, when deprived of its parent potatoe, would ever fructify or produce a potatoe. He resolved, however, to try

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the experiment, and took up a few shoots of different kinds, that his servant had thrown away, cut them into pieces about six inches in length, choosing those which had the most knots and fibres; observing to plant them as they grew, with that part which was next the potatoe downwards. He made the servant make two drills of 28 feet in length, in land which he had prepared, and planted each shoot about 6 inches asunder, covered them with earth about an inch, each drill two feet asunder, and gave directions that if they grew they should be earthed up at least a foot high, leaving always about three inches of the growth above ground, till towards the first of August. These shoots thus planted, began to vegetate and get into leaf before any of the potatoes he had sown or set at the same time, in the usual manner, and produced a more luxuriant crop of potatoes than those furnished by the potatoe-sets, put in the ground at the same time.

By the affidavits of his servants, it appeared, that they planted about sixty of the shoots in two drills of 28 feet in length, and that though three drills are deemed equal to a bed of potatoes in breadth, that yet these two drills produced double the weight of what was sown or set in a bed of the same length, and at the same time, and that the potatoes from the shoots were much larger than those in the beds.

Dr. Maunfell is of opinion that this kind of culture will not answer on land fresh broken up from grafs, as the surface is too stubborn, and the ground not sufficiently meliorated. The looser and finer the earth is, the greater will be the produce from the shoots, and the less expence attending it; and the same land will produce successive crops by planting shoots for three or four years, provided the ground be carefully cleaned from all seed-potatoes, the drills changed, and a small quantity of manure put into them every year, and the ground will then be in excellent order for producing wheat or any other kind of grain.

He observes, that nature points out the time for sowing potatoes, and that is when they first begin to vegetate, and put forth their shoots. The countryman is so sensible of this that he opens his heaps twice or thrice in the spring, in order to take off those shoots which hurt his potatoes, and in order to keep them as long as he can plump and fit for sale. That is the time when he should begin his culture on the shoots, and though they be but two or three inches in length, he should have his drills ready on the first opening of his heaps to receive them; these will give an early crop, and from their strength will be able to stand against a slight frost; for, from the experiments he has made, he finds the potatoe stocks from the shoots more luxuriant and much thicker than those that grew in the beds, sown at the same time with potatoe cuttings.

He remarks, that by following the method he has laid down for the culture of potatoes from the shoots, the cottager, who has, perhaps, an acre of ground for potatoes, and his former crop of potatoes stored in heaps for use or sale, will have full leisure to begin early his potatoe tillage, provided he be careful in preparing the land and potatoe shoots; he can open one or two of his heaps, collect all these shoots, that heretofore have been thrown away as useless, sell his potatoes, pay his rent, and, at his leisure, plant five or six drills with the shoots in the month of March, provided they be sufficiently strong; in the month of April he can plant as many more, and so on till he plants his entire acre. The labour attending the mode of culture is but trifling, for he has nothing more to do than to make a drill of about five or six inches deep, and about two inches wide; his wife or children may follow him with a barrow of manure, throwing a small quantity into the drill in which the shoots are to be planted, (as you would any other plant,) covering it with about two inches of earth. By this means his potatoes will ripen in succession, and he will find his ground tilled almost imperceptibly, without hiring a single assistant; and when the stocks appear above ground he will have about twelve inches of ground at each side of the drill to earth them up, at least eighteen inches high; for the higher you earth them up the greater will be the produce; for the potatoes from the shoots, if properly attended to, will not spread in the ground, but ascend to the surface, as you may see them when dug out, growing to the stock, as onions tied in a trace.

The above account includes the principal part of Dr. Maunfell's observations and instructions on this subject; if any further explanations be wanted, I will furnish them.

And am, Sir, your's, &c.

Bolton, Lancashire, Feb. 12, 1802.

J. H.

For the Commercial and Agricultural Magazine.

PREMIUMS FOR THE CULTURE OF HEMP IN CANADA.

THE Society for the encouragement of Arts, &c. have made some alterations this year in the Premiums offered by them to encourage the cultivation of Hemp in Canada, and its importation into Great Britain and Ireland. The Editor has thought the alterations deserving of a place in this Magazine. They are now offered in the following manner; viz.

To the person who shall sow with hemp the greatest quantity of land, in the province of Upper Canada, not less than six arpents (each four-fifths of a statute acre), in the year 1802, and shall at the proper season cause to be plucked the summer hemp

(or male hemp, bearing no seed), and continue the winter hemp (or female hemp, bearing seed) on the ground until the seed is ripe, the gold medal, or 100 dollars.

To the person who shall sow with hemp the next greatest quantity of land, in the same province of Upper Canada, not less than five arpents, in the year 1802, in the manner above-mentioned, the silver medal, or 80 dollars.

For the next greatest quantity of land, in the same province, and in a similar manner, not less than four arpents, 60 dollars.

For the next greatest quantity of land, in the same province, and in a similar manner, not less than three arpents, 40 dollars.

For the next greatest quantity of land, in the same province, and in a similar manner, not less than one arpent, 20 dollars.

Certificates of the number of arpents, the method of culture, of the plucking of the hemp, with a general account whether sown broad-cast or in drills, the expence, soil, cultivation, and produce; to be transmitted to the Society, certified under the hand and seal of the Governor, or Lieutenant-Governor, together with 28lb. of the hemp, and two quarts of the seed, on or before the first Tuesday in November 1803.

N.B. The said premiums are extended one year further.

Premiums exactly similar in all respects to those held out to the province of Upper Canada, are also offered by them for the cultivation of hemp in Lower Canada, and are also extended one year further.

The Society have also agreed that a gold medal be given to the master of that vessel which shall bring to this country the greatest quantity of marketable hemp, not less than 100 tons, in the year 1803, the produce of Upper or Lower Canada.

They have also resolved that their silver medal be given to the master of that vessel which shall bring over from thence into this country, in the year 1803, the next greatest quantity of similar hemp, not less than 50 tons.

Certificates satisfactory to the Society are to be produced by the master of the vessel, testifying that such hemp grew and was prepared in Canada.

THE BRITISH MERCHANT. No. XII.

HISTORY OF COMMERCE FROM THE YEAR 1344, TO THE YEAR 1364. (Continued from page 400, Vol. V.)

A Circumstance attending the Republic of Genoa, gave rise, in 1345, to an establishment which has since been introduced into most of the States of Europe. That Republic having, in consequence of its wars with Venice, run greatly in debt, elected four of its citizens to make provision for their debts, which gave rise to the bank of St. George in that city. The proprietors of those debts, or the creditors of the State, had

the customs of the city assigned to them, and became an established company to transact all matters of banking. The bank was also instrumental in assisting the State in its exigencies thereafter.

The following year is marked, also, by the establishment of a toll, or turnpike duty, as it is now called, in England; for the repair of a public road. It appears in a grant from the King to the master of the hospital of St. Martin's in the Fields, payable on all carriages passing from the said hospital to the bar of the Old Temple, or Holborn Bars, and other adjoining roads.

The year 1347 is memorable for the siege of Calais, at which Edward mustered all the ships he could: the whole number was seven hundred and thirty-eight ships, of which twenty-five were the King's own; the town of Yarmouth sent forty-three ships, and London only twenty-five. Yarmouth was therefore, at this period, a place of great importance.

Edward having taken Calais, in 1348 fixed the staple of English wool and woollen cloth there, and also of tin, lead, and feathers for seven years. At this staple he directed that all merchandize shipped from England, Wales, or Ireland, should be landed.

The statute of cloths, as it is called, passed in the year 1350, by which it is directed that all manner of woollen cloths should be measured by the King's aulnager, and that cloths which were short of the measure should be forfeited. The goodness of the cloths was also an object of the legislator; and often, afterwards, statutes have been made to regulate the quality of this staple commodity of the kingdom. The aulnager, therefore, became an officer of great consequence to the trade of the kingdom. The office of aulnager is now transferred, in all trading towns and parishes, to persons called searchers. The Parliament of England thought proper, the same year, to regulate the wages of certain artificers, master carpenters, masons, tilers, who were to take three-pence per day.

The Venetian writers speak much of the great trade carried on at this time between India and Egypt for spices, and other fine Indian commodities; encouraged by the Mamaluke Sultans of Egypt, who reaped a great annual income from it. Anderson says the Indian goods were first landed at Aden in Arabia, carried across that country on camels to the Red Sea, thence over land to the Nile, down that river to Cairo and Alexandria, and thence transported to Venice, whence the Venetians circulated them through every part of Europe.

An alteration took place in 1353 respecting the staple of wool which had been long at Bruges, and was now by the *statute of staples* settled at Westminster, Canterbury, Chichester, Exeter, Winchester, Bristol, &c. and all staple wares were to be carried to one of the enumerated places, and the duties there paid; and

they must then be exported by merchant strangers, and not by English subjects:—a regulation, the reason of which cannot be clearly explained at this time. An act passed the same year for paving the road between Temple Bar and Westminster, which was then a mere highway, with noblemen's and gentlemen's houses, and gardens running down to the Thames. Westminster having a staple fixed at it, made it necessary that the way between that place and the metropolis should be made good.

The year 1350 is marked by the establishment of the first gauger, by the King; which was originally designed for dealers in wine, brandy, ale, oil, and vinegar, and was afterwards extended to beer. The exports this year from England appear, by a record in the Exchequer, to amount to 294,184*l.* and the imports only to 38,970*l.*; the balance, for that time, was certainly very considerable. The exports consisted of, value in wool 277,606*l.*; leather 96*l.*; cloths 16,266*l.*; the customs thereon 225*l.* The imports were, in cloths 11,083*l.* wax 815*l.* wine 3841*l.*; linen cloth, mercery, and grocery 22,943*l.* on which the customs were 285*l.*

It affords a singular instance of the change of circumstances, that most of the nobility had in those times their mansion-houses in the city of London. Thus Devonshire-square, Winchester-street, Dorset-gardens, &c. were all sites of the mansions of the nobility.

A law passed in 1514, prohibiting the making or selling goldsmiths or silversmiths ware, which were not properly assayed by the Goldsmith's Company.

In 1357 an act passed for regulating the herring fishery at Yarmouth, by which it appears that a fair for herrings was held, and had been so for some time at Yarmouth; and three years after, other regulations were made on that subject.

Under the year 1460, Hackluyt tells us, that one Nicholas of Linn, a friar of Oxford, made several voyages to the North, and presented draughts of his courses to Edward III. but we have no remains of them now in being.

The Kings and Queens of England had been accustomed to take victuals for their houses by means of purveyors at certain rates: this privilege was a great prejudice to trade, and was much abused by their servants; and now (1362) by act, that odious custom was done away, and the King's and Queen's servants were to pay for the goods they took at the current price.

The statute which restricted the exportation of goods from the staples to foreigners, being found prejudicial; an act passed, allowing this privilege to denizens also.

Another extraordinary act appears on the statute books, restricting merchants from dealing in more than one kind of wares; and directs masters, artificers, and handicrafts to work only in one trade or mystery: this law does not, however, confine women

artificers to one calling. This strange act, as far as respects traders, was repealed soon, but that respecting handicraft-men continued till the reign of Elizabeth.

The year 1363 is remarkable for some sumptuary laws, which shew that luxury had made some considerable strides. Men servants of Lords and others are confined to one meal of fish or flesh per day. The value of the cloth they wear is regulated, and they are to have no ornament of gold, silver, or embroidery. The value of cloth worn by artizans is limited, and also that of the cloth worn by Gentlemen and Knights.

(To be continued.)

Mode of cultivating the English Chicoree Plant, Cichorium Intybus of Linnæus, Cichorium Wurzel, or Hindläufte, of the Germans, as recommended by the Chicoree Coffee Manufacturers at Dresden.

In our last Magazine we noticed our intention of pointing out from time to time such articles as may be produced in England and serve as useful substitutes for foreign products; with this view we take an early opportunity of introducing an account of the culture of the Chicoree Plant and the manufacture of Coffee from its root, as lately published in the 19th volume of the Transactions of the Society of Arts, &c. The use of it we understand is become very general in Germany, and that it furnishes a cheap, pleasant, and wholesome beverage to answer the purpose of Coffee.—The Chicoree Plant having for some years past been cultivated upon a very extensive scale in Germany, for the use of its root as an excellent substitute for coffee, and for the herbage in feeding cattle, the following account of the culture of the plant, and method of manufacturing coffee from its root, was sent from Germany, by Mr. John Taylor, to the Secretary; with some of the seed, and samples of the root in different stages of its preparation, which are placed in the Society's Repository for public inspection.

FOR cultivating the Chicoree Plant a sandy or loamy soil answers best: clay or heavy soil is not proper, because the roots cannot penetrate a sufficient depth, and because in such ground they are more difficult to be pulled up, the roots being usually half-a-yard in length. The ground must be either delved a spade or more in depth, or ploughed very deep by two ploughs following each other in the same furrow; this work is best done in autumn. The land must afterwards be lightly ploughed at the time of sowing, but it may be ploughed in like manner in spring if omitted in autumn, then harrowed and immediately sown. Chicoree does not properly require stable manure, because the roots do not taste so well where cattle dung is used as in land unmanured. Fallow land, or land on which one crop has been sown, is very proper. If the ground be poor, marl, gypsum, lime, or the mud from ponds are recommended as manures, or composts may be formed from two thirds of loam, and one-third of dung for sandy soil; or of two thirds sand and one third dung for loamy soil; by putting the mixture in a heap for some months, watering it repeatedly, and turning it with the spade some weeks before used. By adopting this

method the Chicoree will be excellent, and the ground greatly improved for future cultivation.

As the roots run deep, the dung, when used, should be laid low. Changing the land each year is better for the Chicoree, and also for the ground, as by the weeding and working it is in good order for other crops. If the Chicoree be drilled and potatoes grown betwixt the rows, Chicoree may be planted two years together. As potatoes require to be well manured, a crop of corn may then be taken from the land, and Chicoree again planted for one year.

The seed of the preceding year should be chosen for sowing: it should be cleaned from the seeds of weeds, and be mixed with ashes and earth, to enable it to be sown in such a manner that the roots may stand from four to six inches asunder.

Some persons steep the seed for twenty-four hours, in a solution made from three quarts of dung-liquor, six quarts of water, four ounces of common salt, and three ounces of saltpetre, to three pounds of seed; and if that quantity of water be not sufficient to moisten it, add more. After the seed has been steeped therein for eighteen or twenty-four hours it may be mixed with ashes and earth as above mentioned, and sown on ground laid out in large flats previously harrowed: after sowing, it must be harrowed with one harrow, in the manner that clover and rape-seed is covered.

On a Dresden acre of 300 square perches, of something more than fifteen English feet each, containing in the whole 67,500 square feet, three pounds and a half to four pounds of seed are sown, according to the goodness of the seed.

The seed may be sown from the middle of April to the middle of June, so that towards autumn the roots may be drawn in succession as the land was sown sooner or later.

After the seed is sown, nothing more is required than to keep it clear from weeds, and either to draw out the thickest plants in August for use, to allow more room for the smaller ones, or to pluck out the smaller plants, which is the better way, as it will occasion the larger ones to increase until September and October, when they may be dug up to advantage.

The roots, when taken up, must be separated from the stalks, leaves, and fibres, which are commonly used for feeding cattle; the Chicoree coffee manufacturers pay from 3s. to 4s. per cwt. for such green roots.

Those who wish to raise seed for themselves on a small scale, must preserve some of the strongest roots in a hole in the earth during the winter, and plant them out in the spring: but those who grow the plants in quantities may reserve a plot of the best plants for that purpose; remembering to pluck out any of the bad plants from amongst them, as the best seed is only produced from good plants.

The seed must be gathered when the greatest part is ripe, by cutting off the stalk and placing it upright for some days in the sun,

binding the top round with a little straw to guard the seed from the birds, and to allow it to ripen more perfectly. It is then beat or thrashed out, according as the quantity may require.

Additional Observations on the Culture and Preparation of Chicoree.

The plants flourish best when they have been thinly sown and remain in such state; but where any vacancies occur, those may be filled up with transplanted roots, placed from four to six inches asunder. When the roots are taken up in the autumn, they are first washed, and then cut by a machine into thin slices; afterwards dried partly in the air, and the drying completed on a malt-kiln. They are then laid aside till roasted: when roasted, they will keep for a year or two in a dry place.

Such roots are best whose thickneses are from one to two inches: if thicker, they are too coarse; and if thinner, have but little taste. In general the leaves are cut off, and used as food for cattle, some weeks previous to the roots being plucked up. Some persons strip the leaves several times during the summer, but then there is less produce of the roots.

The roots, when drawn and washed, should be sliced by the hand, or by a machine: they should be then thinly laid upon hurdles in an airy room, and often turned, to prevent them from rotting, and to assist the air in drying them before they are carried to the malt-kiln. If the quantity is small, they may be dried by the common stoves of the room. No more roots should be dug up at once than can be washed and sliced on the same day, if possible.

Manufacture of the Coffee from dried Chicoree Roots.

The dried roots are roasted in coffee-drums, containing from half a bushel to one bushel each; these drums are placed within brick furnaces, in which a space of half a foot is left betwixt the brick-work and the drum, on every side, so that the heat may be equally divided; within the drum are thin bars of iron, running lengthways, to shake or divide the roots whilst roasting; during which operation the drum is constantly kept turning by a handle placed on its axis. The criterion of the roots being properly roasted, is, that they are not too dark as if burnt, nor too light-coloured for want of sufficient roasting: the large and small slices should be roasted separately.

After this operation the roots are ground in the manner of flour, in similar mills, and the fine reserved for use; but the coarser part is again returned to the mill, to be finer ground: it is then packed in casks, or put up in paper bags, as may be thought necessary, and preserved dry.

This powder is the coffee, and may be prepared alone, as
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common coffee-berries, when ground for use; or it may be mixed with one quarter or one half of its weight of genuine West India or Turkey coffee, at discretion. The price at which it is sold, is usually from five-pence to eight-pence per lb. Raw coffee-berries, mixed with the root whilst roasting, improve its odour and quality.

Large manufactories of the Chicoree coffee are established, with considerable profit to the proprietors, at Berlin, Magdeburg, Brunswick, Dresden, and other parts of the Continent.

The article is become in general demand and use throughout Germany, as a pleasant and wholesome nourishment, instead of West-India coffee, which formed a considerable part of the diet of the inhabitants.

A PLAN FOR THE PREVENTION OF SCARCITY, &c.

In a LETTER to the Right Hon. HENRY ADDINGTON.

(Continued from p. 51.)

LET not the minuteness of these observations excite idle ridicule. The quantity of food necessary to the daily sustenance of a man in health is to be estimated—by the quantity of urine, fæces, saliva, and evaporation through the skin, which his body throws daily off,—or by the proportion of meat and drink which such a person is known to take at his daily meals. Sanctorius has ascertained that the human body, in the common circumstances of life, throws off by perspiration through the skin, about 7 or 8 lib. of matter, every day. It was proved by the experiments and observations of Dodart, that this perspiration is much more copious in youth than in the decline of life. There is, at the same time, an absorption of matter from the atmosphere, by the pores of the skin, which supplies, in part, for what the transpiration throws off. The fæces, urine, saliva, and snout from the nose, cannot well be estimated at less than 3 lib. or 2½ lib. daily, in the cases in which they are neither excessive nor too scanty. The total waste of the matter of healthy human bodies, will probably be found to vary, for all ages from a very early period in infancy,—from 4 lib. to 10 lib. or, it may be, in some instances 12 lib. in the space of one day. If we consider, what a proportion of the people of these Isles are always in ill-health, or in early infancy, or in extreme old age; and if we likewise estimate at from 2 lib. to 3 lib. a day, the matter imbibed from the atmosphere, by the pores of the skin; we shall find, that about SIX POUNDS of daily aliment or meat and drink are the necessary average allowance to every individual of the 15,000,000 at which the total population of Great Britain and Ireland was calculated above. Add for the waste in cookery, and by careless and luxurious use, for each individual, 1 lib.—7 lib. instead of 6 lib.

is, therefore; to be allowed for the average daily sustenance of every person in Great Britain and Ireland. One hundred and five millions of pounds of provisions, liquid and solid, are thus consumed, every day, in these isles. The total quantity of provisions requisite for our consumption in the space of one year, amounts, by this estimate, to 38,351,250,000 lib. avoirdupois.

The estimate from the excrements and perspiration accords perfectly with the general experience of the food actually consumed. You shall find, that the average consumption of every 20 persons of different sexes and ages, in different states of health, neither stinted in food, nor very wastefully supplied with it, comes nearer to 7 lib. a day for each man, than to any other sum without fractions, that can be named. The allowances in water, beef, bread, spirits, and vegetables to sailors and marines at sea, with the additional supplies which they themselves, from time to time, obtain otherwise, will be found to make, at an average, about 7 libs. if not more, *per diem*.—There are many instances among healthy, hard-working men on land, in which the consumption of meat and drink, is much more considerable. But, then, it is to be remembered, that this excess is compensated by the savings in so many other instances, in which it is by the effects of sickness, of the tenderness of infancy, or of the imbecillity of age, much less.

Of this quantity of provisions requisite, on an average, to the daily sustenance of every individual of the 15 millions of inhabitants in Great Britain and Ireland,—probably about 1.1-6th lib. must consist of animal food or of flesh or fish, and of butter, lard, suet, or oil. On this supposition, the daily consumption of animal food in these kingdoms, amounts to 17,500,000 lib. The annual consumption of animal food, is therefore,—6,387,500,000 lib. Of this, the odd 1-6th lib. may be allowed for waste: 1-4th of the remaining lib. may be considered as the daily average consumption of every individual, in butter, lard, suet, or oil. 3-4ths of a lib. is the quantity of fish or flesh wanted, on an average, for the daily use of every person in these isles. 2,500,000 lib. of meat and butter or other fat, go to waste, in the daily preparation of our food: 3,750,000 lib. of butter, fat, or oil, are, every day, taken as food, in these kingdoms: the daily consumption of flesh, amounts to 11,250,000 lib.—The annual consumption of each of these articles, of course, is;—of butter, fat, and oil, 1,369,687,500 lib.—of fish and flesh, 4,109,062,500 lib.—in waste, 913,150,000 lib.

Of the remaining 5.5-6ths lib. of the daily consumption in provisions by each individual, I think it exceedingly probable, that *one-half* may be used in bread, cheese, and unmanufactured vegetables;—*the other half*, in small beer, porter, ale, cyder, wines, brandy, rum, gin, whiskey, water, milk, and other liquors.

The daily consumption of bread, cheese, and vegetables, is, by this estimate, 43,550,000 lib. of which about 5-12ths lib. may

probably go, for each individual, to waste. The annual consumption of the same articles, is, of course, 15,906,637,500 lib.

Of this gross daily consumption, one-half, or 21,775,000 lib. is probably in bread or other solid preparations of flour, meal, and grain. Of these, then, the yearly consumption must amount to 7,953,368,750 lib.

By the same rule, 21,775,000 lib. of cheese, pulse, potatoes, and other vegetable roots, pot and salad herbs, apples, pears, gooseberries, and other fruits, tea, chocolate, coffee, sugar, and honey, are every day, consumed, in food, in these isles. And 7,953,368,750 lib. is the sum of our annual consumption of these articles.

Bread of wheaten flour is used by all classes of people in the three capitals of London, Dublin, and Edinburgh,—in all the great commercial cities such as Bristol, Liverpool, Newcastle, Glasgow, Dundee, Belfast, and Cork,—in all the manufacturing towns, such as Manchester, Birmingham, Paisley, Perth, &c. &c. It is used also by the people in the immediate environs of these towns and cities, by all the artisans belonging to manufactures, in all parts of the United Kingdoms, by the gentlemen's families every where throughout the country, and in part also by the peasantry. Of the bread, flour, meal, and other grain, therefore, which is annually consumed among us, I should suppose one-half to consist of wheaten bread, and flour of wheat, used in puddings, in pies, in basting meat, &c. The daily consumption of wheaten flour, amounts, by this ratio, to 10,887,500 lib. The annual consumption, to 3,976,684,375 lib.

Oatmeal, flour of barley or rye, *brasblach* or *haver* meal (that is meal of grain which is half rye half oats) barley only shelled or cleared from the husks without being ground into flour, *groats* (or oats cleared from the husks, and unground), with rice, supply the remaining half of our usual consumption in grain. The dishes in the preparation of which, these coarser grains are consumed, are pottage of oatmeal, *sowens* or flummery, barley-broth or soup, rice and milk, rice-puddings, oaten-bread, rye-bread, barley bread, rice-bread, haver bread, oat-meal puddings, &c. The daily consumption of these articles, is 10,887,500 lib. and, the annual consumption, by consequence, 3,976,684,375 lib. Oaten-bread is eaten in all the rural parts of Scotland, in a part of Ireland, even to a considerable proportion, in most of the smaller Scottish towns. A mixed bread is used, in considerable quantity, in the northern counties of England, and indeed in most parts of England where agriculture still prevails more than commerce or manufactures. Broth or barley soup is universally used by the country people in Scotland, and in many other parts of these kingdoms. It is one of the cheapest and most salutary of all our preparations from grains, vegetables, and meat. That its use should become universal in England, is a thing most devoutly to be wished.

I have estimated that, at an average, there may be about 2. 10-12th lib. of the daily food of every individual, in liquids. And I should think, that the liquids thus used, may be in these proportions; of milk, water, and whey 3-6ths; of beer, porter, ale, and metheglin 2-6th; of cyder, perry, whiskey, gin, brandy, rum, and wines of all sorts 1-6th. The daily consumption in milk and water, is, thus, 21,775,000 lib.—The annual consumption of 7,953,368,750 lib.—The daily consumption of malt liquors, is to be taken at 15.516,666 two-thirds lib: The annual consumption 5,563,583,333 one-third lib.—The daily consumption of wines and spirituous liquors must, by the same estimates, be taken at 7,758,333 one-third lib: Their annual consumption at 2,781,791,666 5-6th lib.

There is, besides, a large consumption of wheat in dressing for the linen and cotton manufactures, in size for the paper-makers and others, in hair-powder, &c. of barley in the breweries; of oats by horses; of both oats and barley in the distilleries.

It will certainly not be an extravagantly high estimate, if we take the quantity of the wheat thus consumed otherwise, than in human subsistence at about one-sixtieth part of that which is so consumed, 100,000,000 of lib.

The quantity of oats, &c. consumed by horses and other tame quadrupeds, and by fowls, may be nearly half that which is applied to the uses of human subsistence, or 1,988,342,187 lib.

The quantity of oats and barley put to the uses of the breweries and distilleries will be nearly as much, or another 1,988,342,187 lib.

TOTAL YEARLY CONSUMPTION OF PROVISIONS IN GREAT
BRITAIN AND IRELAND.

Animal food and oil	—	—	6,387,500,000 lib.
Wheaten bread and other preparations of the			
flour of wheat	—	—	3,976,684,375
Bread, &c. of oatmeal, barley, rye, and			
mixtures of these grains	—	—	3,976,684,375
Cheese, and vegetables	—	—	7,953,368,750
Milk and water	—	—	7,953,368,750
Malt liquors	—	—	5,563,583,333 1-3d
Wine and spirits	—	—	2,781,791,666 5-6th
Wheaten flour &c. in size, hair-powder, &c.			100,000,000
Oats, &c. for horses, &c.	—	—	1,988,342,187
Barley and oats brewed and distilled			1,988,342,187
Total			42,671,665,634 1-6th

This estimate pretends not to minute accuracy. I wish, for the present, chiefly to shew, that there is no great difficulty, with the command of such advantages as Government possesses,

to ascertain the exact quantity of provisions requisite for the annual consumption of the people of these isles. And, if the same approximation be made to the numbers of the people and to the quantity of the produce, as to the amount of the consumption; the reasonings respecting the proportions of these three sums may be just, although the numbers should require correction.

I again feel, how proper it would be, to descend into more minute distinction and detail, and to induce a greater variety of data. But, were I to indulge in such details, this head alone might soon expand into the magnitude of a volume. And it was in a letter of a few pages that I originally proposed to myself to unfold this plan.

III. After ascertaining the sums of the population and the consumption; I shall propose, next, to examine, "what is the annual PRODUCE of provisions in Great Britain and Ireland?"

The number of square acres, in England and Wales,	
may be estimated at	50,000,000
Scotland and the Scottish Isles	17,000,000
Ireland	17,600,000
Total number of square acres in Great Britain and Ireland	84,600,000

Value of produce
Sterling.

Of this area, one-third, or 28,200,000 of acres, are probably in a waste state, in which they cannot, at an average, yield more than 2s. an acre of rent, nor above 10s. in value of total produce to the tenant

£ 14,100,000

One-third more may, at an average be, in a state to yield 5s. of yearly rent, or total yearly produce, to the value of 1l. 10s.

42,300,000

Of the remaining one-third, or 28,200,000 acres, a third part or 9,400,000 acres may yield 10s of rent; 50s. worth of yearly produce

23,500,000

9,400,000 acres may yield 1l. an acre of rent or 5l. an acre in total produce

47,000,000

9,400,000 may even afford 30s. of rent, or to the value of 7l. 10s. in total produce

70,500,000

Thus the total value of the annual produce of these isles is

197,400,000

The data of this calculation are taken from Sir William Petty, Templeman, and the late surveys. I take the rent of ground, at the average estimate of one-fifth of its total produce. No deduction is made for roads, canals, and rivers. The ground occupied by these, though not itself productive, yet doubles, trebles, or quadruples the value of much of the rest. Garden-grounds,

and many other tracts exceed the estimate, in the value of their produce, to a degree sufficient to compensate for the want of vegetation on the ground of roads, canals, and rivers.

To the 197,400,000*l.* here taken as the total value of the produce of the land, we may add two millions for the total produce of the fisheries. The total produce of land and sea, amounts, with this addition, to 199,400,000*l.* or, it may be taken at 200 millions.

Of this produce, wool, hides, flax, hemp, timber, turf, and other articles to the amount of probably one-fourth of the whole, or 50 millions, go to uses distinct from the sustenance of life, in the form of provisions.

At least as much more may be deducted, as necessary, in the forms of seed-grain, young animals, vegetables left to decay for manure, &c.—to the annual renewal of the perishable stock.

The value of 100 millions remains, as that of the produce of the whole lands in Great Britain, which is actually in the form of provisions, and is ultimately consumed for the support of life.

But manufacturing processes actually increase the alimentary powers of the produce of husbandry to a degree so considerable, that we may fairly say, that what is worth only 100 millions, as it is brought into market by the farmer, has become to the amount of 10 millions more useful, by cleaning, grinding, cutting up, preserving, coagulation, distillation, decoction, fermentation, cookery, &c. before it is actually put into the mouth as sustenance. One hundred and ten millions is, therefore, the total value of that produce.

To the value of 10 millions more is furnished from abroad, in sugar, coffee, rum, brandy, wines, chocolate, fruits, &c. &c.—in compensation for a part of the manufactured produce in wool, leather, &c. &c.—and for the manufactured raw imports, such as cotton, &c. which we export. The total value commonly furnished to us in provisions from the natural produce of the country, thus rises to the sum of 120 millions.

Now, however strange this may, at first, appear to those who think only of the present market prices of beef and bread; yet, on due consideration, it will be found, that the original average price of all articles of subsistence,—taken in the gross, the dear with the cheap,—valued not as they are ultimately bought by the consumer, but as they are sold from the producer to the manufacturer and merchant,—and estimated, even without allowance for the additions without cost which they receive in preparation, by *water and air*,—does not exceed ONE PENNY per lb.!!!

But, in this attempt to find the quantity of provisions raised in these isles, by calculations founded on the proportion between the rents and the general produce of the lands, I have taken provisions at the producer's price; not at that which they ultimately cost the consumer. We, also, consider them, for the present, in

the *gross*, without distinguishing their different species from one another, as they are respectively cheaper or dearer. And, it is but just to take in the additions of weight which may be received by water and air; as these additions do not separately enhance the expence. How many lib. then, of provisions, at one halfpenny per lib. may be bought with 120 millions sterling?

A quantity not equal to that which we counted necessary to the annual subsistence of the whole 15 millions of people who are to be sustained;—but about 37,000 millions of pounds avoirdupois. Allow 3 farthings per lib. to the producer: And, at this rate, he must give for the money and labour which he actually receives, a quantity of produce somewhat less than the whole demand of the consumption.

Let us yet try, whether we cannot arrive at the same conclusions, by calculating upon other data.

Of the total number of acres of the superficies of the British Isles, it seems, from observation, probable, that about 50 millions of acres, or somewhat more than one-half of the whole, may be at present under tillage, or in that state, easily susceptible of tillage, which is termed *arable*.

Two-fifths of that quantity of acres are, now, probably in tillage, and annually planted or sown with grain, grass-seeds, or the seeds or sections of those vegetables which we cultivate under the common denomination of *green crops*. This is an appropriation of 20 millions of acres.

The other 30 millions of acres probably remain in meadow and pasture land, or in other states of occupancy in which they do not, now, undergo culture with the spade or the plough.

Of the land immediately under tillage, there are not certainly, on the highest estimate, more than 4,000,000 of acres, constantly sown with wheat. The produce of these cannot be taken at more than 26 bushels of clean wheat per acre,—calculating on an average for the whole. Upon this ratio, the total quantity of wheat in ordinary annual growth, is not more than 6,500,000 quarters. But, as this sum is less than almost any which has been named by others, as the total produce of wheat, in one crop, in Great Britain and Ireland; I am willing to suppose that there may lurk some unseen inaccuracy in my data or calculation, and to take that total produce at 7,000,000 of quarters. These give for the total weight of clean wheat annually produced 1,772 millions of pounds avoirdupois. And this, passing through the mill with as little waste as possible, might probably afford 1,500,000,000 of flour for bread. I should suppose that, in the manufacture, this flour may gain in water and carbonic gas from yeast, an augmentation of even 500,000 lib. so that the whole quantity of preparations of flour from home-grown wheat, in these isles, may be about 2000 millions of pounds.

Of the remaining 16 millions of acres, 8 millions are probably

occupied by barley, oats, and rye; the other 8 millions, one-half, by green vegetables used only as food to cattle, or by summer fallowing without crop,—and half by garden-vegetables, potatoes, pease, beans, and others which can be converted, directly, to human subsistence.

Perhaps, one should not greatly err in taking the quantity of oats annually produced in the three kingdoms to be nearly equal to the produce in wheat; 7,000,000 of quarters; 1,500,000,000 lib.—the specific gravity of oats being less than that of wheat.

Of barley and rye, the produce may be nearly the same; 7,000,000 of quarters; 1,700,000,000 lib.

I shall, for the present, estimate at 1600 lib. an acre, the produce of the rest of the ground under culture, which bears vegetables for the immediate use of man. For potatoes and other roots, this estimate is certainly too low: for pease and some other similar produce, it is perhaps too high. Upon this supposition, the 4,000,000 of acres bearing such vegetables, will yield 6,400,000,000 lib. of food in the year. Add for the extraordinary produce of garden-grounds and others affording two crops in the year, 100 millions of lib. The sum total will then be 6,500,000,000 lib. annually.

What quantity of beef, mutton, pork, venison, veal, lamb, game, domestic fowls, fish, and other articles of animal food is annually produced, in these isles?

It is impossible to descend, here, into minute detail for the elucidation of this part of my subject. But, a calculation founded upon the sales in some of the principal markets,—upon the quantity of cattle sent annually to market, out of certain counties,—upon 1600 lib. as the average weight of the carcass of a fat ox, and 100 lib. as the average of the sheep small and great which are brought to market,—and taking other things into account in a due proportion to these,—gives 5,500,000,000, as the total quantity of animal food sent annually into the markets, or provided otherwise for use, without diminution of the producing stock, in Great Britain and Ireland.

Of milk, butter, and cheese, the produce may be taken at nearly an equal quantity, or 5000 millions of lib.

The malt-liquors produced in London alone, amount annually to about 2,600,000,000 of lib. in weight. There is not, probably, above as much more made in all the rest of the three kingdoms. The wines, cyder, spirits of all sorts, made in these countries or imported, may be about an equal quantity. The water used in its simple state, or to dilute tea, coffee, and spirits, may be perhaps 5000 millions of pounds. The air added to all our food, in its preparation, may be about 1000 millions of lib. At the highest estimate, the total quantity used of all these articles does not exceed 15,000 millions of pounds.

TOTAL ANNUAL PRODUCE of PROVISIONS in GREAT BRITAIN and IRELAND; including the Imports of Wines, Spirits, Sugars, Tea, Coffee, and Chocolate.

Wheaten Flour	2,000,000,000 lib.
Oats	1,500,000,000
Barley and Rye	1,700,000,000
Potatoes and other Vegetables for the immediate use of man	6,500,000,000
Beef, Mutton, Fish, &c. animal food	5,500,000,000
Milk, Butter, and Cheese	5,000,000,000
Liquors of all sorts	15,000,000,000
Total	37,200,000,000

This is but an approximation, and perhaps no very near one, to the truth, in every item of the calculation. From the whole, however, it may be inferred with sufficient confidence, that the produce of Great Britain and Ireland consumeable in the form of provisions, is not fully adequate to the actual consumption. The deficiency is supplied by importations from the Baltic, from the Elbe, the Ems, and the Weser, from the coasts of France and Holland, from the Mediterranean, from the East Indies, from Newfoundland, and from America.

The first steps towards a choice of measures for the prevention of dearth and scarcity, are obviously to distinguish the proportions between the population, the consumption, and the ordinary produce of the country. Knowing these; we know our wants; and shall not be liable either to be unnecessarily alarmed with the dread of famine, nor to neglect due providing against scarcity by seasonable importation.

Government is, already, no doubt, in possession of a part of this knowledge. There are, also, means ready at the command of Ministers for learning whatever they may desire farther on that head. But, I shall speedily point out a method for ascertaining continually by how much the general stock is diminished, and how much remains behind,—of which, I hope, the simplicity and convenience may perhaps recommend it to legislative adoption.

IV. Before advancing, however, to that part of these observations, I would gladly distinguish the real causes of that dearth and scarcity which it is so important to prevent.

On years of ordinary abundance, under the freedom of importation, and the spirit of commercial enterprize, which prevail in this country, there can never be danger of a SCARCITY in which any of the inhabitants shall, from that cause alone, be unavoidably exposed to perish by famine.

A year of a deficiency amounting to one-third of the usual produce in all its capital branches, would not if that deficiency

should be confined to this country alone, occasion a famine. But, if all Europe, Africa, and America were in the same season, afflicted with a similar deficiency in crop; importation would become so much more difficult, that, even under this deficiency of one-third, the extremities of famine might be severely felt in certain parts of the British isles.

A deficiency of one-half of the usual yearly produce, will, at all times, occasion more or less of real unavoidable famine in some parts of this country.

If all circumstances be duely taken into account; we may conclude that, to secure constant abundance of provisions, there ought to be in store, at the end of every harvest, *full two years produce*, beside the wonted capital stock, and additions in a train of being constantly made to that capital.

There is a *DEARTH* of provisions, whenever the average price of animal food for the three kingdoms, exceeds to the last consumer, 6d. a lib.—whenever the average price of wheaten bread, reckoning for all parts within these isles, exceeds 2d. a lib.—whenever the average price of beer, stout and wholesome, not a noxious *rot-gut*, exceeds 2d. a pot: the wages of labour being, at the same time, throughout the United Kingdoms, for men and women, in money provisions and conveniencies, at the average rate of 12s. a week; the interest of money, at 6 per cent.; the regular profits on fair commerce, not under 10 per cent. annually; the farmer's profits for either waste or accumulation at 7 per cent. annually besides wages for his labour.

This *DEARTH* will always be more or less felt, in one part or another of the country, whenever there is not a full ordinary annual return of produce, with at least half as much more in store, and intended for sale,—not to be sunk, in addition to the old capital stock.

Nay, we cannot be *absolutely secure* against suffering by *Dearth*; unless there be actually two years ordinary produce in store for sale, at the end of harvest.

Even in the most favourable of these two conditions of the country, as to produce and stores; local or general *Dearth* may arise by many concurrences of events.

It may be locally occasioned, if the population be, as it actually is, very unequally distributed over the country.—From the thinly peopled rural districts; all the produce is liable to be carried away to the towns. In the towns, the expence of carriage, of waste, of preservation in store, the dangers of speculating trade, and its artifices, with the ignorance of the townsmen in regard to what quantity there is to supply their wants, are continually ready to enhance the prices of provisions to the most exorbitant height. Things become dear in the country, because the produce is carried off to the more inviting markets in the towns. In town, they are dear by the expences and the

tricks of trade, and by other circumstances naturally attending the modes of town-life.

Dearth of provisions without actual scarcity, may arise, if the people in general accustom themselves, either from invincible indigence, or from the low state of their morals, and from a common spirit of profusion and riot, to live too much *from hand to mouth*, without accumulating, every one, a little store, for himself, and taking to-day, a certain degree of thought for the subsistence of to-morrow. When you are in constant want, you must still have, at any price, and under any disadvantage. The seller easily learns to take advantage of the necessities of the buyer. The latter by his improvidence places a constant power of monopoly against himself in the hands of the former. Most of the labouring people in these kingdoms whether employed in husbandry or in manufactures, live, by their habits of profusion and riot, from day to day, without accumulation of property. Their masters keep the money which is to furnish them with the means of subsistence. The merchants keep the provisions which they are to eat. Their dearest hopes and fears thus hang continually on the fluctuations of the market. And, in these circumstances, it is not possible, whatever the general abundance, that they should not, very often, buy at prices exceeding the ratio of their wages.

Dearth, without absolute scarcity will frequently arise whenever a nation is so much addicted to gambling, that the spirit of gambling adventure enters into the transactions, pervades the shop of the retailer, the counting-house of the merchant, the whole establishment of the manufacturer, and even the barn and cart-house of the farmer. All, in this case, strive to get money without giving value. Every class, every individual is vigilant to take every advantage in the dealings of traffic, which the common notions of honesty will allow, against those with whom he has to deal. When the general effort is thus set upon having money without giving value; it would be strange if it should not succeed at least so far as to produce an enhancement of the prices of necessaries, and a diminution of the quantity of productive labour, the most fatally injurious to the best interests of the community,—the most ruinous to those who depend on their daily labour and on the markets for their supplies of provisions. One does not like to dwell on this theme. *Interdum populus recte videt; est ubi peccat.*

Bad seasons, or a rumour of bad seasons shall be sufficient to create, on a sudden, a dearth, the most oppressive to those who depend on the markets for their daily supplies, and not less likely in the ultimate efficiency of such a rumour to produce the scarcity which it feigns or fancies.

Any interruption of the wonted course of exportation and importation shall produce the same effect. Provisions, or what is

to pray for provisions, are always concerned in the success of trade, and in its regular course throughout all its channels. Its slightest irregularities, like those disorders which affect the secretions of the lymph or the circulation of the blood in the vessels the most remote from the heart, shall be felt in those which are the centres of the vitality of productive labour, namely the markets for provisions. The prices will instantly rise above the medium between cheapness and dearth. And when the disorder is once produced; it will not cease till it shall have been disadvantageously felt throughout the whole system.

Dearth and the opinion of scarcity, without real danger of it, shall be occasioned by the unpopularity of a Government or a Minister, by fear of change in Government, or even, at times, by the joyful apprehension of such change.

A failure of crop, though not so considerable as that it ought to produce dearth,—yet, if it be such as to be generally talked of,—never fails to occasion a dearth, and even a dearth, which if not counteracted by other causes shall continue throughout the year, or longer.

Failure of crop, if not in these countries, yet in those neighbouring countries with which we have the most frequent commercial intercourse, and from which, in necessity, we import our supplies of provisions, never fails to produce dearth and the fiction of scarcity among ourselves.

Single purchasers of very large quantities, coming into the markets of provisions, or anticipating them, must of necessity, occasion dearth. I sell in three minutes to you, an hundred pounds worth of goods, on which I have perhaps an hundred shillings of profit. I sell, in the course of a week, another hundred pounds worth of the same goods, to a thousand different customers; and have upon them 10*l.* of profit.—Which will an indolent merchant disposed to affect the gentleman rather deal with? With him, be sure, who gave him the smallest profit but that the most suddenly, and with the smallest necessity to the seller of condescension, solicitation, and fatigue. It is thus that the demands of the navy, of the army, of the soup establishments, of the taverns and eating-houses, of the workhouses, contracting for the maintenance of the poor, of great houses for grand dinners, &c. have turned our butchers and bakers, all into grand wholesale merchants who judge it unworthy of them, and in truth, find it comparatively unprofitable to deal out their merchandize in messes, and morsels, without the most exorbitant profits for the fatigue and condescension they thus undergo.

Any sudden increase or decrease, to a great amount, of the quantity of money applicable to the purposes of merchandize, in a country, will infallibly occasion a dearth of provisions.

If in the career of agricultural improvement, a great deal or other value be sunk in the culture and inclosure of the ground:

this will, alone, without any other cause, have the effect to occasion dearth of provisions.

Are there in circulation, under the peculiar favour of Government, a prodigious number of *Newspapers*, the ready vehicle of mercantile and agricultural falsehood? Not the harpies of Virgil, not all the imps of Tisiphone,—were the heathen mythology without fable, could so effectually create dearth and opinion of scarcity,—as these disgraces alike of the literature and of the honesty of our age.

Do the farmers find it difficult to bring the cattle or grain to advantageous sale for ready money? Cheapness for the present, may ensue. But, next year, or perhaps for several years subsequent, we shall have dearth and scarcity.

An epidemical disease very extensively prevalent, a week of rejoicings, the profuse dispersion of money without a due return of labour on an election-year, an opinion however vain, that husbandry, trade, and manufactures are not thriving, a notion that our national greatness is gone or that it is excessively exalted, shall all be used or abused to produce dearth and scarcity.

Dearth, without absolute scarcity, will be occasioned, if the state of luxury be such, that the people are in general dissatisfied, unless they can all have the greatest dainties for their common fare. I remember when a dish of tea, with bread, slices of ham, and a little honey, fruit-jelly, or jam, was the grand entertainment when the wives and families of farmers and middling tradesmen in rural situations, paid visits of friendship and ceremony to one another. But, tea is now in common use, even in the humblest families.—Pottage of meal and water, potatoes dressed with butter and milk, flummery, with a second course of rye, barley, or oaten bread with cheese and a sufficient proportion of milk, beer, or whey, was a much more substantial breakfast than tea and bread and butter. Tea did excellently for occasions of rustic conviviality; and the better, since it could not exhilarate to riot. But, the plain ancient country-fare for breakfast and supper is now rejected. Tea with fine wheaten bread,—though much less nourishing to the labourer, is in ordinary use, twice a day. And, when a visit or an occasion of festivity returns: there must be a dinner of the best beef, mutton, or pork, with plenty of good malt liquor, and after that, drams, punch, and wine, till, when the hour for tea comes, that which was once the cream of the feast is scarcely tasted. I do not absolutely blame the change, except so far, as it substitutes a bad breakfast to the labourer for a good one such as he might be fairly expected to work upon,—and except so far as it has increased the intemperate use of spirituous and vinous liquors, at the festive meals of the farmer and the tradesman.—But, whether in other respects good or bad, it could not, it cannot, fail to produce dearth by throwing some very wholesome articles of food entirely out

of use, and by increasing the consumption of these which are the most expensive.

V. Having endeavoured to estimate the population of the three kingdoms, to calculate the quantity of the consumption in provisions, to guess at the proportion of the yearly produce; having, upon plain reasons, recommended an accurate investigation of the precise truth of facts under each of these three heads; and having examined into the causes of fact and of opinion, by which Dearth or Scarcity may be occasioned: I proceed to unfold that which appears to me, to be a very easy and simple plan "by which the GOVERNMENT OF THE COUNTRY may, EVERY MONTH, know, exactly, what quantity of provisions actually remains in the United Kingdoms,—what continues to be the proportion of the consumption,—and in what ratio the numbers of the population are increased or diminished."

This plan is not to be carried into effect, otherwise than under legislative enactment.

The people have been numbered. That enumeration is, certainly deficient. Let it be repeated, till the exact truth shall have been indisputably ascertained.

The provisions for the collection of the customs, the taxes, the stamp-duties, the duties of excise, with the records by the clerks of the markets, afford, to a certain degree, the means of attaining to a due knowledge of the consumption of these kingdoms. Let these means be still vigilantly employed.

Let the freeholders of 200l. and upwards of yearly income, in every county, the Mayor and Aldermen, or Provost, Baillies, and Town-Council of every borough, be appointed "COMMISSIONERS, for ascertaining from time to time, the total quantity of stock and produce convertible to provisions for man or beast, within their respective counties and boroughs."

Let them have authority to hold the necessary monthly courts for the execution of this duty, either by a full attendance,—or by a committee or quorum—of which the number must be specified. But, let it be required that their quarterly courts shall not be composed of less than one-third, nor their half-yearly courts of less than two-thirds of their whole number.

Let them have, in each county or borough, at their command, TWO SWORN SURVEYORS, who shall be obliged to attend their court, shall have each a guinea every court day for such attendance, and be subject to instant dismissal, for a single day's failure to attend.

Let them be supplied, under the authority of the act by which they are constituted, with certain printed bills in sufficient number; in which shall be set down the names of all the different articles of value, such as wheat, barley, oats, sheep, swine, oxen, cows, &c. &c. of which the quantities are to be

ascertained ; and which shall have, also, appropriated columns for the numbers of every different denomination.

Let them have, in each county or borough, a clerk, secretary, or keeper of their books of record ; whose duty shall be, to preserve their books and papers under their direction, to distribute such papers as they might have for distribution, to receive communications addressed to them when the court was not sitting, to deliver those papers to the President for the use of the court at its meeting, and to write down their minutes under their command. The salary of such a clerk should not be less than 50*l.* a year, nor more than 100*l.*

Let them have authority to transmit, *by post, without expence*, to EVERY HOUSEHOLDER within their respective counties or burghs, a monthly copy of the bill or table with blank columns, above-mentioned ; and to require, at the same time, by a requisition prefixed or subjoined to the said bill or table, that the person receiving it, shall fill up the blank columns with the quantities of each different denomination, which he has in his possession, up to the 20th day of the month first ensuing,—and shall return the same, on or before the 25th day of the same month, to the secretary of the court ; under the penalty of having a survey of his property instantly ordered to be made, by the surveyors of the court, at his own proper expence,—if he himself should fail to make voluntarily, and in due time, the return required.

Let it be the business of the secretary to class these returns, according to parishes, to prepare a separate abstract for each parish, with a general abstract of the whole, and to hold these papers in readiness for the command of the court or its president.

Let the courts meet on the first day of every month ; inspect the returns ; direct the secretary to register them in their books of record ; order surveys by the surveyors, of the possessions in provisions, of those householders who shall have neglected to make the returns requested, for themselves : direct the original returns to be deposited in proper preservation ; and finally approving or correcting the general abstract presented by the secretary, authenticate it with the signature of the president and the sub-signature of the secretary, and dispatch it by the channel of the post-office, and before the court rises, to the OFFICE of the SECRETARY OF STATE for the HOME DEPARTMENT.—Should it be thought necessary ; another copy might be at the same time transmitted to the Secretary to the Board of Agriculture.

All the papers in this evidence of the state of provisions and property convertible into provisions, are to be authenticated by proper signatures. The returns from the householders will be signed by those householders. The returns by the surveyors under the commissioners,—those surveyors must sign. The

abstracts transmitted to Government, bear the signatures of the president and secretary in the name of the court of commissioners.

The fuller quarterly and half-yearly courts will review the books of record; attend to the deficiencies in the returns; examine into the diligence of the surveyors; and forward the ordinary business of every month.

These county and borough returns up to the 20th day of every month may be received in the course of the first week of the month succeeding, at the office of the Secretary of State for the Home Department. The papers themselves, or a general abstract of them, may be communicated, within a few days after their arrival, to the Privy Council. Copies of them will be, in due course, communicated to the two Houses of Parliament. And, they may be published every month, by the King's authority, in the *London Gazette*.

These are the heads of the plan according to which I should propose to put the government and legislature, and through them the whole people, in possession of a constant knowledge of the proportion between our wants and our accumulated store in the articles of provisions. The expence would be, comparatively, inconsiderable. The difficulty would by a first year's practice, be reduced to nothing. All might be accomplished without bustle, or constraint, or any undue embarrassment of trade, or of private life. Perfect accuracy might not be attained during the first two or three months. Within the course of two years, at farthest, it could not but be most satisfactorily obtained. By that time, all the operations would be as simple and natural, in some sort, as it is, to breathe the air which surrounds us, or to open our eyes to the light that falls upon them.

The consumption would be exactly ascertained by observing by what quantities, it, every month, diminished the produce in store.

It is easy to see, that the accurate knowledge thus to be acquired of the State of these kingdoms in regard to provisions—would, at once, without farther legislative interference, without bustle, without struggle on the part of the dealers, and without jealousy, or any disposition to insurgency in the people,—*PUT AN END to that FORESTALLING, gambling speculation, monopoly, and engrossing, which certainly have acted, in some measure, in this country, though not at all so considerably as has been alledged.* Monopoly cannot take place unless when the consumers and dealers in general are very much in ignorance respecting the state in which it is attempted. But, such ignorance would be banished from this country by the effect of the plan proposed. Mutual confidence would be permanently restored between the merchant or dealer and his customers; and one

grand cause of distraction in the country, and of frequent perplexity to the Government, would thus be, for ever, removed.

All those causes of dearth which have their origin in vain hopes or fears, or in idle opinion, would instantly cease. Nothing but real scarcity could in future occasion dearth.

Real scarcity would be so known, as to be provided for, as soon as it should begin to afflict the community. Or rather, its approach would be so anticipated, that it could never be actually felt.

The honest, industrious farmer and the plain-dealing merchant will be the chief gainers by the accomplishment of this plan. It generally turns out, that the monopolists and gambling speculators end their career, except perhaps about one out of fifty, in bankruptcy. The whole course of regular trade is, in the mean time deranged by their operations.

The steady industrious traders who are content to join frugality with enterprize, and to add still one small gain to another, are the only merchants who raise great and permanent fortunes, for their own families, or do much good by their diligence to the community at large. Whatever destroys monopoly and commercial gambling, must eminently promote the interests, and enliven the activity of fair trade. Nothing could more effectually diminish the proportion of bankruptcies, than this constant publicity of the exact state of the country in regard to all species of provisions.

(To be concluded in our next.)

For the Commercial and Agricultural Magazine.

DYES FOR SILK OR COTTON.

—ORANGE WITH ANNOTTA.

IF annotta be ground wet, and boiled in double its weight of pearl-ashes and water, and stand about half an hour to settle clear, the clear liquor being put into a tub hot, and the cotton or piece turned therein, it will be an orange.

Have ready boiled some cream of tartar; and while hot, add to the orange sufficient to make it a little sour, and turn the cotton again therein, it will raise the colour, and fix it better. Just rinse it a very little, and dry it in a stove.

SAFFLOWER PINK.

Safflower must first be well washed in fair water until no more yellowness will run from it; then dissolve some pearl-ashes in water; put the Safflower into a tub, with a hair sieve bottom two inches or more from the bottom of the tub; pour on the ash liquor, and stir all up, and let it stand all night. The tub must have a spigot and faucet at the bottom. Next morning draw off the liquor into a tub; turn the cotton in it, or a piece, with a winch; have ready some cream of tartar liquor, boiled, but hot, and stood to settle a little; add some of it thereto to make the

Safflower liquor a little sourish; turn the cotton, or piece, therein until the colour is compleated; wash slightly, and dry in a dry-house.—This makes a most beautiful pink.

FOR SCARLET.

Take the above orange cotton, or piece, without drying, and dye it in this pink colour, just in the manner described for the pink, and you will have a fine scarlet, equal in beauty with that dyed with cochineal on woollen cloth. But these colours, though cotton and silk are usually dyed therewith, are not very durable on cotton; and are not intended for washing.

For the Commercial and Agricultural Magazine.

RECIPE FOR MAKING GLUE.

TAKE half an ounce of isinglass in small shreds, put it in a bottle with a pint of common brandy or rum, and set it in a warm place near the fire till the isinglass is dissolved; filter the liquor through a muslin cloth, and preserve this liquor in a glass bottle well stopped for use.

This forms an excellent glue for wood, and is always ready for use. It will keep for a long time if the bottle stands in a dry place.

It will also serve to furnish impressions from medals; for which purpose it is only necessary to cover the surface of the medal with some of the liquor, and let it dry thereon: it will become hard and transparent like glass, and may be easily separated from the medal by the point of a knife.

A glue may be made which will stand exposure to the injuries of the weather, by dissolving good English glue in linseed oil.

ON THE CUTTING OF LAMBS.

To the Editor of the Commercial and Agricultural Magazine.

SIR,

I AM a breeder of sheep, and as the season for the cutting, or castrating of lambs is approaching, I wish to propose a question to your numerous correspondents, which may perhaps appear a simple one to them, but is of some consequence to me.

It is a common opinion, and confidently maintained by every shepherd in this neighbourhood, that there are peculiar times in every month more safe than any others for the castration of lambs. The shepherds which I have had on former years, have told me that were they to have cut my lambs whenever the moon was in the south, the chances would have been considerably against their surviving the act. I have, however, a shepherd at present, who comes from a more southern part of the kingdom, who laughs at this idea, and calls it an old woman's notion. I should, therefore, be glad, for the security of my flock, if some of your readers, who can speak from experience, would inform me whether there is really any foundation for the opinion or not?

It is customary here to perform this simple but harsh operation upon the animal when he is about a week old. Is not this too early? No application whatever is here used to the wounded part.

I am, Sir, your constant reader,
Burford, Jan. 29, 1801. AN EXPERIMENTALIST.

THE AGRICULTURAL TOURIST. No. I.

To the Editor of the Commercial and Agricultural Magazine.

SIR,

I AM a constant reader and admirer of your valuable work; and having derived from it always entertainment and information, often instruction, I found myself peculiarly indebted to it for the assistance which I experienced from it last season, in travelling through different parts of England. The facts and remarks which its essays and reviews contained, are in themselves valuable, but still more important for the objects of enquiry to which they directed the attention.

I set off from London with companions at once agreeable and intelligent; having the double purpose of enjoying recreation from the confinement and cares of sedentary business, and extending my knowledge of the country, its manners, pursuits, and productions. The results of the observations made either by myself or my fellow travellers, I shall, from time to time, communicate; but, as our movements were desultory, as we sometimes rapidly posted over many miles, sometimes halted for several days, according as we found ourselves ardent in activity, disposed to cessation, or induced to inspection, you are to look for no regular series of local succession and proximity. We did not always stop longest where we might have learned the most; but when we did stop, having your work in our heads, we directed our observations and our enquiries to the face of the country, its pastorage, agriculture, manufactures, and commerce.

Taking our departure from the confines of Piccadilly, we left town by its chief western outlet; and bent our course towards a famed residence of English literature. Driving rapidly to Oxford, we had little leisure to observe any thing but the changing face of the country, and the striking diversity of successive stages. From London to Hounslow we could only suppose outposts of the city occasionally mingling with fields. If it was not London itself, it was London's kitchen-gardens.—Passing Hounslow we appeared entering on a totally different world. Instead of the busy crowded haunts of men, dreary bleakness and dismal solitude opened before our eyes. Around us presented itself a wide expanse of barrenness. More accurate inspection, however, proved to us, that the limits of this desert were beginning to be contracted by tillage and inclosure; that *Oases*, if not as in the Libyan regions, interspersed by the hand of nature,

were planted by the hand of man. We saw agricultural industry shewing its efficacy most effectually where the fruits of actual performance were contrasted with the adjacent unproductiveness of neglected capabilities. The plains now subjected to the furze from the encroaching perseverance of beneficial enterprize, we consoled ourselves with hoping would become at length subjected to the plough—that the *Agricultural Magazine* would see its exhortations followed by the conversion of desolation to fertility, and of the wild haunts of plunder and assassination to the frequented fields of skilful industry. Leaving these cheerless prospects we advanced to more cultivated scenes. At a distance rose before us the beautiful lawns, prominent forest, and commanding battlements of Windsor; of which the royal master, affording to his subjects the benign influence of the most virtuous example, and the most beneficial pursuits, presents to the farmer the best model of pastoral and agricultural improvement. Proceeding through successful cultivation, in which the efficacious skill of the husbandman is happily interspersed with the beauties and sublimities of nature, improved and adorned by the planter's taste and the gardener's aid, we passed the wood-covered winding banks of Clifden, the sequestered labyrinths of the thicket, the rural recesses, the romantic glades, and deepened dells of Hurley; when ascending lofty hills that overhang the Thames at Henley, we commanded an immense prospect, both fruitful and barren. Having surmounted the Chilterns we descended towards a rich and extensive vale. The upland parts, rising to the hills, consisting of good loam or mingled with clay, while the bottoms, being chiefly clay, are arable, and abounding in corn.

The stately spires and venerable edifices of Oxford at length gently, but majestically, rose from the banks of the Isis. The beauties, grandeur, and curiosities of this august city arrested our course until we had viewed the various seminaries and valuable libraries, those magazines for the productive culture of the mind; whence spring that philosophy and science which form and guide the most beneficial arts to their highest perfection; from which the discoveries of the Chymist facilitate composts, meliorate manure, and fertilize sterility; from which manufactures receive improved processes afford to commerce more valuable materials; and discoveries in physics, lay the foundation for the contrivance of machinery, for shortening labour, and beget increasing effects conducive to the purposes of the farmer, the manufacturer, and the merchant, at once their agent and employer. Such were the impressions which this seat of learning conveyed to the votaries of agriculture, manufacturing, and commercial improvement. So thinking and feeling, we resumed our journey from Oxfordshire, distinguished for tillage, to the contiguous Gloucestershire, more eminent, especially on the confines, for pasturage. On the Cotswold hills the greater part

of the soil is what is termed stone-brash, a loam intermixed with stones, over calcareous rubble or rock; the average depth of ploughing not much exceeding four inches: there is, however, some quantity of stiff sour land interspersed on these hills; many farms, and one or two whole parishes, are chiefly of that nature. On enquiry, we found that a great improvement had recently taken place in the sheep, which browse on those extensive eminences. The native sheep of the Cotswold-hills, in their unimproved state, were a small, light-cased, polled race, bearing, within the memory of man, fleeces of fine wool of about three pounds weight; but lighter and finer before that period. They were cotted in former times, but that practice has not been in use for some years. Enclosures and better management having now taken place, and good rams being procured from Warwickshire and other counties; the Cotswold sheep have considerably improved in weight of carcase and quantity of wool, which, though coarser than formerly, is in very great esteem as combing wool, being of a good staple, and very mellow quality. The fashionable Leicestershire sheep have been occasionally introduced. Without penetrating into the heart of the county we skirted it by Cirencester, such a source of enquiry to the Antiquarian. The soil in this neighbourhood is rich and deep, and extremely fertile in seasons of moderate moisture, but in dry seasons the clay soil is bound up and parched. In the vallies on our right hand, as we moved towards Wiltshire, the chief portions of the land were laid out in pasture and permanent meadow, but, as we found, employed in grazing cows for the dairy, so celebrated in Gloucestershire. The cows are frequently crossed and improved from other breeds. Gloucester Market, we learned, weekly affords abundance of change. The district most celebrated for its cheese is on the banks of the Severn, called the Vale of Berkley. What is called the Vale of Evesham, near Tewkesbury, is, we were told, highly cultivated, and abounding in corn.

Proceeding southwards we entered Wiltshire. The climate of the Downs, into which the Cotswold-hills subside, is extremely cold and keen. The part of Wiltshire which we entered is chiefly remarkable for sheep. Writers upon this subject agree in the peculiar aptitude of the soil and climate to sheep; the singular rise of sheep folding on arable land, naturally light and loose; the necessity of making sheep the carriers of dung in situations where the distance and the steepness of the hills almost preclude any other mode of manuring. The number of sheep in this district is said to be near five hundred thousand. West from this district of downs, and projecting farther into Gloucestershire, the character and cultivation of the country changes, and is chiefly employed in pasture and meadow for dairy; there chiefly is made the cheese now so well known by the name of

North Wiltshire. Several districts, interspersed among the sheep and dairy land, are extremely productive in corn.

The remainder of our course was to Bristol and Bath, and over a more southern part of Wiltshire, through the beautiful and luxuriant county of Berks, from which diverging into Hampshire, we returned home through Surry. But this shall be the subject of a future communication.

I am, Sir,

Your most humble servant,

EXCURSOR.

RECIPE FOR MAKING BLACK WRITING INK.

To the Editor of the Commercial and Agricultural Magazine.

SIR,

SEEING a recipe for making black writing ink in the last Number of your useful Magazine, (of which I have been a reader since its first publication), thinking it rather a tedious process, I have presumed to send you one which I always make use of, and which answers my purpose extremely well. I have writings that were executed by me twenty years ago; the ink was made from the annexed recipe, is at present very black, and has not the least appearance of brownness or decay.

Recipe for making two gallons of Black Writing Ink.

Put two pounds and a quarter of the best blue Aleppo galls, well bruised, two gallons and a half of rain-water into an iron pan, boil them slowly for about two hours. Mix twelve ounces of gum Arabic, eight ounces of green copperas, four ounces of coarse brown sugar, sixpence worth of rum, fourpence worth of spirits* of wine, together in an earthen-pot, then strain off the ink, through a flannel, to this mixture; stir it up well till none of the ingredients remain at the bottom of the vessel, and once a day for a week; bottle it, then cork it close up, and it will be fit for present use.

Eccles, near Manchester,

Feb. 9, 1802.

I am, Sir, your's, sincerely,

J. S.

ON NETTLES.

To the Editor of the Commercial and Agricultural Magazine.

SIR,

I Should be glad to be informed, through your intelligent Magazine, of the best means of destroying or preventing the increase of Nettles upon pasture and tillage land, as I find, from my own experience, the plough is not efficacious for that purpose upon the latter.

Manduisfidum,

Feb 13.

I am your's &c.

A CONSTANT READER.

* There is no occasion for using spirit of wine with rum. Rum contains spirit of wine. E.

ENUMERATION OF PATENTS LATELY ENROLLED.

1801. **J**OHN WALKER, of Tufton-street, in the parish
Nov. 3. of St. John, Westminster, Middlesex, Accoutre-
ment-maker, and Godfrey Alphy, of the same place, painter;
for a method of making and manufacturing mens' hats and caps,
and rendering them perfectly water-proof; as also all kinds
of leather, cotton, linen, silk, stuffs, pasteboard, and other ma-
nufactures and substances, for the purpose of being worked up
into shoes, boots, women's hats and bonnets, and other wear-
ing apparel, and to be used on all occasions, where a power of
repelling wet or moisture may be required:

— 3. William Jackson, of Easingwold, Yorkshire, Gen-
tleman; for a machine or drill to be fixed to a plough beam
for drilling or sowing turnips.

— 3. David Stewart, of Woodlands, in the parish of Green-
wich, Kent, Gardener; for a method of ventilating dwelling-
houses, theatres, hospitals, and other buildings; and also of
ventilating, heating, and constructing, of every kind of build-
ings for forwarding or preserving trees, plants, shrubs,
flowers, fruits, roots, and vegetables, on an improved prin-
ciple; thereby reducing the consumption of fuel, simplifying
the mode of management, and rendering more certain the
production of fruit and flowers.

— 3. Francis Brewin, of Bermondsey, Surrey, Tanner;
for a new and improved method of tanning.

— 7. John Conrad Becker, of Princes-street, Soho, Mid-
dlesex, Musical Instrument-maker; for improvements in
musical instruments, chiefly applicable to harps and piano-
fortes.

— 10. Antonius Bemetzrieder, of Chelsea, Middlesex, Mas-
ter of Arts, and Robert Scott, John Scott, and Alexander
Scott, of Margaret-street, Cavendish-square, Middlesex, Mu-
sical Instrument-makers; for a method of making piano-
fortes, entirely new, both in principle, construction, and
shape.

— 10. Archibald Thompson, of Three Kings-court,
Lombart-street, in the city of London, Engineer; for ma-
chinery for the purpose of spinning rope-yarn or sail-cloth-
yarn, and for laying or making ropes and other cordage.

— 10. Stephen Hooper, of Walworth, in the parish of St.
Mary, Newington, Surrey, Gentleman; for machines or ma-
chinery for the purpose of cleansing harbours, rivers, &c.

— 10. William Robinson, of Essex-street, in the parish of
St. Clement Danes, Middlesex, Peruke-maker; for a method
of making perukes and scalps.

— 10. John Stevenson, of Manchester, Lancashire, To-

baconist; for a method of stoving and drying tobacco, and the preparation of snuffs.

10. Robert Dickinson, of Long Acre, Middlesex, Gentleman; for improvements in the construction of, and additions to, the saddles, harness, and other gear, necessary or useful for the employ of horses and other animals.

14. Isaac Sandford, late of Hartford, in North America, Gentleman, but at present residing in the parish of St. Pancras, Middlesex; for a machine for cropping or shearing of woollen, cotton, linen, silk, and all other cloths made with a nap, that require to be cropped or sheared.

17. Chester Gould, of Red Lion-street, Clerkenwell, Middlesex, Merchant; for an apparatus or artificial horizon, to be attached to, and used with, the quadrant or sextant, for the purpose of taking the altitudes of celestial and other objects, either on land or water, without the assistance of the natural horizon.

28. Joseph Braham, of Pimlico, Middlesex, Engineer; for improvements in the construction of steam-engines and boilers, and for the purpose of generating steam, and other purposes.

28. George Hall, of the Strand, Middlesex, Goldsmith; for a method of making elastic fastenings for shoes, &c.

28. Edward Ryley, of the lordship of Myton, in the county of the town of Kingston-upon-Hull, Organ-builder and Piano-forte-maker; for moveable keys for piano-fortes, organs, and other instruments.

Dec. 3. Naphtaly Hart, of Pimlico, Middlesex, Gentleman; for an instrument or goniometer which will measure or lay down angles to minutes, from the smallest radiuses to any extent, draw circles to any radius, draw and measure all kinds of right-lined figures made use of in geometry, trigonometry, and navigation, with an accuracy and dispatch hitherto not known, which instrument he calls the Hartesian Goniometer, and a clamp applicable thereto and to other useful purposes; and also a new suspensor and orbicular castor, applicable to maritime and other purposes.

3. James Boaz, Manufacturer in Glasgow; for a new and improved method of communicating thoughts, information, and intelligence, to and from different places, at a distance from each other, by means of signs, of lights and otherwise.

3. Lawrence Collin, of King-street, Portman-square, St. Mary-le-Bone, Middlesex, and James Butters, of Wigmore-street, Cavendish-square, in the same parish, Turner; for a machine for saving persons, though ignorant of the art of swimming, from drowning, which they propose to call a *Collinette*.

CRITICAL CATALOGUE.

- I. *Eight Letters on the Peace; and on the Commerce and Manufactures of Great Britain.* By Sir SIR FREDERICK MORTON EDEN, Bart. Octavo, 132 pages. Wright, 1802.

IN the political department of the Magazine we, in our Number for November, divided the censurers of Peace into two classes; first, those who descended from Mr. Burke reprobated peace with regicides on a general principle. These might be called the Anti-Jacobin opponents of conciliation with a country which, having been recently the scene of that impiety, immorality, and anarchy which they comprehended under the name of Jacobinism, they conceived to be so still. The second class of censurers did not profess to desire continual war with regicides until they should restore to the throne the family of the murdered King. They did not object to peace with France because not a monarchical government, but objected to the present peace as, in point of terms, inconsistent with that security which had uniformly been the professed object of the British Government in the last, as well as in former wars with France. These, assuming as an axiom the necessity of preserving the balance of power, contended, that, from the immense acquisitions of France, the restitution by Britain left so much preponderance in the French scale as to endanger British security.

To defend the expediency of the peace, in point of terms, against this second class, is the first and principal object of the present work; subsequent and subordinate to this chief purpose is the exhibition of British commerce, in its present state, its susceptibility, and means of improvement.

The Letters before us were originally addressed to the Editor of the *Porcupine*, and published in that newspaper, in the course of the last three months, under the signature of "*Philanglus*."

Commenced in answer to the strictures of the *Porcupine* against the Peace, they naturally produced replies, so that a part of them is controversial.

The first Letter, dated October 10, with liberal and enlightened candour accounts favourably for the diversities of opinion which Peace has produced; and, while it impugns the reasons of the *peace-haters*, gives them credit for the most worthy and patriotic motives. This Letter presents a general view of the objects, operations, and results of the war, and sketches some of the arguments which the author afterwards illustrates and supports. The *Porcupine* had required "*indemnity for the past, and security for the future*." Our author considers our acquisitions in Mysore, and our union with Ireland, as in a considerable degree answering the purposes both of indemnity and security. But from these effects, rising to their cause, to the activity of British industry, and the energy of British spirit, which (under the blessing of Providence) had conducted us through war with honour, he turns for resources that may preserve us in peace without humiliation. Towards the close of the first Letter he lays down the following enlightened positions, worthy of either a political philosopher or

a statesman in the beginning of the nineteenth century. "It is (he says) a narrow policy to suppose that our prosperity must be advanced by the ruin of France. A commercial nation will be benefited by an increase of her best customers. The more industrious France becomes, the more sensible she will be of the blessings of peace, and the more anxious to preserve them. Nor will her advances in social arts, though they may add to her strength, diminish our security. It seems to have been wisely ordained by Providence, that the wealth of nations should not dispose them to aggression, though it may furnish them with defence. The poorest and most uncivilized tribes have ever been the greatest conquerors."

The second Letter is chiefly devoted to St. Domingo, which, in its present state, exhibited in accurate detail, shews, that, ravaged, desolated, and depopulated as it is, it can yield no valuable produce for a considerable time: That the advantages to accrue to France from St. Domingo could therefore constitute no valid arguments against the Peace, even if the position were admitted which he had before so clearly shewn to be false, that the rise of French prosperity must be the decay of British.

In his third Letter he takes a view of the balance of power, both in itself, and as it may be affected by the Peace between Britain and the French Republic. This political arrangement he traces from the treaty of Munster, in 1648. He shews its operations and changes from that period down to present times. He demonstrates that both the absolute and relative power of several States has been increased, and others diminished, but that Britain has continued in progressive prosperity through all the changes. The power of France has been greatly increased, and firmly consolidated, during her monarchy. In point of extent, the British dominions in Europe are now (with the addition only of Gibraltar) precisely what they were at the treaty of Munster. Nature has fixed the boundaries of the United Kingdom. An ambitious continental power may add a contiguous province to her frontier; an insular one can only enlarge the bounds of empire by acquiring detached provinces. But whilst our neighbours have extended their limits, Britain has increased her power (the power of defence, for all other is precarious and illusory) by improvements in internal organization, which have doubled her population; by colonization, by agriculture, by manufactures, and by commerce, the parent of naval power. With these means, and these motives, to preserve her independence, she has five times, during the last century, been opposed to France. Some wars she has carried on alone; in others she has acted with confederates; in all she has shewn that her station in the scale of Europe DEPENDS NOT ON A FANCIFUL EQUILIBRIUM WHICH A CONGRESS OF NATIONS CAN ADJUST, BUT ON RESOURCES WHICH CAN BE CREATED, AND ENERGIES WHICH CAN BE EXERTED, BY HERSELF. This grand position, so important to Britain, he very clearly demonstrates and fully illustrates.

His fourth Letter considers the comparative merits of the present Peace, and Lord Grenville's propositions in 1797. This, however, being *argumentum ad hominem* as to the consistency of Lord Grenville himself in opposing the present Peace, rather than a proof of its pro-

priety and wisdom, we shall not follow in detail; his reasoning, however, that the French now are much fitter for external peace and internal order than in 1797, when Lord Grenville offered them peace, is very strong and poignant. The French are now convinced, by experience, that it is not their interest to be at war with England. With respect to internal government, our author hints, through the medium of historical analogies, at the line of conduct which he would recommend to the Chief Consul. Peace he conceives more favourable to such an exertion of self-denying magnanimity than war. The writer of this article perfectly coincides with the author in considering such measures as not without the verge of probability, and is further confirmed in his opinion by very recent transactions. This is a subject, however, at present, not ripe for expatiation; but we thoroughly agree with him in believing that France is not for ever destined to experience an elective government.

In considering the probability of future security he lays great stress on the achievements of the last campaign. In this estimate, pursuing its history through its various operations, he demonstrates not only its events and attainments, traced through our contest with the Northern Powers, and with the French in various parts, particularly in Egypt, but the British energy displayed, and the impression thereby made on the many contending powers, as containing the best security for permanent peace. Nations, he conceives, will not hastily venture again to provoke to war a people whose resistance has increased in force in proportion to the incumbent pressure; whose resources have risen in abundance with the demands for employment; whose strength has grown with the number of her enemies.

Having on these grounds, in the four first Letters, vindicated the Peace, he, in the four remaining, enters into a detailed consideration of the state of our trade. In former wars he shews our commerce considerably decreased, in the present it had astonishingly increased. This he illustrates in the quantity of tonnage-value of imports and exports. It appears that in 1792 the value of imports was nineteen millions six hundred and fifty-nine thousand three hundred and fifty-eight pounds sterling; of exports, twenty-four millions nine hundred and five thousand and two hundred. That in 1800 the imports were thirty millions five hundred and seventy thousand six hundred and five pounds; the exports forty-three millions one hundred and fifty-two thousand and nineteen pounds. He admits that part of this increased trade will terminate with the war, from which it arose. But if our probable losses are to be charged against us, we should be allowed credit for our probable gains; if the cessation of hostilities will deprive us of many new customers, it will restore us to many old ones. Our trade with the conquered colonies, which we propose to restore, and our trade with the neutral powers, may experience some diminution, but our trade with our foreign possessions will probably be augmented; and our trade with the belligerent powers, which has been suspended during the war, may be expected to return to its ancient channel. The illustration of these four heads, the commerce of Great Britain with the conquered islands, the commerce with the neutral powers, with the British colonies,

and with the belligerent powers, occupy respectively the fifth, sixth, seventh, and eighth Letters. The result is, that from peace our trade will on the whole increase, whilst our expences so materially diminish. The following short and enegetic summary concludes a work of political and commercial importance far surpassing many a large and voluminous publication.

"The flourishing state of our commerce, which, during a long and arduous struggle, has been extended by British industry, and protected by British valour, affords a memorable example of what may be effected by the sense, the spirit, and the perseverance of the people.

"Quid virtus, et quid sapientia possit,

"Utile proposuit nobis exemplar.

"May the lesson not be thrown away! May Britain, during peace, gratefully recollect, that whilst a great part of Europe, deficient either in wisdom or in courage, has sacrificed its independence with the vain hope of preserving its property, a vigorous resistance has enabled her to maintain her independence, and, by the sacrifice of a part, to render the remainder of her wealth more valuable and more improvable! May she gratefully recollect that the revolutionary system, which she has opposed, has not forced her to surrender her commerce to preserve her constitution, and that the cessation of hostilities does not call on her to surrender her constitution to preserve her commerce. They both may, they both will flourish together; and when, at some future period, the feverish ambition of mankind shall compel her to unsheath the sword, her constitution and her commerce will again supply her both with motives and with means to prosecute the contest until it can again be terminated with safety and with honour."

We recommend the perusal of this work to all those readers who desire to see clearly, concisely, and forcibly stated, the best and most cogent reasons for concluding a peace, and the surest and most effectual means demonstrated for its commercial and political improvement. The author, conversant with all the details of his subjects, possessing a comprehensive and generalizing mind, deduces momentous and satisfactory results. He is an able and wise man, canvassing topics which he has deeply considered, successfully studied, and justly appreciated. He unites a wide range of scientific theory with the minute and useful particularization of practical experience.

II. *A Letter to Sir William Pulteney, Bart. Member for Shrewsbury, on the subject of the Trade between India and Europe. By Sir GEORGE DALLAS, Bart. Member for Newport. 4to. 102 pages. Stockdale, 1802.*

THE author of this work forms a just and discriminating idea of trade in the degree of freedom which it is wise and expedient for it to possess. He bounds his notions of commercial liberty by those lines which ought to bound liberty of every kind—general expediency.

—He proposes that the rights of merchants shall extend as far as they

can be carried into execution. Limited by antecedent rights, the trade of British India is secured, as our readers know, to the Corporate Body of Merchants, or, in other words, the East-India Company, as far as their enterprise and capital reaches.

But after the Company has occupied all the commerce which their capital and interests can embrace, there is a great surplus of both export and import which must fall into other hands. This commerce, chiefly carried on with British capital, has been employed in maintaining foreign shipping, and in pouring the profits of British stock into foreign countries.

This is not a contraband trade, interfering with the chartered rights of the India Company; otherwise it could admit no countenance from British statesmen or lawgivers, no approbation from patriotic members of the community. It is a commerce of merely the remainder of the articles, either export or import, which the Company, from judgment and choice, have thought proper to leave. Other industrious and enterprising individuals have, in the freedom of trade, betaken themselves to grounds not pre-occupied. These are called the Free Merchants, and consist chiefly, if not solely, of British subjects: and their gains, in the nature of things, ultimately enrich this country.

To support and promote the prosperity of a class of subjects, judicious, meritorious, and successful in adventures which cannot possibly interfere with the objects and pursuits of the Company, is the supreme purpose of this production; which, adhering closely to the direct object, involves many important historical views and political considerations.

To account for the rise, progress, and present state of Indian trade, our author takes a short, but clear and comprehensive retrospect, which proves that British capital fosters the trade of rival European nations. This is an evil long the subject of complaint. To arrive at the remedy, the author traces the causes of the mischief. These are, the want of a regular channel of remittance for the fortunes of individuals through the Company's treasury; the greater benefit accruing to individuals from either lending their money to foreign companies, or being concerned themselves in prosecuting this clandestine trade under a foreign flag; the temptations held out to them to prosecute this illicit commerce by importing at Serampore, Chinsura, or Chawderna-gore, and exporting directly to foreign Europe, whereby they avoid, both on their arrival and departure, the port duties of Calcutta, the government customs of Great Britain, and the cost of transit on re-exportation, consisting of wharfage, warehouse-room, freight, insurance, &c. &c; to which may be added, what is material to attend to, the cheaper rate of freight at which foreign vessels can sail to and from British India. These are to be met, not by restriction, but by counteraction.

As the chief impediments are the duties of Calcutta and customs of Great Britain, the cheaper rate of freight to which the foreigner is subject in the transit of his goods, and his superior facility of ingress and egress too and from India; modify the former, and let the British merchant remedy the latter by pursuing a cheaper freight, ac-

cording to the best of his judgment, knowledge, and skill. So clandestine commerce will perish. There are two ways of prosecuting this end; one of these was provided at the renovation of the charter, in 1793. Mr. Dundas, friendly to a free trade to British merchants, proposed and procured a clause, obliging the Company to supply the tonnage required. This is the first mode of crushing the foreign trade by cheapened freight. The second mode is, instead of confining the free merchants to tonnage to be furnished by the Company, to allow them to employ India-built shipping, to be provided by themselves, at such terms as they could procure by their own mercantile skill, and at the seasons most convenient for shipping their cargoes.

The tonnage allowed by the statute of 1793 three thousand tons, has in many respects proved very insufficient. In the first place, it fell infinitely short of the quantity required, which, on an average of five years subsequent to the act of 1793, has not been less than five thousand tons annually. In the next, it was provided irregularly by the Company, and at uncertain and inconvenient periods. The surplus demand, not merely for individuals, but likewise for the Company's own wants, was met with India shipping by the Government of Bengal. Occasionally, in consequence of the war, the Company were unable to provide any portion of the tonnage thus allotted to individuals by the act of 1793. Twice has the whole nearly been provided by the government in India.

To supply the deficiency of the Company's tonnage, Lord Wellesley, in the year 1798, to give every practicable facility consistent with the Company's rights, towards attaining the end of the Legislature by increasing the commercial intercourse between both kingdoms, and yet preserving our ancient and salutary system of Indian policy entire, allowed, at his own responsibility, by a regulation of the 5th of October, of that year, the free merchants of Calcutta, and others, to export directly to Great Britain, in India-built ships, as much of the surplus trade of Bengal as their capital could embrace, with the privilege of bringing back in these vessels cargoes the growth and produce of Great Britain, under certain stipulations protective of the Company's monopoly.

The effect of this measure was, that in 1799 and 1800, twelve India ships, constituting 9214 tons, brought over not less than 27,641 bales of cotton from Bombay and Bengal; 5597 bales were imported from the latter quarter, being a new export, created for the natives, by the enterprize of the British resident merchants. And lastly, by the greater quantity of the surplus produce of British India, beyond the demands of the Company, thus brought home to the river Thames, it practically demonstrated the wise and attainable policy of the legislature, in aiming at rendering the port of London the great mart of the commerce of Asia, and plainly pointed out a road which, though not within the letter, was yet within the spirit of the act, whereby this end might be obtained, and the monopoly of the Company, as modified by the act, not be disturbed.

The commercial intercourse between both countries was enlarged, as designed by Parliament, and yet all the securities were preserved for the continuance of our present excellent system of Indian policy.

In the same season, twenty India-built ships exported from London goods to the value of 613,247l. and wines from Madeira to the amount of 116,505l. and the same ships expended in London, for stores, provisions, docking, and insurance, 202,877l. making a total of 932,636l. From the experiment made by Lord Wellesley no injury arose to the state—the growth of foreign clandestine trade was impeded—the trade, revenue, and navigation of Great Britain were increased, as intended by the act of 1793—no encroachment ensued on the Company's exclusive trade—their home duties were enhanced—a new and most valuable branch of trade was created for the British empire—the productive powers of British India were enlarged. Thus the statutable tonnage has not answered its intended purposes; the mode adopted by the Marquis of Wellesley did answer those intended purposes.

The free merchants, fortified by this double experience, solicit from the Company and the Legislature the abandonment of the statutable tonnage, which has not answered its purpose, and the adoption of India-built ships, which have answered the purpose.

To this request the Court of Directors have made strong opposition. Their first and principal objection is, that the propositions of the free merchants to furnish shipping themselves must interfere with the most valuable privileges of the Company. Admitting the insufficiency of the tonnage allowed by the act, they propose to provide a fleet equipment of their own regular shipping, at a freight as low as the India ships were freighted last season, which fleet shall solely be restricted to bringing home all the surplus trade of India which British capital can embrace, without being exposed to detention, circuitous route, or any of those other causes of objection enumerated by the free merchants.

This proposal the free merchants contend is liable to strong objections; respecting the Company, the Free Merchants, and the Public.

As to the Company, the free merchants cannot ensure to them a regular permanent freight, as their speculations and purchases must entirely be regulated by the state of the markets in India, and the extent of the demands in Europe for the articles wherein they are allowed to traffic. Thus the Company would incur the risk of sending out a fleet to India without the certainty of obtaining cargoes home.

Respecting the Free Merchant, he is so embarrassed if compelled, under any modification, to depend on the Company for tonnage; that he can neither suitably arrange his freight, nor distribute his cargoes. —His trade is not a trade of large profit to the individual; it consists of such articles chiefly as are either new to the commerce of Great Britain, or rejected by the Company; it is carried on at a comparatively low rate of freight, with strict economy and extraordinary expedition; its end is to meet, not only the home but the foreign markets, on re-exportation, and yet maintain a superiority therein; and on such principles only can this end be realized. By providing his own tonnage, the merchant embarks in his speculations with confidence, because he has before him the certain means of immediately shipping his goods for Europe. By depending on the Company, he is the sport of chance. In the one case he is made

liable to disappointment; in the other he is protected from its occurring. Such a plan, therefore, while it involves the Company in loss, and represses the industry of the British manufacturer, would not be a relief to the free merchants against the inconveniences alledged.

Respecting the Public, the subject is still more important. It is admitted that we have out-traded our shipping, and that a remedy is necessary. The employment of India-built shipping would afford this remedy.

This is the chief commercial substance of the valuable work before us.

Its political advantages, still more important, the nature of our publication does not permit us to follow in detail. The result, however, is, that compliance with the solicitations of the Free Merchants would not in the smallest degree interfere with the advantage of the India Company, would promote commercial prosperity, shipping, and public revenue, would most powerfully tend to improve the capabilities and resources of the empire.

Such is the opinion which, as *Commercial Reviewers*, we have formed of this production.

As *Literary Critics*, we think it the work of genius, at once masculine in force, energetic in operation, and expansive in object, enriched by political knowledge, formed and directed by political science; impressing momentous truth by nervous eloquence, adorned by all the lighter graces of taste and elegant composition.

III. *Works of the late Dr. Benjamin Franklin; consisting of his Life, written by himself; together with Essays, humorous, moral, and literary, chiefly in the manner of the Spectator.* 2 vols. Jones,

THESE two little volumes contain much valuable information and instruction. The first consists of the Life of the illustrious Franklin, in part written by himself, and the rest collected from the writings of ingenious and able American authors.

The biography enables us to observe the progress of this extraordinary man from mechanical employment to the depths of natural philosophy, and from physics to legislation and government. In every stage of his advancement, in every state and condition, we see transcendent superiority. Intermingled with profound wisdom, there is a great variety of pleasing and entertaining anecdotes.

The second volume consists of moral, literary, and humorous Essays, and is a very excellent exhibition of a sublime and elevated mind bending itself to familiar writing, and, while it amuses and delights, rendering pleasure subservient to wise and virtuous inculcation. While these Essays will be relished by juvenile and light readers, they will by the most learned and profound be highly prized, and by them only their value fully appreciated. His thoughts on commercial subjects we peculiarly recommend to the perusal of our Readers.

HISTORY.

National Transactions.

TURKEY.

IN the **TURKISH DOMINIONS**, the Beys of the Mamalukes in Egypt still owe their safety to the protection of the English. The French Ambassador has been restored at Constantinople to residence in the palace which was formerly occupied by his Predecessors. A grand expedition has been ordered by the Porte, finally to suppress Passwan Oglou's rebellion.

In **AFRICA**, the Regency of *Algiers* has concluded a treaty of peace with the French Republic which restores the French to all their former honours and advantages of political and commercial intercourse with the Algerines.

The **BRITISH COLONY** at **SIERRA LEONE** was, on the morning of the 18th of November last, attacked by an African tribe named the Timmaneys, under the conduct of two rebel Blacks who had, some time since, abandoned the settlement, and taken refuge with the natives in the interior country. The attack was furious. The assailants penetrated into the fort. For 15 minutes, they seemed to have almost accomplished their enterprize. At length, they were not without extreme difficulty, repulsed at the point of the bayonet. Eighteen of the settlers and garrison fell in the contest. Eight and thirty were wounded, but not mortally. The *Wasp* sloop of war, commanded by Captain Bullen, soon after arrived in the river. With the assistance of a number of the seamen from on board that vessel, the colonists retaliated the invasion against the Timmaneys with a vigour of enterprize which promises to strike a terror of their name by which they may be, in future, more secure.

In **ITALY**, no remarkable political changes have very lately taken place. The citizens of the Cisalpine Republic, are said to have received with joy, the news, that Bonaparte deigned to assume the authority of their chief ruler. *Malta* remains still in the possession of the British: and General Lord Hutchinson has arrived there, on his return from Egypt. The Pope is busy in the exercise of his powers and duties as a temporal Prince. Some Russian ships of war still remain in the bay of *Naples*. Disorders prevail, and daring assassinations are perpetrated in the Neapolitan dominions. The *Genoese* have been lately alarmed by the appearance of a number of Barbary cruizers, seemingly not without hostile intent upon their coasts.

FRANCE remains without any great change in its political situation. Bonaparte still reigns supreme. But, his jealousy and precautions for his personal safety are, as it should seem, continually increased. A proportion of the members of those which are called the Legislative Body and the Tribunal have retired, according to the Constitution, from their seats. The negotiations at Amiens are still prolonged. We hear, at one time, that it is on account of the reluctance of the Spaniards to cede Trinidad, that those negotiations are thus lengthened out; at another, that it is from difficulties relative to the future state of the dominions of the House of Hanover in Germany; at a third, that a commercial treaty is added to the treaty of general peace. French naval armaments have failed to both the East and the West Indies. It is reported, that Bonaparte wishes to become the chief as well of the Batavian and Helvetian Republics, as of those of France and Cisalpine Gaul. The famous Barrere has gone lately as Secretary of the French embassy to Portugal.

The **BRITISH PARLIAMENT** has continued its meetings with little interruption in the progress of February. Supplies have been voted for the use of the army and navy. The sum of about a million and an half has been

asked to discharge the debts incurred upon the Civil List. Mention has been made in Parliament of the reasonableness of refunding to his Royal Highness the Prince of Wales, the revenue of the Duchy of Cornwall which was, during his minority, applied in aid of the Civil List: and it has been evinced, that this revenue with the interest upon it, would be more, than sufficient to discharge all the debts of his Royal Highness. A bill has been introduced to extend the benefits of the Bankrupt Law to all other classes of debtors, as well as those in trade; but serious objections have arisen against its progress into a law. Sir John Mitford, lately Speaker of the House of Commons, has been advanced to the Peerage under the title of Lord Redefdale, and to the office of Chancellor of Ireland, vacant by the death of the Earl of Clare. A new Speaker was to be chosen; and Mr. Abbot has been exalted to that office, with his Majesty's approbation.—The delay in the negotiations at Amiens, has excited different enquiries in Parliament respecting the state of the treaty, and the design of the naval armaments dispatched from France to the East and West Indies. These have been candidly answered, but without any disclosure of ministerial secrets. Much of that which is called private business continues to engage from time to time, the attention of the two Houses of Parliament. It relates chiefly to canals, highways, inclosures, &c. and remarkably evinces the progress of improvements in these isles. — The attention of the House of Peers has been, of late, much occupied in the hearing of appeals chiefly from sentences of the Court of Session in Scotland.—The business of the present Session has not, hitherto, called any very splendid displays of parliamentary eloquence.

The *Army* remains, for the present, without any considerable alteration in the numbers of its troops. A part of the forces who conquered in Egypt, have arrived in this country, and have been received with the most ardent congratulations. A large body of forces remains still in the West Indies. Some detachments are to be sent out to the East. A greater military establishment than in any former time of peace, must be, of necessity maintained at home.

The *Navy* consists of 198 ships of the line, 26 of 50 guns each, 246 frigates, 333 sloops. Of these 50 are in the Downs and in the North Channel; 68 in the English and Irish Channels; 44 at the Cape of Good Hope, and in the Indian Seas; 186 in the West Indies; and the rest in a suitable distribution. News of various gallant victories achieved against our late enemies in distant seas, still continue to be received. There is a spirit of heroism excited among our British and Irish sailors which was never at any time, nor by any people excelled.

IRELAND continues in a state of perfect tranquillity. The blessings of the Union seem to be already felt in it. The present Lord Lieutenant has made himself already popular by his solicitous attention to encourage whatever has a particular tendency to promote the natural interests of the people of that isle. J. Napper Tandy has been finally pardoned and set at liberty. The political distinction between the Orangemen and those who are less violently attached to the old revolution-interest, is, still, with too much of mutual jealousy kept up.

SCOTLAND is loyal and tranquil. But, alarming emigrations from Scotland to North America, have lately taken place.

The approach of another General Election begins to excite a considerable bustle throughout these kingdoms. The newspapers begin to be filled with advertising addresses to constituents: and in the boroughs and counties, a keen canvas is excited; and ardent competitors begin to arise.

In the BRITISH WEST-INDIA ISLES, general tranquillity prevails. Barracks are erected by the Government of Jamaica, for the reception of 4000 soldiers who may serve to awe the Negroes from insurrection. The numbers and the state of the Negroes are not, indeed, to be contemplated

without alarm. The white inhabitants are comparatively few. It is scarcely to be hoped, that the people of colour and the Blacks in the French West-India isles should be again reduced to a subjection in which they shall not remain in a state of freedom sufficient to excite the envy, and encourage the bold hopes of those who are now the slaves of British planters. Should the whole number of the black and mulatto inhabitants of these isles, perpetually exert themselves to seize the dominion; they must finally prevail. Prevailing; they are of themselves, so little industrious, enlightened, and civilized; that these isles would be again lost to cultivation; and would fall back into a condition in which it would be little possible for them to supply to the amount of their present ordinary exports to Europe. It might be well if those who are called *People of Colour* should be gradually raised to a perfect equality of advantages with the *Whites*, so that they should find the maintenance of the established order of things in these isles not less essential to their honours and interests, than it is to the welfare of those who are of European origin exclusively. Establishments for liberal education ought certainly to be formed in Jamaica, so that the people of colour who cannot repair to the universities and colleges of Britain and North America, might yet have their minds duly cultivated by religious, literary, and scientific instruction at home. The state of the Christian religion is, in these isles, miserably low.

The FRENCH WEST-INDIA ISLES are still in a revolutionary state in which they can afford small advantage to the mother country.—*Guadeloupe* expelled, La Crosse, the French Governor who had been sent out to it; and he sought refuge with the English. The government of that isle is in the hands of a mulatto of the name of *pelagie*. He has declared, by a sort of manifesto, that he procured the expulsion of La Crosse, because that ruler's presence in the isle was incompatible with the personal safety of *Pelagie* and his friends. He has, also, expressed his desire, to continue in a friendly intercourse with the Anglo-Americans, and with the British. In *St. Domingo*, a very alarming insurrection against the government of *Toussaint L'Ouverture* has been, with much bloodshed, lately suppressed. A General Moysé was secretly its principal author; and yet, he so retained the confidence of *Toussaint*, that he was, at first, one of those employed to resist the insurgents. *Toussaint* having prevailed, and inflicted exemplary punishment on the conspirators, has issued a new declaration to compose the minds of the people. He seems to attribute the rebellion to the personal ambition of Moysé, the general absence of religion, the intrigues of dissolute women in the towns, the idleness and the multitude of the domestic servants. It might have, in part, its origin from these causes, but, it was perhaps also in some measure, excited by the dread of the blacks and some of the people of colour, lest *Toussaint*, in making his peace with the Government of France, should, more or less, sacrifice the liberties of the Mulattoes and Negroes. *Toussaint*, in his recent declaration, seems to talk a language affected for a particular end. He undoubtedly, finds his situation difficult. He, probably, enjoys not the full confidence of those who raised him to his present power; and he cannot expect to be trusted much longer by France, as the ruler of *St. Domingo*.

The armament sent out from the ports of France, Spain, and Holland, to the West Indies, was, in part shattered and dispersed by the storms; but has, in great part, arrived safe in the American Seas. But, we know not yet what changes, its arrival has, there, produced in the state of the French and the other colonies.

The ANGLO-AMERICAN STATES have published a statement of the revenue of the General Government, for 1801, which shews its produce to be duly adequate to the expenditure.

Dollars.

The receipts at the Treasury from the duties on merchandise and tonnage, were for the year ending September 30, 1801, not less than ————— 10,5000,000

The receipts from all the internal sources of revenue were ————— 919,719

The income from the sale of lands ————— 560,000

Postage ————— 50,000

The total sum of the revenue, certain for a series of ensuing years, is taken at 10,600,000 Dollars.

The Expenditure is as follows : ————— Dollars.

Civil domestic expences ————— 780,000

Expence of intercourse, with Foreign Nations ————— 200,000

Military expences ————— 1,420,000

Naval expences ————— 1,100,000

Total ————— 3,500,000

Clear balance of Revenue ————— 7,100,000

This balance is stated to be equal to discharge 77,881,890 Dollars, the sum of the public debt, in the space of fifteen years and a half or against the middle of the year 1818.

Commercial Affairs.

THE practice by merchants, shopkeepers, and private persons in general to deposit their ready money, for security, with goldsmiths or bankers, had its commencement in the year 1643, apprentices and servants became, then, so disorderly, that it was not longer thought safe for their masters to leave money, as before, in their custody. The goldsmiths were at that time the only depositaries to whose care their fellow citizens entrusted the keeping of their gold and silver. Mr. Francis Child of Fleet-street was the first that separated the profession of a banker from the trade of a goldsmith, and confined himself exclusively to the exercise of the former.

The projector of the Bank of England was Mr. James Paterfon, a Scotfman, a native of the county of Dumfries, and the author likewise of the Scottish Darien Company.

The Russia merchants in this country have for some time, expected, with great impatience, the news of the conclusion of the Definitive Treaty with France: They had *hemp* in very large quantities. By the cessation of the war, the British consumption of that article, is exceedingly diminished: There is in France and Spain, a considerable demand. The Russian ports on the Baltic, are, by the usual effects of winter, shut up, for six months. Our Russia merchants would, therefore, have the advantage of re-exporting to France and Spain, the hemp which they cannot readily sell at home, if the Definitive Treaty should be closed and ratified, before the southern merchants could think of sending directly to the Baltic for the supplies of hemp, which they want.

The annual exports and imports of the port of London, are estimated at 60,500,000l. sterling. Its customs amount to above 6,000,000l. sterling, a year. 13,400 cargoes annually enter the river. 3500 ships, British and Foreign, are constantly employed in the trade of this port. There are always, on an average, about 1100 ships, in the river; 3419 barges and other small craft are used in lading and unlading the ships; 2288 barges or other small vessels engaged in the inland trade of the river; and 3000 wherries or small boats for passengers. The wherries and small craft are navigated by about 8000 watermen; 4000 labourers are constantly at work, lading or unlading the ships; 1200 revenue-officers do duty on the river.

The annual value of the West India imports into the port of London is 7,000,000*l.* sterling. That of the East India imports is only 6,500,000*l.*

The town of Grangemouth, lying on the Frith of Forth, near where the canal from the Clyde, communicates with the Forth, has become a mercantile place of no small consideration, since the merchants of Glasgow have begun to carry on their commercial intercourse with the Baltic, Germany, and the East coast of England, through the Forth and Clyde navigation, rather than by the circuitous passages around the North-West and the South-West coasts of this island.

Measures are still vigilantly used in France, to prevent the introduction of British merchandize into the French territories. But, as great quantities of such goods are, nevertheless, consumed in France; the prohibition serves to enrich smugglers and revenue-officers conniving at their artifices and frauds; while it makes the prohibited goods so much dearer to the consumer.

To such a height has the spirit of commercial or money-broking gambling arisen at Greenock, that, in the end of January, a policy was there opened upon which 25 guineas were given for 100 guineas, to be received, if the definitive treaty finally concluded should not have been received in London from Amiens, on the 30th of January.

Government has bestowed 1000*l.* sterling for the purpose of encouraging that which is called the white-fishing on the Scottish coasts.

Twenty-five thousand pieces of linen were entered at Dublin, for exportation to Liverpool, Bristol, and London, between the 14th and the 18th of February.

Whiskey sent free on board at the price of 7*s.* a gallon, and its quality, considerably above that which is known as the *proof* purity of this spirit, is now in frequent exportation, and that in large quantities from Dublin, to Liverpool and London.

By the late storms, there have been great losses of shipping in the Frith of Clyde.

Thirty-six ships are now in preparation at Hull, for the Greenland and Davis Straight Whale-Fishery of the present year. Of these, here are two so considerable as to cost an expence of 1000*l.* sterling each.

The Dutch merchants at Amsterdam are now in very impatient expectation of a commercial treaty between the Batavian and the British Government.

The crime of forgery both of notes and coin has been carried out to Botany-Bay; is there practised with great skill and activity; embarrasses trade; and meets sometimes detection and due punishment.

The old unsettled commercial debts from America to this country, to the amount of 4,000,000*l.* sterling, have been compounded with Mr. King the American Minister, for the sum of 600,000*l.* sterling.

Smuggling is, just now, exceedingly vigilant to introduce prohibited French and Flemish goods into this country. Friday, Feb. 19, some hogf-heads of pickled mangoes from Hamburgh, were found, on examination, on the Custom house Quay to contain mangoes only at the centre of the hogf-head, but rich laces and other articles of French and Flemish manufacture, at each end of it.

At Jamaica sugar, rum, coffee, and other goods, the produce of the West India Isles, are now on sale, at prices comparatively, very low.

The Commissioners appointed at Riga, Petersburg, and Archangel, to ascertain what compensations were due to the British merchants for their losses by the violence of the late Emperor Paul, have finished their enquiries and decisions, and have transmitted the minutes of their proceedings to Court for the Emperor's approbation.

The Dutch colonies on the coast of Guinea are said to have, now, in store large quantities of commodities for exportation to Europe.

The exchange between London and Dublin is just now at Par.

The Petition of the Booksellers is now before Parliament. It is a very imperfect representation of the difficulties from which they desire to be relieved.

Several cargoes of pit-coal had been shipped from England in mercantile adventure to ports on the coast of France. Although that article be exceedingly wanted in France; yet the vessels have not been suffered to discharge their cargoes. Six of them returned, on Sunday, Feb. 22, from Morlaix and St. Maloes.

West India goods are, at present, in general, at low prices in the London market.

Several Members of the Dutch East India Company have petitioned for a compensation for their losses by the cession of Ceylon, and the capture of so many of their East India merchantmen by the British.

Except perhaps India and South America, there is no place in the world in which gold is now so plentiful as in Turkey. It appears in all payments. Every traveller carries more or less of it in his girdle. No woman but has chains, necklaces, and other ornaments of gold sequins. Not a child but has its head adorned with some pieces of gold coin. A good deal of gold passes from Turkey as from Europe to India.

East-India goods are now in general high, and rising in price in the English market.

The Croydon canal will be speedily completed.

An addition of 50,000*l.* to the 72,000*l.* formerly granted, is wanted to complete the improvements now in a train of execution by the City of London at the Isle of Dogs.

The fall in the prices of iron and timber favours many internal undertakings for the improvement of this country, which were interrupted by the war.

The French merchants have long been in use to import from Constantinople, in time of peace, wool to the value of nearly 100,000*l.* sterling a year.

Hare-skins are imported, also, in great quantities, by the French, from Constantinople.

Coffee-pots of copper, to the value of about 250*l.* sterling, are annually imported from Trebisonde to Marseilles.

We neglect the management of bees in England; and are obliged to import bees-wax at a high price from the provinces of the Turkish empire, as well as from Russia and the coast of Africa.

The following are the present prices of the chief articles of food at Paris. Bread, 3*d.* a pound: the best beef, mutton, and veal, 5*d.* a lib: pork 8*d.* a lib: a good turkey, 3*s.* a capon, 1*s.* 8*d.*: butter 1*s.* 3*d.* a lib: skate fish 2*d.* a lib. These prices are in comparison with the state of money and income in France, not cheaper than those which we pay for the same provisions in London.

The prices of stocks in London, after a good deal of trivial fluctuation, without any remarkable rise or fall, remain now nearly at the same rates per cent. at which they stood in the end of January.

It is expected that trade may be excited to much new activity, as soon as the Definitive Treaty with France shall be publicly known to have been signed and ratified.

COMMERCIAL LAW CASES.

HUGUENIN, v. THORNTON.—Mr. Huguenin went to ask Col. Thornton for payment of a debt due for per umery. One account Mr. Thornton readily paid; respecting another an altercation arose. Col. Thornton then struck Mr. Huguenin, and hurt him so seriously, that he remained for some time after, ill, and under a surgeon's care. Mr. Huguenin sued for damages for the injury. It being reasonable that tradesmen should be protected in

asking the debts justly due to them, the Jury gave a verdict for the plaintiff, for 30l.

CHATERS, v. BELL. A bill of exchange, indorsed by Bell, was in the possession of Chaters. The bill was not paid when due, but it was not protested till some time after that. On account of this irregularity in the protest, Bell finally refused payment. Chaters instituted a suit in the Court of King's-Bench to recover it. On account of the magnitude and difficulty of the general point, the case was ordered by Mr. Justice Grose, who, in the absence of Lord Kenyon, presided, to stand over for further argument.

HARRIS, v. FEDERICI. Harris, for 50l. in cash, a quantity of swansdowns, blankets, Irish linens, and a large chart of the English channel, received a bill of exchange for 245l. sterling, drawn by Gallerini, prompter to the Opera-House, in favour of William Taylor, Esq. Manager, and accepted by Federici, leader of the musical band. This action was brought by Harris, to recover payment of that bill. In favour of Federici it was argued, that the transaction was usurious. The jury thought otherwise; and gave a verdict for 245l. for the plaintiff.

Agriculture.

AGRICULTURAL REPORT FOR FEBRUARY.

THE mild weather, with few frosts this month, has caused the natural grasses and artificial seeds to vegetate rather luxuriantly, especially on warm soils in all early districts, and particularly where the land has been lately enriched either with manures, ameliorating crops, or plowing and burning; and the spring at present promises to be an early one. And on all weak warm soils, the farmers cannot be too expeditious in sowing spring wheat, barley, oats, beans, peas, tares, &c.; but where the land is much injured with surface, or subterraneous water, the latter sown crops are commonly the best.

“On all light soils in warm districts, the grain should be deposited rather deep; whether it is sown broad-cast, or with any drill machines, or dibbled in. But in strong clays, if the grain be deposited deep, if heavy rains fall, and dry weather immediately succeed, much of the grain will be buried: therefore on strong clays all grain should be deposited near the surface. Red clover should not be sown too early, because the frosts often injure it, and some other artificial seeds.

“The corn-markets, both in the metropolis and country, although they fluctuate a little, keep rather down; but we fear more from the effect, expected from the *Definitive Treaty* being ratified, than any abundance of grain in our island.

“The meat markets keep rising, and we fear will be much higher, before grass-fed meat comes to market.

“Store stock of all kinds are very dear, and will be but little cheaper, till the price of butchers meat is lower.

“Young wheat plants in general look well.”

Chatteris, Feb. 28.

J. SCOTT.

Lord Carrington, as President of the Board of Agriculture, has transmitted to the Rev. Mr. Duncomb, of Hereford, a vote of thanks, with a piece of plate value ten guineas, for an agricultural essay on the best mode of converting pasture land into arable, for a short course, and restoring the same to its former state, with the least possible injury.

A great shew of oxen and sheep is to take place at Langhorn's Repository, in the end of this and the beginning of the next week: the whole under the management of Lord Somerville. Four three-shear wether sheep, bred and fed on grass till last Christmas, were lately sold by Mr. Edward Robinson, of

Heckington, in Lincolnshire, for the sum of Forty Guineas. One of the sheep, in the three years, yielded fifty-four pounds of excellent wool.

The month of February has passed in that moderate interchange of frost, thaw, and clear mild weather, which is the most favourable at once to the useful pulverization of the soil, to the preservation of the plants in growth for winter-forage, and to the general renewal of vegetation in Spring.

The total quantity of rain which fell, in Bedfordshire, in the last six months of the year 1801, was adequate to 1535 inches of the rain gauge.

The highest price of the quarter loaf in London, last year, was, on the 5th of March, 1s. 10½d. Its lowest price was, on the 5th of November, when it had fallen to 10½d. The exact weight of the London quarter loaf is 4 lib. 5½ oz.

The number of uncultivated acres, in this island, is estimated by some persons to be 7,000,000.

At Kurgan in the South of Siberia to which Russian exiles are often sent—bread is sold at 1½d. for a loaf of 6 lib. a good fowl for 3d. the best butter in the world, at 1d. per lib. a couple of moor-fowl, for 1½d. hares for the value of the skins; a good dish of fish for 3d. a cord of wood for 10½d. a quart of French brandy for not less than 6s. a lib of sugar, for 2s. 6d. a lib. of coffee for 6s.

At Esthonia, the living farm-stock consists chiefly of cows and oxen. The cattle afterwards slaughtered for the shambles, at Peterburgh, are, for the greater part, fattened by Esthonian distillers. Those cattle are brought lean, to Peterburgh, from the more remote interior provinces. From Peterburgh, they are sent to be fattened on grains at the distilleries. The profit to the Esthonian distiller is about 3/ 10s. sterling a head, for all the cattle he fattens.

For the encouragement of the peasantry employed in husbandry upon the crown-lands in the provinces of the Russian empire, the emperor Alexander has declared his resolution not to alienate any of those peasants in property to any of his subjects. The peasants were formerly accounted to be transferable property, just as much as the cattle which they tended, and the lands they tilled.

Holstein produces a greater quantity of butter and cheese than any other northern territory of equal extent. Peterburgh chiefly from Holstein, is supplied with these two capital articles of provisions.

In Pembrokehire prevails a practice which is there known by the name of *fegging*, and consists in keeping the pasture-land entirely free from animals to feed upon it from June to March. Its herbage is, at the end of that time, unusually luxuriant; and for the three months of March, April, and May, the cattle fare extremely well upon it. Is it a practice that might be adopted with advantage, in any other parts of the country but where enclosure and the cultivation of pasture-lands remain in a very imperfect state?

In some parts of Siberia, the ground is now so fertile, that manure is not wanted to make it produce the most luxuriant crops. The peasants are there, in many instances, accustomed to suffer the dung and other dirt to accumulate carelessly before their cottages, till it becomes eligible rather to desert their dwellings, than to remove their dunghills; because new cottages may be built with less labour than would be necessary to clear the ground before the old.

On the 9th of February, the Glasgow Farming Society met on a field at Keppoch near that city, for the purpose of witnessing a plowing-match to the most skilful competitors in which they had offered præmia. The first prize was awarded to James Wilson, of the parish of Cambullang; the second to John Stevenson, of the same parish; the third to John Brown, of the parish of Kithbride; and the fourth to William Thomson, of Cambullang.

The alternations of frost and thaw with snows in December and January last, rendered the pasturage in the greatest sheep district of Ettrick Forest in Selkirkshire, so inaccessible to the sheep, that the flocks were, in part, for some time fed entirely on hay, and partly driven for pasture, to distant lower grounds.

A premium show of sheep and black cattle is about to be established at York.

The plowing for oats, barley, and spring-wheat, is now in great forwardness throughout Great Britain and Ireland. Much of the seed is already in the ground. And, should that mild and genial weather continue, which we have felt in the close of February; the sowing will be quickly over; the potatoes, especially those of early growth, will be planted; and every branch of farm-work will, of course, be proportionately advanced.

On Thursday Feb. 11th, the Dublin Society voted a medal of Wicklow gold to the Rev. Dr. Maunfell of Limerick for the communication of his discovery, that the potatoe-plant will grow from the shoots which sprout from those which are called the eye-holes in potatoes. This discovery may be applied with advantage, in the culture of potatoes, whenever there is an extreme scarcity of seed-potatoes. But, let no man who means well to the potatoe-planter recommend it for use except in such an exigency. The first growth of a potatoe-plant as of any other, demands protection and nourishment more favourable than it can possibly find in the bare soil. These the section of the parent bulb, or the seed-grain in the apple are destined to afford, by nature. If you take the shoot from the eye when the former is very young; ten to one, that shoot will instantly die. If you suffer the shoot to become considerably vigorous before it is parted from the eye; the potatoe becomes useless for food. In either case, there is such danger of fatally bruising the shoot in separating it from the potatoe, as renders it likely that of every two shoots you put into the ground, one must perish. How much more profitable to set sections of the potatoe, than to risk the loss of half your expected crop? Besides, the shoots require, as they grow, an extraordinary labour to raise the earth about them, the value of which extraordinary labour, in countries like Britain and Ireland, would certainly more than pay for the use of the sections instead of shoots. Let Dr. Maunfell's discovery be reserved for a resource in extreme scarcity, and for that alone. Let us, above all things, beware of utterly ruining the poor by leading them into Quixote-projects about matters in which their very subsistence is directly and deeply concerned. The Dublin Society have also agreed to print at their own expence, for distribution, 2000 copies of Dr. Maunfell's abridged treatise on the culture of potatoes.

Potatoes are now on sale, in the Irish markets at the rate of 136 lib. for 11½d.

Sir William Maxwell of Monreith presided on the 22d of January last, at a plowing-match on his estate in Wigtonshire. The competitors were from among his own tenants. They shewed uncommon skill and dexterity in plowing. He distributed, to their entire satisfaction, suitable prizes.

There has been, recently, a very large importation of Irish butter into England.

The Highland Society of Scotland of whose anniversary meeting for 1802, some account was given, last month, has since by its Directors, awarded prizes to a number of competitors who applied upon the conditions of its advertisement for 1801: To Mr. John Somerville, Surgeon in Haddington, the sum of five guineas for his essay "on Seed-Corn,"—another sum of five guineas for his essays of "the Effect of Frosts on the ripening of Corn:" To Mr. James Hay, Ettrick-House, three guineas, for his "Essay on the Diseases of Sheep." To Mr. George Macauley of Stornoway, five guineas for his "Invention of a Machine for pounding the Lime-stone:" To the Rev. Mr. Bremner, a piece of plate of fifteen guineas value, for his "Invention of a Life-Boat:" To Mr. George Duncan, at Rossmarkie in the shire of Ross, ten guineas, "for bringing into Culture with Potatoes, the

largest Tract of Land before Waste, that has been brought into such Cultivation by any of the Competitors for the Society's Præmia for 1801 : To Mr. Robert Gordon of the parish of Kirkmichael, ten guineas "for bringing under Culture with Potatoes, the largest Tract of Ground more than four miles distant from the Sea, that was so improved by any of the Competitors for the Society's Prizes in 1801 : To Mr. Robert Gordon of the parish of Inveraven, five guineas, for the second greatest Extent of Waste-Land brought under Culture with Potatoes, in Competition for the Society's Prizes of 1801 : To Mr. P. Sloan at Maybole, ten guineas, "for the greatest Quantity of Potatoes on one Acre of Land." To John Frazer, Thomas Nelf, and William Gordon, respectively, Prizes of 6l. 6l. and 4l. for Potatoes ready for Use and Sale before Oct. 1st, 1801."

The Society of Arts, with a rectitude of intention which cannot be too highly praised, has offered præmia to encourage the Culture of Hemp in the Highlands of Scotland, on ground on which grain cannot be raised. But, the truth is, that no ground will bear hemp which will not also bear corn; and that corn will be always preferable for crops, in the Highlands, where it is chiefly wanted, even more than any where else.

Manufactures and Useful Arts.

MESSRS. Robertson of Glasgow have invented a furnace, into which the fuel is put, at a hopper-like opening in the front, that is kept constantly full. It is supplied with air by a particular slit or duct immediately above the hopper, and communicating with the atmosphere. By this means, the smoke is disengaged nearly at the very front of the furnace; and most of its combustible parts are consumed as it passes over the mass of ignited coal between the front, and the vent at the back. Its advantages are, to save fuel, and prevent nuisance to the neighbourhood by a consumption of its own smoke more convenient than in any other contrivance.

The Surry iron-rail-way, to extend between Croydon and Wandsworth, in continuation of the Grand Surry Canal, will be completely executed before Midsummer.

Mr. Whitbread's brewery in Chiswell-street, has, at the summit of the building, cooling cisterns, each 6 inches in depth, which, in their extent would cover more than 5 acres of ground.

Mr. W. Chapman of Newcastle-upon-Tyne, invented a method of preparing a tar for use in the manufacture of ropes, which is much more favourable to the durability of the rope, than the tar which has been hitherto employed for that purpose. The common process is by boiling the tar *alone* till it is inspissated to the thickness fit for its use by the ropemaker. Mr. Chapman, on the other hand inspissates his tar by boiling it, two or three times, successively, not alone, but in water. In this method, the tar is cleared of some mucilaginous and acid matters which are by the other process left in it, and which by their early tendency to decomposition, often make the ropes to rot much sooner than they otherwise would. To the tar thus prepared Mr. Chapman adds, before applying it to the ropes, a due proportion of tallow, suet, or any fixed oil that has been previously cleared from extraneous matters, by similar boiling. He has obtained the usual security of a Patent-Right to the exclusive property of this invention for 14 years.

In the Russia Provinces of Livonia and Esthonia, the distillery of brandy from rye, is the only great manufacture much practised. Much of the brandy thus made, is sold by the distillers, on contract, to Government. It affords direct and immediate profits; but is thought to be, in its ultimate effects, hurtful, in no small degree, to the morals of the peasantry, and destructive of the true wealth of the country.

A Mr. J. B. Denize has invented a cement to serve for the use of putty, &c. which is perhaps more capable of intimate and powerful adhesion, than any other cement which has been hitherto in use in this country. It is composed of metallic matters, earthy and carbonaceous matters, bituminous parts, mucilaginous parts, and deficcative oils. The hard matters are reduced, in its preparation, to a very fine powder: the liquifiable matters are melted on a fire: the pulverized substances are then slowly added, with constant stirring, to the liquid still continuing under the action of the heat. The cement thus prepared, is then set aside to harden by cooling. In this state, it is reserved for future use and sale. It is to be, from time to time, in use, broken into small pieces, and liquified with a portion of tallow or other deficcative oil. Mr. Denize enjoys the property of his invention under Letters Patent, dated July 16, 1801.

The rise in the prices of copper, has excited extraordinary activity of enterprize among the mine-masters in Cornwall and Devonshire. New veins of ore have been lately discovered. Hence, the number of the labourers is augmented; and the works are at great expence, enlarged. In the eastern part of Wheal Mine, in the parish of Gwennap in Cornwall, a new course of copper-ore has been recently found out. Penaudrea, under the town of Redruth, affords, now, much more of both copper and tin, than was formerly thrown up from it. Wheal Girl, a new copper-mine, is now wrought with success. Wheal Crowndale, a new mine in the parish of Tavistock on the confines between Cornwall and Devon, is actively wrought, and yields a large quantity of copper-ore.

The Chemists of Paris have lately succeeded in bleaching coloured rags for paper, in a state of preparation intermediate between that of the unreduced rag and that of pulp. It was found, that, while the material was in either of these two states, the process did not completely succeed. Their bleaching-liquor is a solution of oxygenated muriate of potash.

A Mr. Gordon, a gardener from Scotland, employed in the gardens at Versailles, in the reign of Louis the Fifteenth, first taught the French the use of hot-house and hot-bed sashes. He discovered their use, by observing, that a vine-branch which entered between two sashes of a window, put out leaves, and yielded ripe grapes sooner than the rest of the same vine.

The Terra Japonica has been found to possess astringent qualities which render its action more powerful than that of the best bark, in tanning leather.

A Mr. Benard, a French botanist and gardener, invented, some time since, a glass frame for hot-houses, which possesses considerable advantages. The inferior part is a double square of glass panes in wood or wood and lead. The summit is the termination of an oblong six-sided prism; and consists of panes of glass in wood. This top may be taken off, by a ring on its upper extremity, at pleasure. The whole has the advantage of throwing a great body of light on the plants, of preventing that pallid and sickly growth of them which is called *etiolation*, and of giving the command, by the use of more than one, of a greater variety of temperatures, than in a common hot-house. It is heated at a very small expence with oil, of which the smoke is conveyed by a flue round the frame.

Fine Arts, Sciences, and Literature.

MR. Von Humboldt has lately ascertained, in a voyage to the South America, that, "in a ship at sea, the mercury falls in the thermometer, in proportion as the depth of the water in which the vessel moves, is diminished." He justly infers, that the thermometer ought, therefore, to be used by mariners, as well as the lead, to guard against unexpected running

upon rocks or shallows. The same observation had been made before by Dr. Benjamin Franklin, and by Captain Jonathan Williams.

A weekly collection of facts and directions relative to the improvement of Spanish Husbandry, has been for some time, in a course of regular publication at Madrid. The Ducheis of Alba zealously patronizes the work.

Professor Hermbstadt of Berlin has lately succeeded in forming a sort of artificial amber. He exposed rectified petroleum, of the thickness of a single line, on water, in a China-saucer, and under a bell-glass containing gas-oxygen, to the action of the rays of the sun, for several months. At the end of that time; the gas-oxygen being apparently absorbed by the petroleum; the bell-glass was removed. A part of the petroleum was evidently thickened; and by the increase of its specific gravity, had begun to sink under the water. He poured off the water, and evaporated by a very gentle heat, that part of the petroleum which remained still fluid. The part condensed, was found to possess the usual qualities of Amber. He infers, that amber originates from petroleum oxygenated and inspissated by contact with the atmosphere, under the action of the sun. This ingenious induction accounting so plausibly for the formation of a substance of which the origin has remained hitherto unknown, will naturally attract considerable notice in the philosophical world.

KOTZEBUE, the dramatic poet, has lately been, in a manner somewhat laughable, involved in a medical controversy. The system of the late Dr. Brown of Edinburgh, attributing most diseases to the diminution of animal strength and enfeebled vitality, has become the favourite medical theory among the young German physicians. It prescribes for remedies, such things as have the most expeditious and unequivocal tendency to renovate the strength and to stimulate the vital powers: and these remedies are now exceedingly fashionable in German medical practice. To recommend them by a case which should force itself into great notoriety, a narrative was lately given, in a German medical Magazine, of a severe illness, and a wonderful Brunonian cure of Kotzebue. Kotzebue has publicly given the lie to all the pretended circumstances of both the illness and the cure. He even denies that he was ever attended by any such person as the physician to whom his cure was ascribed. Yet, he seems to acknowledge his recovery from a late indisposition, by the use of remedies which the disciples of Brown would call stimulants.

Mr. Cæsarotti, an Italian clergyman, one of the names the most eminent in his native country, for proficiency in elegant literature, executed, some time since, an Italian translation of the poems of Ossian, which was read with the greatest eagerness and applause. He has lately republished it: and to the poems given by Macpherson, has added also those which were translated from the Gallic into English by Dr. Smith of Campbeltown.

His Majesty, with that discrimination of merit which adds new splendor and dignity to the glories of a throne, has conferred the honour of Knighthood on Mr. now Sir ALEXANDER MACKENZIE who, by penetrating, with admirable steadiness, perseverance, and energy of enterprize, across the continent of North America, to the North East shore, has decisively confirmed the discovery of Captain Vancouver, that the long fancied North West passage to India, is absolutely impossible, from the continuity of the American Continent.

The enquiries of the Highland Society of Scotland, and of some friends to truth, not particularly connected with that Society, have finally ascertained the authenticity of the Poems of OSSIAN—nearly as that was believed by the Poet Gray; have evinced the futility of the objections lately offered against that authenticity, by the ingenious *Malcolm Laing Esq*; and have fully justified the enthusiasm with which Ossian has been read by all nations, and translated into almost all the languages of modern Europe.

The oak that furnishes the gall nut which we obtain from Syria was never

till lately, accurately examined and described by any European botanist. We are obliged to Mr. Olivier, the French traveller, for the best description of it. It grows abundantly throughout Asia Minor from the Thracian Bosphorus to Syria and from the coasts of the Archipelago, inland; to the frontier of Persia. Its stem is crooked: it seldom rises to the height of six feet: it is rather a shrub than a tree. Its acorn is smooth, and two or three times longer than the cup. Its leaves are smooth, dentated, and of a bright green colour. Its botanical character, is *Quercus infectoria; foliis ovato-oblongis, sinuato-dentatis, glaberrimis, deciduis; fructibus sessilibus longissimis*. The gall nut is hard, heavy, and ligneous, grows at the origin of the shoots on the young boughs, and attains to a bulk from 4 to 12 lines in diameter.

The famous Cimolian Earth has been found, on analysis by Mr. Vauquelin, to contain 68 parts of silice, 5 of alumina, 4 of lime, 2 of muriat of soda, and 10 of water. It was used by the ancients, in cleansing their clothes, and certainly possesses the properties of the best fuller's earth. It is still found in abundance, in the Grecian Isles of Argentiera, of which the ancient name was Cimolis.

Preserved ginger taken, as a sweetmeat, after dinner, or ginger taken in milk, in the morning, is found to possess extraordinary powers, as a specific remedy against gout.

The legislature of North Carolina has appropriated a fund of 50,000 dollars for the expence of building a College at Columbia, and has fixed 6000 dollars annually as the public allowance for the support of the institution.

An "East India Marine Society" has been instituted at Salem in North America, for the purpose of collecting charts, maps, and information in general, relative to the navigation of the Eastern and Southern Seas.

The servants of Mr. Hearn of Easton, in Wiltshire, lately discovered, in plowing, an earthen pot of Roman manufacture, in which were found several thousands of copper coins, chiefly of the reigns of the Emperors Constantine, Constantius, and Constans.

Three Academies have been recently instituted at Copenhagen, for the instruction of youth in the knowledge and practice of ship-building, gunnery, fortification, and hydraulics.

The King of Prussia has instructed the Courts of Justice in his dominions, to search out and prosecute with the utmost vigilance and rigour, the publishers of obscene books and prints.

There is now on foot, a prodigious controversy among certain medical gentlemen—respecting the question—whether apoplexy originates in the head or in the stomach?—*Rixatur, sæpe, de lanâ caprinâ*.—Never mind where it originates.—Cure it. Cure it.

The Russian Language, naturally high sounding and harmonious, has received so many improvements by the translation of the best classical works of Germany, France, and England into it, and has been, of late, so much improved by Russian Poets, Historians, and Moralists; that it is likely soon to share the honours of the classical languages of Greece and Rome, and to be studied by every profound and every elegant scholar in every country in which letters are cultivated.

Morals and Manners.

ON the 10th of June, 1799, six soldiers, named — M'Kinnon, John Brown, — M'Quin, — Parr, — Brighouse, and Matthew Conway, of the East India Company's garrison at St. Helena, attempted to escape on board the Columbia, an American merchant-ship then about to sail from the harbour. Fearing lest they should be pursued and discovered on board the Columbia; they afterwards cut out a whale-boat; and in this, put out from the harbour; intending at a proper distance, to await the coming of the American ship, and then to go again on board her. They had in the whale-boat, five oars with a coil of rope, and a great stone by which she was moored,

—25 lib. of bread in a bag,—13 gallons of water,—and a compass. The Columbia did not overtake them: and on the second day after their putting out from the harbour, they steered for the island of Ascension. On the 18th supposing themselves to have passed that isle, without discovering it, they steered for Rio Janeiro; and reduced themselves to an allowance of one ounce of bread and two mouthfuls of water, each, for four and twenty hours. On the 26th they had no provisions remaining. On the 27th, they tried to divert the cravings of nature by chewing pieces of bamboo. They tried, to use the leather of a shoe for food. But, it would not do. On the 1st of July, Parr caught a dolphin; and on it, they subsisted till the 4th. When it was entirely consumed, four of the six persons proposed to scuttle the boat, and perish by drowning, rather than of hunger: the other two resisted the proposal, expressing still hopes in the mercy of Providence. On the 5th upon the suggestion of M'Kinnon, they agreed, that one of the number should bleed himself to death, that his carcase might be used for sustenance by the rest. They drew lots to determine who should die; and the fatal lot was M'Kinnon's. He opened his veins, with a sharp nail, in his foot, hand, and wrist; and praying to God to forgive him, expired within a quarter of an hour. They cut, soon after, a portion from his thigh, hung it up to dry, and at the end of three hours eat of it. That piece lasted them till the 7th. To preserve the body, they dipped it, every two hours, in the sea. On the 7th they cut off a second portion. On the 8th they descried land. As they made to the shore, the boat was upset. M'Quin and Brighthouse perished: Conway, Brown, and Parr came alive, on the land. They were no sooner known to be Englishmen, than the Portuguese inhabitants of the place relieved and cherished them with the greatest tenderness. They were conducted to the St. Salvador; and a charitable contribution to the amount of 200*l.* for each of the three men, was made by those good people, to convey them to their own country, without farther distress. From St. Salvador, they embarked on board the Maria for Lisbon; Parr going as mate in the ship; Conway, as boatswain's mate; and Brown who remained sickly and feeble, only as a passenger. Brown was left in the hospital at Rio Janeiro. He was, thence, pressed on board a British man of war. He has since surrendered himself at St. Helena. On the 12th of December, 1802, he communicated the preceding detail of his adventures before a Court Martial assembled on his trial.

ALPHABETICAL LIST of BANKRUPTCIES and DIVIDENDS announced between the 20th of Jan. and the 16th of Feb. extracted from the London Gazettes.

BANKRUPTCIES.

(The Solicitors' Names are between Parentheses.)

- AMBER, W. R. Old Brentford, timber-merchant. (Laden and Pegler, Gray's inn)
 Anderson, John Robert. Throgmorton street, merchant. (Gregon and Smart, Angel court)
 Ashworth, James, Wadsworth, Halifax, shopkeeper. (Sykes, New inn)
 Alderton, Christopher, Beccles, shopkeeper. (Debary and Cope, Temple)
 Benedicks, Martin, Liverpool, shopkeeper. (Windle, Bartlett's buildings)
 Booth, Samuel, Romily, parish of Stockport, muslin-manufacturer. (Dewhurst and Braddock, Marple)
 Barnsley, John, and Joseph Smith, St. John in Bedwardine, Morocco shoe-manufacturers. (Platts, Bride court)
 Bents, Thomas Davyholme, Eccles, Lancashire, cotton-manufacturer. (Robinson, Manchester)
 Biley, Richard S. Old Street, St. Luke, rope and twine-manufacturer. (Hudson, Winkworth buildings, City Road)
 Ball, Ralph, Newcastle, butcher. (Palmer, Gray's inn)
 Clarke, Robert, Fore street, Crisplegate, grocer. (Rivers, No. 16, Basing lane)
 Coles, John, Smithfield, banker and agent. (Finkett, Temple)
 Clarke, Robert, and George, Grub street, horse-dealers. (Wood, Chitwell street)
 Collier, Joshua, Little Bush lane, and Lendenhall street, oil-broker, &c. (Scott and Landon, St. Mildred's court)
 Cobb, Christopher, Ringwood, linen and woollen-draper. (Bleakdale and Alexander, New inn)
 Clarke, Robert, King street, Cove Garden, linen-draper. (Mounsey and son, Cable street, Holborn)
 Cook, Thomas, Much Cowry, Herefordshire, farmer. (Bland, Ragwort court, Fleet street)
 Cox, John, Church street, Hackney, oil-man, &c. (Simpson, Temple)
- Cunningham, James, Foxford, grocer, &c. (Hall, No. 15, Poultry)
 Dyer, Richard, Witney, blanket-weaver. (Impey and Wightman, Temple)
 Dyke, James, Manley, corn-dealer. (Cooper and Low, Southampton buildings)
 Danfon, George, and Abraham L. D. Cuvelie, Lancaster, brokers, &c. (Mason and Wilun, Lancaster)
 Dale, Isaac Rose, Exeter, earthenware-man. (Follett, Temple)
 Duiau, Arnaud, Soho square, bookseller. (Wingfield, Great Marlbro' street)
 Earle, William, and John Hemet, Albemarle street, book-sellers. (Wright and Bevil, Chancery lane)
 Fogg, Robert, jun. New Bond street, China-man. (Desse, Bream's buildings)
 Field, William, Streatham, victualler. (Parker, Palmer and Cuppige, Essex street)
 Fisher, William, jun. Brickwhistle, Yorkshire, clothier. (Sykes, New inn)
 George, Benjamin, Pop's Head alley, fishing-tackle-maker, &c. (Clarke and Turner, Warwick court, Holborn)
 Gillham, Richard, Holywell street, Strand, tavern-keeper. (Messrs. Ellis, Abingdon street)
 Gray, John, Birmingham, horse-dealer. (Shearman, Hart street, Bloomsbury)
 Graham, John, Berwick, baker. (Sanderion, Passgrave place)
 Gamble, Thomas, jun. Leicester, woolcomber. (Mathews and Goss, Gough square)
 Hughes, Davis, Liverpool, draper. (Blacklock, Temple)
 Howard, Cosmo Gordon, Conduit street, millner. (Hill, Gray's inn)
 Hulme, John, Edward, and William Hall, Crosby square, merchants. (Walton, Girdler's hall)
 Hancock, Isaac, Bristol, chaise-factur. (Lewis and James, Gray's inn)
 Hawkins, George, Fish street hill, druggist. (Guthy, New City Chambers, Bishopgate street)

Johns, Samuel, Plymouth Dock, shopkeeper and tailor. (Saunders, Plymouth)
 Jaffs, William, Strand, haberdasher. (Townshend and Hogarth, Staple inn)
 Jacks, Walter, Bristol, merchant. (Lewis and James, Gray's inn)
 Jones, Jeremiah, Chester, shoemaker; Kingston, grocer. (Allen and Exley, Furnival's inn)
 Johnson, Anthony, Chesterfield, grocer. (Maddock, Lincoln's inn)
 Jones, James Kingston, Hull, grocer. (Allen and Exley, Furnival's inn)
 Jackson, Benjamin, Wentworth, Yorkshire, corn-dealer, &c. (Peake, Southampton buildings)
 Lockey, John, Oxford, grocer. (Latimer, Gray's inn)
 Lupton, John, Middlesham, Yorkshire, dealer. (Hodgson, Clement's inn)
 Lafargue, John, Walbrook, and Sweeting's Rents, merchant. (Gregson and Smart, Angel court)
 Lees, Joseph, and Samuel Slater, Manchester, dealers in west and twist. (Meddowcroft, Gray's inn)
 Lodge, Frances, Pontefract, vintner. (Batty, Chancery lane)
 Mattingly, Thomas, Slaughtford, Berkshire, corn-dealer. (Ward, Faringdon)
 Morton, Samuel, Witney, blanket-maker. (Impey and Wightman, Temple)
 Mathison, John, Liverpool, merchant. (Blackstock, Temple)
 Nock, Samuel, and James, Dudley, nail-ironmongers. (Fellows, Dudley)
 Porter, John, (otherway's Thomas) Deal, grocer. (Davies, Ely place)
 Parker, John, Carlisle, miller. (Smart, Staple inn)
 Paddy, Charles, William Purcell, and James Hargreaves, Congleton, cotton-manufacturers. (Huxley, Temple)
 Rothwell, William, Manchester, manufacturer. (Ellis, Curstorf street)
 Skinner, George, Liverpool, milliner. (Windle, Bartlett's buildings)
 Sharpe, Joseph, Tatton, Bedfordshire, shopkeeper. (Pickering, Pudding lane)
 Scott, John, Knollingley, Yorkshire, scrivener. (Sykes, New inn)
 Simcock, George, Bolton Tun, Fleet street, coach-master. (Vines, Thavies' inn)
 Smalley, William, Blackburn, cotton-manufacturer. (Wilson, Castle street, Holborn)
 Savage, William, Liverpool, merchant. (Swain and Stevens, Old Jewry)
 Stubbs, Ralph, senior and junior, and George and James Stubbs, Stockton-Tees, upholsterers. (Oakley, New London street)
 Smith, Thomas, Derby, worsted-spinner. (Forbes, Ely place)
 Snowden, John, Liverpool, merchant. (Windle, Bartlett's buildings)
 Taylor, Robert, Newton Moor, Cheshire, cotton-spinner. (Hurd, Furnival's inn)
 Tremlett, William, Totnes, shopkeeper. (Batten and Antice, Temple)
 Turner, Henry, St. Martin's-le-Grand, silk-manufacturer. (Davies, Angel court)
 Von Wertheim, Emanuel, Hamburg, but late of Arundel street, Strand, merchant. (Willett and Ansell, Finsbury square)
 Wall, John, Tetbury, baker. (Stevens, Cavenham)
 Wiggins, Richard, Wilton, Staffordshire, druggist, &c. (Egerton, Gray's inn)
 Wilson, Joseph, Strand, umbrella-maker. (Swann and Wallington, Fore street)
 Wilkes, James, St. James's street, runfinner. (Laver, Clifford's inn)
 Wells, Samuel, Leonard square, Shore-ditch, corn-chandler. (Taylor, Old Street Road)

DIVIDENDS ANNOUNCED.

Andrews, James, King's Arms, Kent Road, victualler, Feb. 17
 Allport, Thomas, Laurence Pottney Hill, merchant, Feb. 13
 Andrews, Thomas, Hackney Road, brewer, Feb. 9
 Ansell, John, Wickham, dealer, Feb. 22
 Andre, David, New Broad street, &c. merchant, Feb. 22
 Armstrong, Sarah, Bath, ironmonger, March 4
 Blane, Thomas, Walbrook, merchant, March 23
 Barrs, William, and Samuel, Birmingham, linen-draper, Feb. 13
 Bolas, Thomas Temple, and John Robson, Crutche-friers, corn-factors, Feb. 27
 Bolas, Thomas Temple, corn-factor, Feb. 13
 Earfoot, Thomas, and William Coleman street, grocers, &c. Feb. 6
 Bailey, John, and Richard Lovelace, porter-merchants, Feb. 23
 Bale, John, and Richard Parkhurst, Lancaster, cotton-spinners, Feb. 22
 Brooks, George, Oxford street, linen-draper, March 6
 Bulkeley, John, Chester, wine-merchant, March 6
 Benjamin, Abraham, Cade street, Ironmonger, merchant, March 6
 Briggs, Peter, High Holborn, man's-nyer, March 6
 Burd, N. William, Chatham place, scrivener, March 6
 Butler, William, White Cross street, vintner, March 6
 Egler, Alexander, Blackburn, factor, March 8
 Boulton, D'Arcy, Philip and Thomas Morgan, and John Gaspar Vancouver, and Benjamin Stow, Copper-bridge, merchants, jointly and separately, March 6

Beggar, Charles, Spring Garden Coffeehouse, coffeehouse-keeper, March 20
 Crane, Charles Theomartyr, Bow lane, merchant, Feb. 26
 Collett, William, Great Gardner street, Whitechapel, sugar-grinder, March 23
 Child, Eleanor, South free, St. Luke, dealer, Feb. 27
 Danion, George, Lancaster, merchant, Feb. 15
 Dards, John, Bankside, Lighterman, Jan. 30
 Downey, Thomas, Sunderland, ship-owner, March 2
 Dean, Joseph, Strand, lace-man, March 9
 Edwards, Richard, Morgan lane, Tooley street, brandy-merchant, Feb. 27
 Evans, Thomas, St. Clement, Worcester, merchant, Feb. 25
 Evans, William, Manchester, grocer, Feb. 22
 Eccles, Thomas, and B. T. Holbrook, Watling street, ware-housetmen, Feb. 20
 Earle, Robert, Chichester, spirit-merchant, Feb. 23
 Field, Benjamin, Union street, Bishopsgate street, uphol-sterer, Feb. 23
 Flether, Benjamin, Liverpool, druggist, Feb. 24
 Frankis, Henry, Upton, St. Leonard's, dealer, March 2
 Hook, James, and William Turner, Bridge-foot, Westmif-ster, coal-merchants, March 23
 Hall, Peter, Cateaton street, factor, March 23
 Hilder, George, Bocking, shopkeeper, Feb. 27
 Harlick, John Gaspar, Julius Hutchinson, and William Playfair, Cornhill, bankers, Feb. 27
 Haworth, Edmund, Mill Hill; John Haworth, Hampstead; and Jonathan Haworth, Hardwich, calico-printers, &c. March 9
 Holmes, Edward, Foster lane, jeweller, March 13
 Harrison, Thomas, and John Brackley Frichard, pot-fellers, March 6
 Ireland, Samuel, St. Clement Daves, merchant, May 4
 Jacobs, Harry, and Joseph Milford, ship-builders, March 6
 Kirkpatrick, Thomas, Church passage, Cateaton street, merchant, Feb. 23
 Kenyon, Robert Withington, and John Ditchfield, Man-chester, merchants, Feb. 16
 Kohne, Nicholas, Andrew Boyson, and J. C. Schalk, Bi-shopgate street, merchants, March 6
 Kilborn, Francis, Desborough, dealer, March 12
 Lench, Benjamin John, Gintan Road, horse-dealer, Feb. 20
 Lowes, David, and J. B. Wigg, Hart street, rectifiers and brandy-merchants, March 6
 Mee, William, and William Evans, Wood street, hosiery, Jan. 30
 Malcom, James, Yardley, Herts, dealer, March 6
 Mitchell, Henry, Gosport, rope maker, Feb. 22
 Macher, William, Baker row, Bermonsey, baker, March 2
 Moss, Samuel, New Buckenham, grocer, &c. April 1
 Mottley, John, Huddersfield, Woolstapler, March 3
 Morrell, Nicholas, Newton-upon-Ouse, Feb. 24
 McCarthy, Charles, Bristol, jeweller, March 16
 Nalder, Francis, Suresbrook, victualler, Feb. 23
 Newman, Paul, Milkham, clothier, March 9
 O'Neil, Thomas, Albion street, merchant, &c. March 9
 Potts, John, Eddon Wearmouth, ship-owner, Feb. 15
 Page, William, Ware, maltster, Feb. 23
 Pierce, John, Bread street, warehouseman, March 23
 Plauk, Peter, Long Acre, chert, Feb. 20
 Parlett, James, West Smithfield, grocer, Feb. 20
 Perry, Robert, and Thomas Andrews, George Brewhouse, Hackney, brewers, Feb. 9
 Pashley, Robert, Tower street, wine-merchant, Feb. 19
 Parker, Richard, Brindle, calico-manufacturer, Feb. 26
 Pittchley, James, Wood street, druggist, March 13
 Peckford, Charles, Exeter, serge-maker, March 11
 Robinson, James, Crosby square, merchant, Feb. 23
 Round, Charles John, Wargrave, maltster, March 23
 Reichard, Jacob, J. P. Dahmer, and J. J. Brune, Angel court, Throhmorton street, merchants, May 4
 Richmond, Thomas G. Bridge yard, Tooley street, corn-factor, Feb. 27
 Richards, James, Gosport, baker, Feb. 22
 Roberts, Henry, Arretton; John Roberts, Newport, and Maria Gregory, King's Arms yard, bankers, March 8
 Robinson, Edward, Dudley, carrier, March 9
 Smith, James, Gosport, victualler, Feb. 22
 Sirets, Thomas, Park lane, victualler and horse-dealer, Feb. 20
 Stainsky, John, Cornhill, woollen-draper, March 27
 Shaw, John, Lancaster, and George Shaw, Kingston, Surry, and Jamaica, merchant, March 12
 Tag, Thomas, Leary, linen-draper, Feb. 13
 Thompson, Charles, Manchester, liquor-merchant, Feb. 20
 Traill, Samuel, Oxford, baker, Feb. 27
 Talbot, Robert, St. George, Southwark, victualler, Feb. 27
 Toyngham, Henry, ditch-draper, Feb. 13
 Tonks, Peter, Eddon, draper, March 8
 Thompson, John, Blackburn, cotton-manufacturer, Mar. 8
 Wallace, Thomas, East street, Southwark, shoemaker, Feb. 13
 Wardell, Thomas, Newcastle-upon-Tyne, corn-merchant, &c. Feb. 17
 Wollaston, John, and Francis Upjohn, Holborn bridge, dif-fusers, Feb. 10
 Waters, John, St. Catherine's lanes, shopkeeper, Feb. 23
 Walker, Thomas, Hopton, baker, March 9
 Waller, Thomas, Plymouth Dock, hatter, March 22
 Willis, James, and Henry Hill, Bull Head, soap-manu-facturers, jointly and separately, March 16
 Willon, Richard, Great street, merchant, Feb. 43
 Wade, John, Salisbury, watch-maker, March 4
 Walver, Valentine, Gr. A. Kirby street, watch-case-maker, March 16
 Zurborn, Herman, Basinghall street, merchant, (Firm, Reilly, Zurborn, and Co. Feb. 15)
 Zastara, Joseph, Lewis Marks, grocer, Feb. 23

LONDON PRICES OF GRAIN for February, 1802.

MARK-LANE, Monday, Feb. 1.

We have had a very good supply of Essex and Kentish Wheat at market this day, which has caused that article to be very dull, and fall 2s. per quarter cheaper than this day se'nnight.—Rye is nearly the same.—Barley, of fine quality, is very dull, and very little alteration in price since last Monday; but coarse and inferior samples obtain their prices.—There have been but few fresh arrivals of Oats in, but the stock in hand being great, and the consumption small, caused very little variation in that article.—Both Peas and Beans, owing to a good show at market, are somewhat lower.—Flour is 5s. per sack cheaper.

Price of Grain, on board Ship, as under :

English Wheat	48s to 65s	Malt	40s to 48s	Non Boilers	30s to 38s
Fine	75 to —s	Fine	to 50s	Grey ditto	37s to 38s
Superfine	to 82s	Oats	18s to 22s	Small Beans, new	35s to 36s
Rye	30s to 40s	Fine Oats	to 25s	Old	to 45s
Barley	36s to 38s	Polands	to 26s	Ticks, new	28s to 32s
Fine	40s to —s	White Peas	40s to 42s	Old	to 43s

Monday, Feb. 8.—We have had a very good supply of Essex and Suffolk Wheat at market this day, which has caused that article to decline in price full 2s. per quarter since this day se'nnight.—Barley, owing to a small show at market, is rather brisker sale.—Both Ticks and Small Beans are rather lower.—Oats, and other articles, are nearly the same as last Monday.

Wheat	48s to 65s	Malt	40s to 45s	Sm. Beans, new,	28s to 30s
Fine	72s to 6s	Fine	50s to 52s	Fine	to 35s
Superfine	to 80s	Oats	18s to 22s	Old	to 44s
Rye	30s to 35s	Fine Oats	to 25s	Ticks, new	25s to 32s
Fine	to 40s	Polands	to 26s	Old	to 42s
Barley	36s to 38s	White Peas	40s to 42s	Fine	to 43s
Fine	40s to 42s	Grey ditto	32s to 36s		

Friday, Feb. 15.—We have had a good many fresh arrivals of Wheat in since Monday, which article is very dull, and somewhat cheaper.—Barley and Malt are brisker sale, and full 1s. per quarter dearer.—Owing to a middling market in Peas and Beans, and other articles, little or no variation.—Oats, of fine quality, are brisker sale; but coarse samples are very dull.

Wheat	50s to 60s	Male	40s to 42s	Grey ditto	33s to 36s
Fine do.	70s to 75s	Fine	53s to —s	Fine	to 37s
Superfine	to 80s	Oats	16s to 20s	Sm. Beans new	28s to 30s
Rye	30s to 35s	Fine	to 21s	Fine	to 35s
Fine	to 36s	Polands	—s to 23s	Ticks,	25s to 26s
Barley	34s to 36s	White Peas	35s to 42s	Fine	to 32s
Fine	43s to —s				

Monday, Feb. 22.—We have had a middling supply of Wheat and Barley at market this day, but tolerable arrivals of other Grain. The stock of Flour on hand being great, caused little or no alteration in fine Wheats; coarse and inferior sorts are nearly unsaleable.—Barley and Malt are each 1s. higher.—Oats, of fine quality, are rather brisker also; but coarse and rough samples are very dull, and somewhat lower.—In Peas and Beans, or other articles, little or no alteration.—Flour, very dull, at last week's prices.

Wheat	56s to 65s	Fine	40s to 44s	White Peas	34s to 42s
Fine do.	72s to 78s	Malt	40s to 45s	Grey Peas	32s to 36s
Superfine	to 80s	Fine	50s to 53s	Small Beans new	28s to 30s
Rye	30s to 38s	Oats	18s to 20s	Fine	to 34s
Fine	to 40s	Fine	to 22s	Ticks, new,	25s to 30s
Barley	36s to 38s	Polands	—s to 23s	Fine	to 32s

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154 *Prices of Grain, Meat, Seeds, &c. (First week, Feb.)*

Return of Wheat in Mark-lane, from the 18th of Jan. to the 23d Jan. inclusive.

Total 7592 Quarters—Average 68s 0½d — 4s. 6½d. lower than last return.

Return of the Prices of Flour, from Jan. 16, to Jan. 22, inclusive.

Total 9867 Sacks—Average 69s 0½d. — os 0½d higher than last return.

Hence results the Price of BREAD.

Eighty Quartern loaves at 1s 0½d. 4l 0s 0d — Against the Baker 1s ½d.

Price of Hops.

	Bags.		Pock ts.
Kent	4l 8s to 1 8s	Kent	4l 10s to 5l 14s
Suffex	3l 14s to 4l 18s	Suffex	4l 6s to 5l 5s
Farnham	3l 10s to 4l 10s	Essex	5l 12s to 7l 7s

Seeds.

Red Clover, (per cwt.)	40s to 92s	Cinque Foil, ditto	30s to 40s
White Clover, ditto	40s to 126s	White Mustard-se. p. bu.	10s 6d to 14s
Trefoil, ditto	10s to 52s	Brown, ditto do.	10s 6d to 14s 6d
Turnip, (per bushel)	16s to 20s	Canary seed do.	11s to 12s
Rye Grass (per quarter)	24s to 34s	Rapefeed, per last	34l to 38l

Meat. Smithfield, Monday, Feb. 1. (To sink the offal, per stone of 8lb.

Beef	5s 0d to 6s 0d	Veal	6s 0d to 8s 0d
Mutton	5s 6d to 6s 8d	Pork	6s 4d to 7s 4d
Lamb,	os 0d to os 0d		

Head of Cattle this day—Beasts about 2,000—Sheep and Lambs 5,500.

Raw Hides.

Heifers and Steers (per ft.)	3s 4d to 3s 6d	Market Calf	— 9s 0d each
Middling	2s 10d to 3s 0d	English Horse	— 12s to 15s each
Ordinary	2s 0d to 2s 4d	Sheep Skins	— 4s 0d to 8s 3d

Price of Tallow.

St. James's Market	4s 0½d	Russia ditto (Soap)	— 63s 0d
Clare Market	— os 0d	Melting stuff	— 52s 54s
Whitechapel Market	4s 1½d	Ditto rough	— 36s —s
Per stone of 8lb.—Average	4s 1d	Graves	— 19s —s
Town Tallow	69s 6d	Good Dregs	— 11s —s
Russia ditto (Candles)	64s 66s	Yellow Soap, 72s—Mottled 80s—Curd 84s	
Price of Candles per Dozen, 11s. 0d.—Moulds 12s 0d			

Prices of Hay and Straw on Saturday, Jan. 30.

St. James's—Hay	3l 15s to 5l 5s	Average	4l 10s 0d
Straw	1l 5s to 2l 2s	—	1l 13s 6d
Whitechapel—Hay	4l 0s to 5l 8s	—	4l 14s 0d
Clover	5l 10s to 6l 10s	—	6l —s 0d
Straw	1l 12s to 1l 18s	—	1l 15s 0d

Newbury, Jan. 30.

Wheat	— 60s to 80s	Oats	— 21s to 27s
Barley	— 30s to 41s	Pease	— 42s to 44s
Beans	— 40s to 53s		

Warminster, Jan. 30.

Wheat	— 63s to 71s	Oats	— 22s to 26s
Barley	— 30s to 44s	Beans	— 52s to 64s

Devizes, Jan. 28.

Wheat	— 60s to 68s	Oats	— 26s to 30s
Barley	— 30s to 41s	Beans	— 52s to 64s

Prices of Grain, Meat, Seeds, &c. (Second week, Feb.) 155

Return of Wheat in Mark-lane, from Jan. 25, to Jan. 30, inclusive.

Total 7880 quarters.—Average 74s. 9½d.—6s. 8½d. higher than last return.

Return of the Prices of Flour, from Jan. 22, to Jan. 28, inclusive.

Total 10,682 sacks.—Average 68s. 3½d.—5s. 9d. lower than last return.

Hence results the Price of BREAD.

Eighty Quatern loaves at 1d.—41 0s 0d—Against the Baker 3½d.

Price of Hops.

	Bags.		Pockets.
Kent	41 9s to 51 5s	Kent	41 10s to 51 12s
Suffex	41 —s to 41 16s	Suffex	41 10s to 51 8s
Essex	31 16s to 41 10s	Farnham	61 —s to 71 7s

Seeds.

Red Clover (per cwt.)	30s to 96s	Cinque Foil, do.	34s to 46s
White Clover, do.	40s to 147s	White Must. Seed (p. bush.)	11s 0d to 14s
Trefoil, do.	10s to 53s	Brown do. do.	11s 0d to 14s 6d
Turnip (per bushel)	16s to 20s	Canary Seed do.	11s to 12s
Rye Grass (per quarter)	24s 0 to 36s	Rape Seed (per last)	341 to 381

Meat. Smithfield, Monday, Feb. 8. (To sink the offal, per stone of 8lb.)

Beef	5s 0d to 6s 4d	Veal	6s 6d to 8s 0d.
Mutton	6s 0d to 7s 0d	Pork	6s 8d to 7s 8d.

Head of Cattle this day—Beasts about 2,000—Sheep and Lambs 8,000.

Price of Leather.

Butts, 50 to 56lb. each	17½ to 19d	Calf Skins, 35 to 40lb. p. doz.	20d to 24d
Ditto, 60lb. to 66lb. each	20d to 23d	Ditto, 50 to 70lb. do.	24d to 28d
Merchants Backs	16½d to 17d	Ditto, 70 to 80lb. do.	24d to 26d
Dressing Hides	14d to 15½d	Sm. Seals (Greenland)	30d to 32d p. lb.
Fine Coach Hides	15½d to 16d	Large do.	100s to 140s p. doz.
Crop Hides for cutting	18d to 20d	Tanned Horse Hides	18s to 30s p. hide
Flat Ordinary	15d to 17d	Goat Skins	21s to 63s p. doz.

Raw Hides, per Stone.

Best Hides	3s 4d to 5s 0d	Market Calf	9s 0d each.
Middling	2s 10d to 3s 0d	English Horse	13s to 15s each.
Ordinary	2s 0d to 2s 4d	Sheep Skins	4s 0d to 8s 2d

Price of Tallow.

St. James's Market	4s 3d	Russia ditto (Soap)	62s 63s
Clare Market	4s 2d	Melting Stuff	—s 54s
Whitechapel Market	4s 0d	Ditto rough	38s —s
Per stone of 11b.—Average	4s 1½d	Graves	19s —s
Town Tallow	70s 6d.	Good Dregs	11s —s
Russia ditto (Candles)	4s to 66s	Yellow Soap 72s. Mottled 80s. Curd 84s	

Price of Candles per dozen, 11s. 8d.—Moulds 12s. 0d.

Prices of Hay and Straw on Saturday, Feb. 6.

St. James's—Hay	21 17s to 51 3s	Average	41 —s 0d
Straw	11 13s to 11 19s		11 16s 0d
White-ch.—Hay	41 4s to 51 8s		41 16s 0d
Clover	51 10s to 61 10s		61 —s 0d
Straw	11 14s to 11 18s		11 16s 0d

Uxbridge, Thursday, Feb. 3.

Wheat per load	171 to 211	Old Beans	46s to 54s
Barley	37s to 40s	New Ditto	32s to 38s
Oats	24s to 30s	Peas	40s to 44s

Newbury, Feb. 4.

Wheat	60s to 78s	Oats	20s to 25s
Barley	34s to 40s	Peas	41s to 43s
Beans	34s to 50s		

Henley, Feb. 6.

Wheat	71s to 82s	Beans	37s to 50s
Barley	29s to 39s	Peas	38s to 41s
Oats	20s to 27s		

156 *Prices of Grain, Meat, Seeds, &c. (Third week, Feb.)*

Return of Wheat in Mark-lane, from February 1, to February 6, inclusive.

Total 4488 Quarters—Average 77s. 5 $\frac{3}{4}$ d.—2s. 8 $\frac{1}{4}$ d. higher than last return.

Return of the Price of Flour, from Feb. 6, to Feb. 12, inclusive.

Total 12,810 Sacks.—Average 62s 8d.—2s. 1 $\frac{3}{4}$ d lower than last return.

Hence results the Price of BREAD.

Reduced half an Affize.—Quartern Loaf 11 $\frac{1}{4}$ d.

Price of Hops.

Bags 4l to 7l 7s —d | Pockets 4l to 5l 14s

Seeds.

Red Clover, (per cwt.)	40s to 100s	Cinque Foil, ditto	34s to 46s
White Clover, ditto	50s to 147s	White Mustard Seed, p. bu.	11s 0d to 14s
Trefoil, ditto	30s to 68s	Brown, ditto do.	11s 0d to 14s 6d
Turnip, (per bushel)	16s to 20s	Canary Seed, do.	11s to 12s
Rye Grass, (per quarter)	24s to 36s	Rape Seed, (per last)	34l to 38l

Meat, Friday, Feb. 19. (To sink the offal, per stone of 8lb.)

Smithfield.

Newgate and Leadenhall.

Beef	—	4s 8d to 5s 8d	Beef	—	3s 8d to 5s 0d
Mutton	—	5s 8d to 7s 0d	Mutton	—	4s 8d to 5s 8d
Veal	—	5s 8d to 7s 8d	Veal	—	4s 8d to 6s 8d
Pork	—	6s 0d to 7s 0d	Pork	—	6s 0d to 7s 0d

Head of Cattle this day—Beasts about 750—Sheep 1000.

Raw Hides.

Best Heif. & Steers, per ft.	3s 4d to 3s 6d	Horse Skins	—	13s to 15s each
Middling	—	Calf ditto	—	9s 0d each
Ordinary	—	Light Calf	—	0s 0d per lb.

Price of Leather.

Butts, 50 to 56lb. each	18d to 21d	Calf Skins, 35 to 40lb. p. doz.	20d to 26d
Ditto, 60 to 66lb. each	22d to 2d	Ditto, 50 to 70lb. do.	24d to 28d
Merchants Backs	18d to 19d	Ditto, 70 to 80lb. do.	24d to 26d
Dressing Hides	—	Sm. Seals (Greenland)	30d to 33d per lb.
Fine Coach Hides	16d to 17d	Large ditto	100s to 140s p. doz.
Crop Hides for cutting	18d to 20d	Tanned Horse Hides	18s to 30s p. hide.
Flat Ordinary	15 $\frac{1}{2}$ d to 17d	Goat Skins	20s to 64s p. doz.

Price of Tallow.

St. James's Market	—	4s 4d	Russia ditto (Soap)	—	63s to 64s
Clare Market	—	4s 3d	Melting Stuff	—	54s 52s
Whitechapel Market	—	4s 2d	Ditto rough	—	35s —s
Per stone of 8lb.—Average	—	4s 3d	Graves	—	19s —s
Town Tallow	—	72s 6d	Good Dregs	—	11s —s
Russia ditto (Candles)	—	65s 0d	Yellow Soap, 72s-Mottled 80s--Curd 84s	—	—
Candles, p. doz.	—	11s 6d	Moulds, 12s 6d.	—	—

Prices of Hay and Straw on Saturday, Jan. 9.

St. James's—Hay	2l 1s to 5l 8s 0d	Average	4l 1s 6d
Straw	1l 15s to 2l 3s 0d	—	1l 19s 0d
Whitechap.—Hay	4l 0s to 5l 5s 0d	—	4l 12s 6d
Clover	5l 10s to 6l 6s 0d	—	5l 18s 0d
Straw	1l 12s to 1l 18s 0d	—	1l 15s 0d

Prices of Grain, Meat, Seeds, &c. (Fourth week, Feb.) 157

Return of Wheat in Mark-lane, from February 8, to February 13, inclusive.

Total 6346 Quarters—Average 77s. 4½d.—or 1½d. lower than last return.

Return of the Prices of Flour, from 6th Feb. to the 12th inclusive.

Total 12,810 Sacks—Average 62s. 8d.—or 2s 1½d lower than last return.

Hence results the Price of BREAD.

Eighty Quarter loaves at 11½d—3l. 15s. 0d.—In favour of the Baker—4d.

Price of Hops.

Pockets			Bags.		
Kent	4l 8s to	5l 12s	Kent	—	3l 15s to 5l 0s
Suffex	4l 8s to	5l 5s	Suffex	—	3l 10s to 4l 10s
Farnham	5l 0s to	8l 8s	Effex	—	3l 10s to 4l 10s

Seeds.

Red Clover, (per cwt.)	30s to 38s	Cinque Foil, ditto	34s to 46s
White Clover, ditto	40s to 147s	White Mustard Seed, p. bu.	11s to 14s 0d
Trefoil ditto	10s to 72s	Brown, ditto	do. 11s to 14s 6d
Turnip, (per bushel)	16s to 20s	Canary Seed	do. 11s to 12s 0d
Rye Grass, (per quarter)	24s to 36s	Rape-seed, (per last)	34l to 38l

Meat. Smithfield, Monday, Feb. 22. (To sink the offal—per stone of 8lb)

Beef	4s 8d to 6s 0d	Veal	5s 6d to 7s 6d
Mutton	5s 6d to 6s 3d	Pork	5s 4d to 6s 4d

Head of Cattle this day—Beasts about 2,000—Sheep and Lambs 8,500.

Raw Hides.

Best Heifers & Steers (p fl.)	3s. 8d to 4s 0d	Horse Skins	12s to 16s each
Middling	3s. 0d to 3s 4d	Cat's paws	9s 0d each
Ordinary	2s. 9d to 2s 8d	Light Calf	0d per lb.

Price of Tallow.

St. James's Market	—	4s 4d	Russia ditto (Soap)	—	64s —d
Clare Market	—	4s 3d	Melting Stuff	—	56s 57s
Whitechapel Market	—	4s 2d	Ditto rough	—	38s —s
Per stone of 8lb—Average	—	4s 3d	Graves	—	19s to —s
Town Tallow	—	72s 6d	Good Drags	—	11s
Russia ditto (Candles)	—	66s to —s	Yellow Soap 72s	Mottled 80s	Curd 82s
Candles per Doz.	11s 9d	Moulds	12s 0d		

Price of Hay and Straw, Feb. 20.

St. James's—Hay	3l 3s 0d to 5l 8s	Average	4l 5s 6d
Straw	1l 4s 0d to 2l 3s 6d		1l 13s 9d
Whitechapel—Hay	4l —s 0d to 4l 5s		4l 12s 6d
Straw	1l 12s 0d to 1l 18s		1l 15s 0d

Uxbridge, February 13.

Wheat, per load	—	17l. to 20l 10s.	Old Beans	—	46s. to 54s.
Barley, per quarter	—	35s. to 42s.	New ditto	—	32s. to 38s.
Oats	—	22s. to 28s.	Peas	—	40s. to 44s.

Newbury, Feb. 18.

Wheat	—	48s to 75s	Oats	—	20s to 25s
Barley	—	33s to 39s	Peas	—	34s to 43s
Beans	—	30s to 41s			

Henley, Feb. 17.

Wheat	—	60s to 80s	Beans	—	32s to 40s
Barley	—	36s to 42s	Peas	—	36s to 48s
Oats	—	20s to 27s			

Warminster, Feb. 20.

Wheat	—	62s to 70s	Oats	—	20s to 24s
Barley	—	31s to 42s	Beans	—	36s to 52s

AVERAGE PRICES OF CORN, by the quarter of eight Winchester bushels; and of OATMEAL, per boll, of 140 pounds Avoirdupois.

From the Returns received in the Week, ended FEB. 13, 1802.

INLAND COUNTIES.

COUNTIES.	Wheat.		Rye.		Barley.		Oats.		Beans.		Peas.		Oatmeal.	
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
Middlesex	76	9			39	0	25	5	38	4	42	0	17	6
Surrey	78	0	38	0	39	0	25	2	38	0	40	0		
Hertford	72	4	45	6	38	4	23	10	38	9	39	4		
Bedford	75	9	53	4	42	6	25	1	33	6				
Huntingdon	73	0			36	6	17	8	32	0	35	1		
Northampton	74	6			39	6	18	8	41	0				
Rutland	78	6			42	0	20	6	42	0	64	0	59	10
Leicester	77	4			42	9	18	8	42	1	58	6	48	6
Nottingham	81	0	50	0	48	8	22	0	45	0	41	0		
Derby	82	4			49	0	22	4	49	2	39	0	32	7
Stafford	80	1			49	0	23	3	49	7			33	7
Salop	80	6	57	2	49	1	23	1			44	11	74	10
Hereford	71	0	54	4	43	3	22	8	42	1	39	5	71	2
Worcester	79	3	48	8	45	8	28	11	43	2	49	6		
Warwick	82	4			47	1	24	6	49	9	51	6	47	6
Wilts	65	2			35	4	24	4	51	8	40	0		
Berks	72	11			35	2	25	2	40	5	41	3		
Oxford	70	9			36	10	22	4	39	8	39	5		
Bucks	77	0			38	10	24	9	41	8	42	0		
Brecon	72	9	49	6	41	4	20	0			32	0	45	1
Montgomery	72	9			54	5	16	7			36	10	46	7
Radnor	75	9			43	9	23	1			35	4	86	6

Maritime Counties.

Essex	79	11	38	6	36	8	24	0	34	4	33	0		
Kent	70	10			36	4	26	8	34	0	38	0		
Suffex	71	4			37	10	24	8	36	0	44	0		
Suffolk	78	3	40	0	37	11	21	1	31	3	35	11	44	6
Cambridge	74	5	43	2	35	9	15	1	31	0				
Norfolk	77	2	39	9	36	1	20	11	30	8	36	6		
Lincoln	73	1	48	0	39	9	16	9	36	3	35	0		
York	69	3	43	3	39	1	18	2	37	2	35	8	38	4
Durham	70	11			40	0	18	8						
Northumberland	67	8	48	0	33	10	19	2						
Cumberland	79	10	48	8	37	9	20	5			34	0	18	9
Westmorland	79	7	55	4	38	4	22	11					19	5
Lancaster	82	4			51	6	25	8	49	4			21	9
Chester	77	0			52	3	22	9	46	7	61	4	20	8
Flint	77	6												
Denbigh	85	8			55	4	23	7	48	0	32	0		
Anglesea													40	6
Carnarvon	81	0			48	0	29	6						
Merioneth	80	0			48	0	22	0			56	0	46	1
Cardigan	73	8			33	2	14	11					38	11
Pembroke	63	6			37	10	14	3			35	8		
Carmarthen	69	4			40	9	17	11						
Glamorgan	72	0			40	0	20	6						
Gloucester	73	2			43	5	25	3	44	0	39	0		
Somerfet	71	10			38	11	21	8	42	0				
Monmouth	77	4			44	8								
Devon	70	3			36	2	19	4			40	4	48	4
Cornwall	69	8			34	6	15	9						
Dorset	71	0			35	6	29	4	42	0				
Hants	71	11			37	11	23	11	47	2				

PRICE OF COALS IN LONDON, for February, 1802.

Coal Exchange for the last week in January.

Monday.		s.	d.		s.	d.
Pontop	_____	38	0	Walker	_____	38 9
Tanfield	_____	38	6	Biddick	_____	35 6
Holywell	_____	38	6	Newbottle	_____	37 3
Adair's	_____	38	3	Friday.		
Brandling	_____	39	0	Hebburn Main	_____	38 0
Wednesday.				Heaton Main	_____	37 6
Biggs's Main	_____	38	9	Hartley	_____	36 6
Brandling Main	_____	37	0	Murton Main	_____	35 0

Delivered in Town at 9s. advance on the above price.

Coal Exchange for the first Week in February.

Monday.		s.	d.		s.	d.
Pontop	_____	38	0	Walker	_____	38 9
Tanfield	_____	38	6	Biddick	_____	35 6
Holywell	_____	38	6	Newbottle	_____	37 3
Adair's	_____	38	3	Friday.		
Brandling	_____	39	0	Best Coals 21 os 6d per Chaldron		
Wednesday.				Delivered 21 9d 6d		
Biggs's Main	_____	38	9	Sunderland 11 17s 6d		
Brandling Main	_____	37	0	Delivered 21 6s 0d		

Delivered in Town at 9s advance on the above price.

Coal Exchange for the second Week in February.

Monday.		s.	d.		s.	d.
Biggs's Main	_____	38	6	Bourn Moor	_____	36 9
Hartley	_____	27	0	Heaton Main	_____	38 9
Adair's Main	_____	37	6	Friday.		
Walker	_____	38	6	Blyth	_____	39 0
Wallfend	_____	39	6	Brandling	_____	37 6
Wylam Moor	_____	37	0	Hartley	_____	39 0
Wednesday.				Windtours	_____	38 3
Biggs's Main	_____	38	9	Wallfend	_____	40 3
Benton	_____	37	3	Wylam Moor	_____	37 3
South Moor	_____	35	6	Willington	_____	39 3

Delivered in Town at 9s. advance on the above price.

Coal Exchange for the third Week in February.

Monday.		s.	d.		s.	d.
Wallfend	_____	40	6	Walker	_____	38 6
Biggs's Main	_____	39	6	Wallfend	_____	40 0
Blyth	_____	33	3	Wylam	_____	35 6
Adair's Main	_____	37	6	Warwick	_____	34 6
Wednesday.				Friday.		
Biggs's Main	_____	39	3	Benton	_____	36 0
Baker's Main	_____	35	0	Biggs's Main	_____	39 0
Kenton	_____	39	3	Eighten	_____	36 0
Montague	_____	36	6	Walker	_____	38 9
Team	_____	35	6	Wylam	_____	35 0
				Wentworth	_____	35 0

Delivered in Town at 9s advance on the above price.

A TABLE of the Prices of STOCKS in February, 1802.

Days	Bank Stock.	3 per Ct. R. d.	3 per Ct. C. mols.	4 per Ct. Confol.	5 per Ct. Navy.	5 per Ct. L. gaily.	Long Ann.	Short Ann.	Imp. 3 per Ct.	Imperial Ann.	Irish 4 per Ct.	Ind Stock	Eng. Tick	Consols for open.
Jan. 29	190	68 7/8	69	68 1/4	98 1/4	98 7/8	19 15-16	20	68 7/8	12 1/2	98 1/4	214 1/2	16 13	69 1/2
30	190	69 1/2	68 3/4	68 1/2	98 1/2	99 1/4	19 15-16	20	68 7/8	12 1/2	98 1/4	214 1/2	16 13	69 1/2
Feb. 1	190	69 1/2	68 3/4	68 1/2	98 1/2	99 1/4	19 15-16	20	68 7/8	12 1/2	98 1/4	214 1/2	16 13	69 1/2
2	190	69 1/2	68 3/4	68 1/2	98 1/2	99 1/4	19 15-16	20	68 7/8	12 1/2	98 1/4	214 1/2	16 13	69 1/2
3	190	69 1/2	68 3/4	68 1/2	98 1/2	99 1/4	19 15-16	20	68 7/8	12 1/2	98 1/4	214 1/2	16 13	69 1/2
4	190 1/2	69 1/2	68 3/4	68 1/2	98 1/2	99 1/4	19 15-16	20	68 7/8	12 1/2	98 1/4	214 1/2	16 13	69 1/2
5	190 1/2	69 1/2	68 3/4	68 1/2	98 1/2	99 1/4	19 15-16	20	68 7/8	12 1/2	98 1/4	214 1/2	16 13	69 1/2
6	190 1/2	69 1/2	68 3/4	68 1/2	98 1/2	99 1/4	19 15-16	20	68 7/8	12 1/2	98 1/4	214 1/2	16 13	69 1/2
7	190 1/2	69 1/2	68 3/4	68 1/2	98 1/2	99 1/4	19 15-16	20	68 7/8	12 1/2	98 1/4	214 1/2	16 13	69 1/2
8	190 1/2	69 1/2	68 3/4	68 1/2	98 1/2	99 1/4	19 15-16	20	68 7/8	12 1/2	98 1/4	214 1/2	16 13	69 1/2
9	190 1/2	69 1/2	68 3/4	68 1/2	98 1/2	99 1/4	19 15-16	20	68 7/8	12 1/2	98 1/4	214 1/2	16 13	69 1/2
10	190 1/2	69 1/2	68 3/4	68 1/2	98 1/2	99 1/4	19 15-16	20	68 7/8	12 1/2	98 1/4	214 1/2	16 13	69 1/2
11	190 1/2	69 1/2	68 3/4	68 1/2	98 1/2	99 1/4	19 15-16	20	68 7/8	12 1/2	98 1/4	214 1/2	16 13	69 1/2
12	190 1/2	69 1/2	68 3/4	68 1/2	98 1/2	99 1/4	19 15-16	20	68 7/8	12 1/2	98 1/4	214 1/2	16 13	69 1/2
13	190 1/2	69 1/2	68 3/4	68 1/2	98 1/2	99 1/4	19 15-16	20	68 7/8	12 1/2	98 1/4	214 1/2	16 13	69 1/2
14	190 1/2	69 1/2	68 3/4	68 1/2	98 1/2	99 1/4	19 15-16	20	68 7/8	12 1/2	98 1/4	214 1/2	16 13	69 1/2
15	190 1/2	69 1/2	68 3/4	68 1/2	98 1/2	99 1/4	19 15-16	20	68 7/8	12 1/2	98 1/4	214 1/2	16 13	69 1/2
16	190 1/2	69 1/2	68 3/4	68 1/2	98 1/2	99 1/4	19 15-16	20	68 7/8	12 1/2	98 1/4	214 1/2	16 13	69 1/2
17	190 1/2	69 1/2	68 3/4	68 1/2	98 1/2	99 1/4	19 15-16	20	68 7/8	12 1/2	98 1/4	214 1/2	16 13	69 1/2
18	190 1/2	69 1/2	68 3/4	68 1/2	98 1/2	99 1/4	19 15-16	20	68 7/8	12 1/2	98 1/4	214 1/2	16 13	69 1/2
19	190 1/2	69 1/2	68 3/4	68 1/2	98 1/2	99 1/4	19 15-16	20	68 7/8	12 1/2	98 1/4	214 1/2	16 13	69 1/2
20	190 1/2	69 1/2	68 3/4	68 1/2	98 1/2	99 1/4	19 15-16	20	68 7/8	12 1/2	98 1/4	214 1/2	16 13	69 1/2
21	190 1/2	69 1/2	68 3/4	68 1/2	98 1/2	99 1/4	19 15-16	20	68 7/8	12 1/2	98 1/4	214 1/2	16 13	69 1/2
22	190 1/2	69 1/2	68 3/4	68 1/2	98 1/2	99 1/4	19 15-16	20	68 7/8	12 1/2	98 1/4	214 1/2	16 13	69 1/2
23	190 1/2	69 1/2	68 3/4	68 1/2	98 1/2	99 1/4	19 15-16	20	68 7/8	12 1/2	98 1/4	214 1/2	16 13	69 1/2
24	190 1/2	69 1/2	68 3/4	68 1/2	98 1/2	99 1/4	19 15-16	20	68 7/8	12 1/2	98 1/4	214 1/2	16 13	69 1/2
25	190 1/2	69 1/2	68 3/4	68 1/2	98 1/2	99 1/4	19 15-16	20	68 7/8	12 1/2	98 1/4	214 1/2	16 13	69 1/2

T. BISH, Stock-Broker, Old State-Lottery Office, No. 4, Cornhill, London.