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[Whole No. 271.]

L E T T E R S,

BY THE
EARL OF DUNDONALD,

ON MAKING BREAD FROM POTATOES.

LETTER 2.

A VARIETY of other business has put it out of my power to have made all the experiments I could have wished, so as to leave nothing to others but to follow the directions and hints suggested to them. Impressed, however, with the importance of a subject, which has for its object the more plentiful and cheaper supplying mankind, particularly the lower classes, with food, I venture here to throw out some ideas on the fitness of the potatoe, and its farina, to certain uses not yet mentioned:—To which will be added a statement of the value of an acre of potatoes, manufactured as recommended, and compared with the value of an acre of wheat.—Whence it will not be difficult to foresee the effect, that the more general cultivation of potatoes, especially by cottagers, and manufacturers residing in the country, will have, in keeping down the price of provisions, adding to the general comfort of individuals, and in tending to the increase of population, which every where thrives best where food is to be had in abundance; making true the old Roman saying, *Sine Baccho et Cerere friget Venus.*

Experiments have been made, with the finer part of the potatoe-powder, by myself and others, to substitute it as a light, nutritive food, for sick, tender, or convalescent persons, instead of sago or salup; which it very much resembles, in the fine clear jelly, or vegetable mucilage, it forms, when mixed in a proper manner with boiling water. It may be taken with wine, milk, or broth.—If found, on further trials, to be equally nutritive and restorative, as I believe it to be, it will prove a most valuable addition to the supplies, which government have been so careful, of late years, in sending to sea, for the use of our seamen.

There is reason to believe, that it will not be subject, like wheat-flour, to spoil, or to be destroyed by insects; and that it may be preserved sound, for a length of time, in the warmest climate.

The reasons which lead me to form the above opinion, are, that it is homogeneous, and does not consist of two distinct, and opposite substances, as wheat-flour does: In which, when it begins to spoil, there may be supposed a chemical action of the one part on the other. Heat will thereby be let loose, the original arrangement of the parts will be altered, and the flour will no longer be fit to be used for food, exclusive of the small insects, always found in bread, or in flour, when in a decayed, or decaying state. It is probable, that potatoe-powder will not be liable to those inconveniences, from the reasons already given.

Potatoe-powder does not occupy near the space of an equal weight of wheat-flour. It is capable of being made fully dry, by exposure to air. It does not imbibe or absorb moisture, as other meal or flour does in damp weather. It is extremely cold to the touch; or, in other words, a powerful abstractor of heat from bodies to which it is applied. These its properties seem to ensure, a priori, its keeping in warm climates:—Where, indeed, a similar flour, or powder, may be made from the yam, and sweet potatoe:—perhaps to greater advantage than from the potatoe produced in this country.—A circumstance of no inconsiderable moment to the inhabitants of the West India islands, who are totally supplied with flour and grain from North America, and from Europe.

Potatoe-powder is very inflammable. When burning, it emits a smell similar to burning sugar, with an acid which sensibly effects the eyes, as is the case likewise with sugar. From these, and other circumstances, I am led a priori, to say, that although sugar may not be made from potatoes, at least, in the present state of our chemical knowledge, yet, it is my opinion, that potatoe-powder may be used to very great advantage in making ardent spirits, by mixing it with the proportion of malted grain, commonly used with unmalted grain at the distilleries. I think, also, that the spirit will be much purer than what is got from a mixture of malted and unmalted grain. The defect of which articles consist in their containing too large a proportion of vegeto-animal

matter, more than is necessary, in the processes of germination or malting; and assimilation for forming a saccharine substance or juice. The superabundant proportion of vegeto-animal matter is the reason why malt spirits acquire an *em. pyreumatic flavor* from the tendency which it has to be acted on, by the great heat applied to the bottom of the still.

I have every reason to believe, that the process of assimilation will succeed equally well with potatoe-flour, mixed with malted grain, as when ground barley or other unmalted grain is made use of; and that the spirit will be much purer. If this, on trial, shall prove to be the case, much less wheat and barley will be consumed in the manufacture of spirits: of consequence the price of grain will fall, one of the objects which I have in view, by communicating to the public what is stated in this and in the preceding letter.

I now come to state some of the purposes to which the liquor got from potatoes is applicable. It may be used as a nourishing food, or liquor for cows, so as to make them in the winter-time give a much larger quantity of milk, the milk richer, yielding more and better cream, than the milk of cows fed on cabbages or turnips; and free from the rank disagreeable taste, and smell which milk from thence acquires.

The other use to which it is recommended to apply the liquor got from potatoes, is in the preparation of vegetable fixed alkali, vulgarly called pearl or pot ashes: from which it may be obtained in large quantities. According to the experiments I have made, in a proportion from the produce of a Scots acre of potatoes, rated at 40 bolls, of not less than 2cwt. of fixed alkaline salt. The applying the superabundance of the potatoe-liquor, or more than is requisite to give to cows and cattle, to this last mentioned purpose, will diminish our importations from abroad of an article so indispensably necessary to different branches of manufacture.

Culross Abbey, Feb. 1791.

[LETTER 3, IN OUR NEXT.]

FOR THE GAZETTE OF THE UNITED STATES.

MR. FENNO,

If you will give this a place in your Gazette, you will oblige a constant reader.

WHEN a wicked person is determined to take off another by poison, it is always necessary to the success of the design, that the poison should be concealed by being mixed, with something that is good; I observe that some of your correspondents practice the same art, in administering their political poisons to the people; for if you will examine their compositions with care, you will find in many of them, amongst a number of good sentiments some dangerous ones concealed, tending to corrupt the political sentiments of the people, and poison the very sources of freedom.

One of your correspondents in your Gazette of the 2d ult. affords a most striking proof of the justice of the above assertions; for while he is warmly advocating the great utility, and necessity of diffusing knowledge amongst the people, and of the public opinion's being enlightened and unprejudiced, by misinformation, or misrepresentation—how strenuously does he endeavor, to mislead and deceive the people, and that on a point the most essential to their freedom and happiness, that is, respecting the Constitution and form of government they live under; for it must be evident to any one who will read his observations, that he is endeavoring to establish the opinion, that we must form our judgment of the nature of the constitution by the operations of the government, an opinion than which nothing can be more delusive or dangerous to liberty. The happiness and prosperity of a people under a government, may be a proof of good administration—but is no proof of a good constitution; for it is allowed by all that an absolute monarchy, if there be a wise and good monarch at the head of it, may make a people very happy and prosperous; but would our men of worth and talents endeavor to persuade us from this to adopt that system of government. These zealous informers of mankind, while they propagate this sentiment, mean rather to deceive, than to instruct; to blind, than to enlighten, to misinform, rather than to inform the public mind. They wish us blindly to transfer that confidence which we have in our rulers, to the constitution itself—but

if they hope for this, they must indeed think we want enlightening—for the worst form of government on earth may chance to have good men at the head of it, and while that is the case it may operate well. The Bastille in France would have been an harmless building, had it never been made use of for bad purposes; the pernicious effects of poison are not experienced while it remains corked up in the apothecaries vial, nor can we feel the evils of a bad government, while the dangerous powers of it are not put into operation?

Tho' the above was not designed for my *Opponent*, yet he may take some part of it, for I think it will suit his performance very well: but I cannot take leave of him without congratulating him very sincerely upon the success of my little essay; for it has clearly converted one soul from idolatry, to the acknowledgment of a divine Providence.

A RESPONDENT.

L O N D O N, September 21.

The Spanish edicts respecting foreigners have undergone repeated modifications, and are now reduced to a simple oath of submission to the King and the laws during the residence of the person taking it in Spain.

Their Majesties the Emperor and Empress of Germany made their public entry into Prague on the 3d instant.

The Count d'Artois also arrived at the same time; but not with a view to assist at the ceremony of the coronation, for, accompanied by the Prince of Nassau, he set off the same day to Hanau, on his journey from Pilsnitz to Coblenz.

It was remarked, that during the stay of the Emperor and his Prussian Majesty at Pilsnitz, the Minister of France to the Elector of Saxony appeared neither at that place nor even at Dresden, when the august company came there to assist at the meeting.

On the 27th of August the Count d'Artois had, in the apartment of the King of Prussia, a conversation of two hours and a half with the Emperor and his Prussian Majesty. After this conversation, the Count d'Artois having retired, the two Monarchs continued in conversation for a whole hour.

After the conferences at Pilsnitz, on the evening of the same day, when the company had reached Dresden, there assembled, after supper, in the apartment of the Emperor, the King of Prussia, the Count d'Artois, Field Marshall Count de Lascy, Baron de Speilmann, M. de Calonne, and Major General de Bischofswerder. The conference lasted till half past one o'clock in the morning, when the Emperor continued his route for Bohemia.

By the Registers of Cadiz and Lisbon, the importation of gold and silver from South America, upon an average, is five millions annually. Of this above a million is brought every year into England, in return for the manufactures sent to Spain and Portugal, independent of raw materials, wine, fruit, salt, &c. obtained from these countries. Thus it happens from the superior industry of the British manufacturers, and the spirit of enterprise among the merchants, that the mines of Mexico, Peru, and Brazil, produce more solid advantages to this country, than they do to the Spaniards and Portuguese.

Hostilities between the Moors and Spaniards have already begun by an attack made by the former on Ceuta, which has turned out successfully for the Spanish arms.

The Moors cannonaded the place, and damaged some of the works: but the besieged made a sortie and spiked up the cannon of the enemy.

Prince John, the African Prince, is arrived here from Sierra Leona. His business to this country appears chiefly to be respecting the Slave Trade. He has met with a very cordial reception in this city, and particularly among the gentlemen who wish for the abolition of the Slave Trade.

Yesterday accompanied by Mr. Clarkson and other gentlemen, he dined with Samuel Frederick Milford, Esq. To day he dines with T. Hill, Esq.

His visit here engrosses a great part of our present conversation—He has displayed great disgust against his former traffic in human flesh. Yesterday a gentleman in conversation, observed him pull out his watch, begged to know how much he gave for it in Guinea? "Oh! I give—I give—what I never give more." What might that be Prince John? "Oh! I give a fine boy."