Celebrating 175: George Grey Barnard, Clippings Scrapbook, circa 1887-1921

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[[3 columns, column 1 is cut off along the left margin]]
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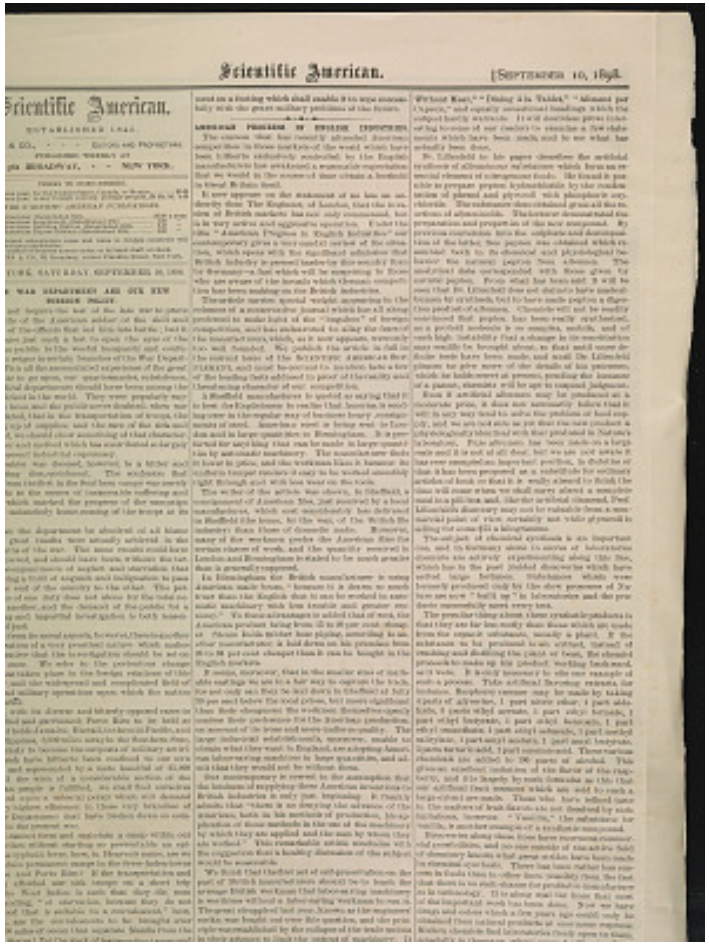
[[THE]] WAR DEPARTMENT AND OUR NEW FOREIGN POLICY.

not require the test of the late war to prove ttle of the American soldier, or the skill and of the officers that led him into battle; bit it uire just a test to open the eyes of the an public to the woeful incapacity and confu- t reigns in certain branches of the War Department With all the accumulated experience of the great ar to go upon, our quartermaster, subsistence, dical departments should have been among the icient in the world. They were popularly sup- be so, and the public never doubted, when war lared, that in the transportation of troops, the up of supplies, and the care of the sick and d, we should show something of that character- er and method which has contributed so largely present industrial supremacy.

public was doomed, however, to a bitter and ting disappointment. The confusion that from the first in the southern camps was merely de to the scenes of inexcusable suffering and which marked the progress of the campaign melancholy home-coming of the troops at its

an the department be absolved of all blame great results were actually achieved in the hths of the war. The same results could have hieved, and should have been, without the term- accompaniments of neglect and starvation that sing a thrill of anguish and indignation to pass e end of the country to the other. the per- ce of one duty does not atone for the total ne- another, and the demand of the public for a ng and impartial investigation is both reason- d just.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from its more aspects, however, there is another ration of a very practical nature which makes rative that the investigation should be set on once. We refer to the portentous change has taken place in the foreign relations of this r, and the widespread and complicated field of nd military operations upon which the nation ered.

, with its diverse and bitterly opposed races to fied and garrisoned; Porto rico to be held as d holds Jamaica; Hawaii, in the mid-Pacific, and lippines, 8,000 miles away in the southern sease, ikely to become the outposts of military activi- hich have hitherto been confined to our own and represented by a mere handful of 25,000 if the wish of a considerable section of the an people is fulfilled, we shall find ourselves ted upon a colonial policy which will demand ry highest efficiency in those very branches of r department that have broken down so com- in the present war.

e cannot form and maintain a camp within our rders without starting so preventable an ip-as typhoid fever, how, in Heaven's name, are we ntain permanent camps in the fever-laden towns pa and Porto Rico? if the transportation and afforded our sick troops on a short trip he West Indies is such that they die, soon anding, "of starvation, because they do not ood that is suitable to a convalescent," how, are the convalescents to be brought over 00 miles of ocean tht separate Manila from the States? Yet the work of transporting troops and [[/column 1]]

[start of column 2]

ment on a footing which shall enable it to cope successfully with the grave military problems of the future.

AMERICAN PROGRESS IN ENGLISH INDUSTRIES.
The success that has recently attended American competition in those markets of the world which have been hitherto exclusively controlled by the English manufacturers has awakened a reasonable expectation that we would in the course of time obtain a foothold in Great Britain itself.

It now appears on the statement of no less an authority than The Engineer, of London, that the invasion of British markets has not only commenced, but is in very active and aggressive operation. Under the title "American Progress in English Industries" our contemporary gives a very candid review of the situation, which opens with the significant admission that British industry is pressed harder by this country than by Germany--a fact which will be surprising to those who are aware of the inroads which German competition has been making on the British industries.

The article carries special weight appearing in the columns of a conservative journal which has all along professed to make light of the "bugaboo" of foreign competition, and has endeavored to allay the fears of the manufacturers, which, as it now appears, were only too well founded. We publish the article in full in the current issue of the SCIENTIFIC AMERICAN SUPPLEMENT, and must be content to mention here a few of the leading facts adduced in proof of the reality and threatening character of our competition.

A Sheffield manufacturer is quoted as saying that it is best for Englishmen to realize that America is sending over in the regular way of

business heavy consignments of steel. American steel is being sent to London and in large quantities to Birmingham. It is preferred for anything that can be made in large quantities by automatic machinery. The manufacturer finds it lower in price, and the workman likes it because its uniform temper renders it easy to be worked smoothly right through and with less wear on the tools.

The writer of the article was shown, in Sheffield, a consignment of American files, just received by a local manufacturer, which cost considerably less delivered in Sheffield (the home, by the way, of the British file industry) than those of domestic make. Moreover, many of the workmen prefer the American files for certain classes of work, and the quantity received in London and Birmingham is stated to be much greater than is generally supposed.

In Birmingham the British manufacturer is using American made brass, "because it is drawn so much truer than the English that it can be worked in automatic machinery with less trouble and greater economy." To these advantages is added that of cost, the American product being from 15 to 20 per cent cheaper. Steam India rubber hose piping, according to another manufacturer, is laid down on his premises from 20 to 25 per cent cheaper than it can be bought in the English markets.

It seems, moreover, that in the smaller sizes of malleable castings we are in a fair way to capture the trade, for not only can they be laid down in Sheffield at fully 30 per cent below the local prices, but (more significant than their cheapness) the workmen themselves openly confess their preference for the American production, on account of its truer and more uniform quality. The large industrial establishments, moreover, unable to obtain what they want in England, are adopting American labor-saving machines in large quantities, and admit that they would not be without them.

Our contemporary is correct in the assumption that the business of supplying these American inventions to British industries is only just beginning. It frankly admits that "there is no denying the advance of the American, both in his methods of production, his application of those methods in the use of the machinery by which they are applied and the men by whom they are worked." This remarkable article concludes with the suggestion that a healthy discussion of the subject would be seasonable.

We think that the first act of self-preservation on the part of British manufacturers should be to teach the average British workman that labor-saving machinery is worthless without a labor-saving workman to run it. The great struggle of last year known as the engineers' strike, was fought out over this question, and the principle was established by the collapse of the trade unions in their attempt to limit the output of machinery. It [[/column 2]]

[begin column 3]

Without Meat," "Dining á la Tablet," "Aliment per Capsule," and equally sensational headings which the subject hardly warrants. It will doubtless prove interesting to some of our readers to examine a few statements which have been made, and to see what has actually been done.

Dr. Lilienfeld in his paper describes the artificial synthesis of albuminous substances which form an essential element of nitrogenous foods. He found it possible to prepare pepton hydrochloride by the condensation of phenol and glycocoll with phosphoric oxychloride. The substance thus obtained gives all the reactions of albuminoids. The lecturer demonstrated the preparation and properties of the new compound. By previous conversion into the sulphate and decomposition of the latter, free pepton was obtained which resembled both in its chemical and physiological behavior the natural pepton from albumen. The analytical data corresponded with those given by natural pepton. From what has been said it will be seen that Dr. Lilienfeld does not claim to have made albumen by synthesis, but to have made pepton a digestion product of albumen. Chemists will not be readily convinced that pepton has been really synthesized, as a proteid molecule is so complex, mobile, and of such high instability that a change in its constitution may readily be brought about, so that until more definite tests have been made, and until Dr. Lilienfeld pleases to give more of the details of his processes, which he holds secret at present, pending the issuance of a patent, chemists will be apt to suspend judgment.

Even if artificial albumen may be produced at a moderate price, it does not necessarily follow that it will in any way tend to solve the problem of food supply, and we are not sure as yet that the new product is physiologically identical with that produced in Nature's laboratory. Pure albumen has been made on a large scale and it is not at all dear, but we are not aware it has ever occupied an important position, in dietetics or that it has been proposed as a substitute for ordinary articles of food; so that it is really absurd to think the time will come when we shall carry about a complete meal in a pill box, and, like the artificial diamond, Prof. Lilienfeld's discovery may not be valuable from a commercial point of view, certainly not while glycocoll is selling for some $75 a kilogramme.

The subject of chemical synthesis is an important one, and in Germany alone in scores of laboratories chemists are actively experimenting along this line, which has in the past yielded discoveries which have netted large fortunes. Substances which were formerly produced only by the slow processes of Nature are now "built up" in laboratories and the products successfully meet every test.

The peculiar thing about these synthetic products is that they are far less costly than those which are made from the organic substance, usually a plant. If the substance to be produced is an extract, instead of crushing and distilling the plant or bean, the chemist proceeds to make up his product working backward, as it were. It is only necessary to cite one example of such a process. Take artificial flavoring extracts, for instance. Raspberry essence may be made by taking 4 parts of glycerine, 1 part nitric ether, 1 part aldehyde, 5 parts ethyl acetate, 1 part ethyl formate, 1 part ethyl oenanthate, 1 part ethyl sebacate, 1 part methyl salicylate, 1 part amyl acetate, 1 part amyl butyrate, 5 parts tartaric acid, 1 part succinic acid. These various chemicals are added to 100 parts of alcohol. This gives an excellent imitation of the flavor of the raspberry, and it is largely by such formulas as this that our artificial fruit essences which are sold to such a large extent are made. Those who have refined taste in the matters of fruit flavors are not deceived by such imitations, however. "Vanillin," the substitute for vanilla, is another example of a synthetic compound.

Discoveries along these lines have enormous commercial possibilities, and no one outside of the active field of chemistry knows what great

strides have been made in chemical synthesis. There has been rather less success in foods than in other lines, possibly from the fact that there is no such chance for profitable manufacture as in technology. It is along coal tar lines that most of the important work has been done. Now we have drugs and colors which a few years ago could only be obtained from natural products at enormous expense. Modern chemists find laboratories freely open to them, especially in Germany where every facility

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