

force, producing an intense acid, they will remain quiescent in the darkness, and for all eternity would form no combination. Again, this same chlorine decomposes water in the sun's rays; but in darkness it has no such power as the effects of so simple a change in the conditions, it is easy to imagine how various must be the differences between the phenomena which occur in the laboratory, and those which the same substances present under the complex conditions of the organism.

The chemist employs vessels of glass, in which he isolates the substances he examines, keeping them free from the interference of other substances, because he knows that, unless such interference be avoided, his experiment is nullified. He knows, for example, that the water which, if poured into a red-ferucible, flies up into his face as steam, will rapidly pass into ice if a little liquid sulphurous acid happen to present. He knows, in short, that the stronger affinity prevents the action of the weaker affinity; and to be sure of his experiment, he must isolate his substances. But in the vital laboratory no such isolation is possible. The organism has no airtight cylinders. Vital processes go on in tissues which, so far from isolating the substance introduced—so far from protecting it against interference, do inevitably interfere, and are themselves involved in the very changes undergone by the substance. Thus, while it is true that an alkali will neutralise an acid out of the organism, we must be cautious in applying such a chemical principle in the administration of drugs, because the alkali stimulates a greater secretion of the gastric acid; so that over and above the amount neutralised, there will be a surplus of acid free, owing to the interference of the tissues in which the process takes place.

Besides the complications which occur from the inevitable interference of the organism itself, and from differences resulting from divergencies in the state of bodies, there are other complications arising from cause peculiarly vital. Chemistry must ever remain incompetent to solve the problems of life, only from this, that in Biology questions of Form are scarcely less important than questions of Composition. Spread out a cell into a layer, and you will find, that in ceasing to be a cell, it has ceased to act as an organ—it has lost all the properties which distinguish it as a cell. Thus, the green cells of the plant decompose carbonic acid. Even the torn leaf will equally fix the carbon and liberate the oxygen, provided its cells are preserved in their integrity of form. But if these cells are crushed, or otherwise injured, this vital property ceases, because the cell alone is capable of manifesting it. Under the influence of yeast, sugar is decomposed into alcohol and carbonic acid; but if the yeast cells be crushed and disorganised, their action on the sugar is said to be quite different: instead of converting it into alcohol and carbonic acid, they convert it into lactic acid. We must acknowledge, then, that when certain combinations of carbon; oxygen, hydrogen, nitrogen, and salts, assume the form of a cell, the properties of these substances become profoundly modified.

Such considerations need all our attention in dealing with so complex a question as that of Food. They show us, what indeed we had last month occasion to see in detail, the radical incompetence of Chemistry to solve any of the questions of Physiology, and urge us to reject, as misdirected labour, all attempts at establishing anything more than chemical facts in the "Chemistry of Food." It was undoubtedly a great discovery which Mulder made in 1838, that the albumen of plants was identical, or nearly so, with the albumen of animals, and consequently that when the ox ate grass, and the lion ate the ox, both derived their nutriment from the same chemical substance. A great discovery; but we cannot agree with Moleschott in thinking this discovery first settled the basis of a science of Food. It was a chemical triumph, fruitful in results to Chemistry; but its physiological bearing has been greatly exaggerated, and has given increased impetus to that chemical investigation of Food, which, as we have said, cannot, in the nature of things, be other than misleading. And although Mulder has shown the inaccuracy of Liebig's notion, that vegetable albumen is identical with the fibrine of the blood and vegetable caseine with the caseine of the blood—although he energetically repudiates as unphilosophical

the idea of a chemical analysis furnishing any true standard of nutritive value, yet he does not seem to have clearly apprehended what the true method of investigation must be: and his criticism of Liebig is mainly negative.

To the chemist there may be little or no difference between pliant and flesh as food; to the physiologist the difference is profound: he sees the lion perishing miserably of inanition in presence of abundant herbage, which to the elephant or buffalo furnishes all that is needful. The ox eats the grass and the tiger eats the ox, may contain little that is not wholly derived from the grass; and the chemist analysing the flesh of both may point out their identity: but the question of Food is not, what are the chemical constituents of different substances? but, What are the substances which will nourish the organism? If the animal will not eat, or, having eaten, cannot assimilate, a certain substance is no food for it, be its chemical composition what it may. We thus see, that *digestibility* is an important element in the estimate of Food: unless the substance can be digested, it cannot be assimilated, cannot nourish; although, perhaps, if assimilated, the substance might have a high value. A pound of beef-steak contains an enormous superiority of tissue-making substance over that contained in a pound of cabbage; yet to the rabbit the cabbage is the superior food, while to the dog the cabbage is no food at all—*Blackwood*.

EUROPEAN SOLDIERS IN INDIA.

A select Committee, of which Mr. EWART is the chairman, has been sitting in the House of Commons for the past fortnight in order to receive evidence upon the subject of the best method of colonizing India so as to develop the resources of the soil and while increasing the agricultural wealth of the country, consolidate its possession and government by the English. The evidence has not been made public yet, but from some occasional summaries that have appeared, and from facts that have oozed out, we gather that the importance of assembling and settling European Soldiers in the Hills has been much dwelt upon. It appears to be admitted by all the Military and Medical Officers who have been consulted that the climate of the Hills is exceedingly well adapted to the constitutions of Englishmen and their children, at an elevation of 2,000 or 3,000 feet above the level of the plains, and that they might work for several hours in the day in the open air without detriment to their health. One Officer suggests that in the event of its being decided to keep a large European force continually in India, it would be very desirable to extend the percentage of married Soldiers in each Regiment, conditionally that the offspring of such marriages should be sent at four years of age to one of the educational asylums in the Hills, that they might attain a healthful maturity, and sound moral instruction. The former of these is impossible in the plains. The mortality among European children is notoriously great after they have attained their sixth year. If they survive, it is as poor sickly, attenuated objects. The hardship to the European parents in parting with their offspring could not be greater than that to which persons of the higher class are subjected who are obliged to send their little ones to England at a very early age. It is argued that, by the process suggested, a large European community would be created out of which a Hill Militia could be formed, or the boys, on attaining a proper age, might be placed on the various railways, agricultural and other companies, or employed by the Government, as overseers, superintendents, &c., a premium being demanded from their private employers to meet, in some measure, the expenses of their education and maintenance. Four hundred children are now maintained at the Lawrence Asylum, and by the last accounts there are nine hundred at Dum-Dum, near Calcutta. From this we may judge of the extent to which the Hills might be populated by Europeans, without taking into consideration the independent settlers, and the Military Pensioners.

As it would not be possible to keep all the European Troops in the Hills, it is very properly suggested that every Regiment should be moved there in its turn for as long a period as may be compatible with the exigencies of the Service, the rest being kept at stations

connected with the Hills by railways. Indeed, the extension of the railway system throughout India, is considered by the witnesses before the Committee a *sine qua non*. Colonisation, by which is understood the embarkation of English capital in India, cannot be carried out unless those who lay out their money on the soil shall have some guarantee that the produce will be carried with facility and rapidity to the coast. The existing roads and means of carriage are upon a ludicrously low scale. Railroads being established, agriculture and commerce must flourish; towns rise up on the line of rail, and Military operations be wonderfully expedited and combined. *U. S. Gazette*.

GAY DECEIVERS.

The departure of a Regiment from one of our colonial possessions to another leads us to reflect upon the effects of a social evil, which seems to have grown up under the every eyes of the authorities, both in church and state, unchecked, because perhaps unheeded. Every one has heard and smiled at the old saying, said of our tars, about a wife in every port! But every one knew what that was worth, and what it meant. The evil now referred to, is a practice which some men indulge in, of "marrying" at every Foreign station where they have the opportunity; purposely, and of malice aforethought intending to abandon the "wife," upon his Regiment being ordered away to another part of the world, again "to love and to ride away!" This arises from the desire on the part of the fair portion of the inhabitants of all Garrison towns to ally themselves with the English Soldiers, in preference to making a match with their own country men, letting alone the singular and almost irresistible attraction found by the softer sex in the red coat. But chiefly, in the facility with which a certain sort of marriages are performed in the colonies. The Soldier cannot persuade the Military Chaplain to tie the knot, without the sanction of the Commanding Officer; but this just suits the purpose; he does not wish to be tied, he has no intention of being fixed, for better or worse; and she is persuaded, on the grounds that the Colonel is very ill natured and won't give him leave, to accompany him to some dissenting minister, who goes through the ceremony, no doubt to the satisfaction of his own conscience, but with no more legal authority, in some instances, nor with more binding force, than if any other layman had spliced them. The route arrives, and with it the hour of parting—the gay deceiver ploughs the main; on fresh matrimonial thoughts intent, while the poor girl finds that she is not only abandoned, but that she is not his wife! (*U. S. Gazette*.)

THE PROPERTY QUALIFICATION OF MEMBERS OF PARLIAMENT.

Finding fault is not so pleasant as some people imagine, and it really gives us pleasure to have occasion to praise any saying or doings of her Majesty's present Ministers. The opportunity is not frequent, and that makes it the more welcome. Mr Walpole has done excellently well in supporting Mr Locke Kings motion for the abolition of the property qualification of members of Parliament, and assigning the best reasons for the right conclusion. He treated with no more respect than it deserves the pretence that the property qualification secures independence, and he condemned it both as abortive of its professed object and as a sham. How will this be relished by the stanch Tories like Mr Bentinck, who apprehend that if the qualification be abolished, beggars will find their way into the House, and be too occupied with their own wants to attend to the business of the nation? There is, however, no very alarming liking for poor men in the country; though the error is sometimes committed of choosing men much worse than simply poor, that is to say deeply in debt—men realizing that condition most dangerous to society, of having the desires of the rich and the means of the poor—*Examiner*.

The Royals, and 31st Regiment at Gibraltar have received their orders, the former direct to Hong Kong, the latter for the Cape, and only wait the arrival of the relieving Corps, the 6th and 7th, to proceed on their voyage.

INDIA.

Despatches received from Bombay state that Sir Edward Lugard relieved Azimghur on the 15th, losing only one officer and five men killed of the 10th Foot, General Grant had marched from Lucknow on Fyzabad.

The Commander-in-Chief, had sent his staff to Cawpore on the 12th, and was to march to Futteghur.

Brigadier Seaton had defeated the rebels near that station; they were totally routed, lost two guns, and all their ammunition. Our loss was slight; they enemy had some 300 killed and wounded.

Sir Hugh Rose, when last heard of, was at Saegur in the Gwalior country.

The Kotah fugitives are endeavouring to make for Calpee. The Rajah of Kotah had been tried for complicity in Major Burton's murder, and, it is believed, had been acquitted.

A small Bombay force has defeated a body of rebels in the Malpooora Mountains; otherwise all is quiet in the Presidency.

MONTENEGRO.

The *Moniteur* of the 18th contains the following;—

"The much-to-be-regretted fighting which has been the consequence of the entry of the Turkish troops into the territory of Grahovo has instigated the governments of the Emperor and of those Powers who are acting in concert with him, to take new steps in the matter.

"The governments of his Majesty the Sultan has now listened to their advice, and on the 14th inst, transmitted to his Majesty's Commissioner, and to the officer in command of the Turkish forces, the formal order to suspend hostilities.

"There is, therefore, every reason to hope that, thanks to the common efforts of the Powers, and to the disposition manifested by the Ottoman government, this affair will shortly be concluded in a peaceful manner."

AMERICAN FLEET.—The United States vessels of war now stationed in the Gulf of Mexico, and under sailing orders for that station, are as follows:

Name of vessel.	Guns.
Steamer Colorado.....	15
Steamer Fulton.....	5
Steamer Wash.....	40
Steamer Water Witch.....	2
Steamer Arctic.....	2
Frigate Savannah.....	50
Sloop Jamestown.....	22
Brig Dolphin.....	4
Steamer Despatch.....	2
Sloop of war Plymouth.....	5
Sloop of war Preble.....	16
Total.....	163

THOMAS MAXWELL,

Shipping, Commission, Insurance, Custom House & Steamboat Agent.

Consignments Solicited,—Remittances prompt.

Canal Basin, and 19 St. Francois Xavier Street.

REFERENCES.

Honbls. J. Ferrier and L. Renaud; William Molson, William Workman, David Torrance, Johnson Thompson, and Joseph Levey Esqrs. Messrs. Chamberlin & Thompson Morland & Co., and Joseph McKay & Bro ther.

Montreal, Feb. 18, 1858.

SAVAGE & LYMAN. IMPORTERS AND MAKERS

OF Watches, Clocks, Jewellery and Silver Ware.

—ALSO,—

ELECTRO-PLATED and Papier Mache Goods, Moderator Lamps, Fine Cutlery, Dressing cases, Military Goods, Telescopes, Spectacles, &c., &c., have REMOVED to the New Stores, Cathedral Block, site of the late Christ Church Cathedral, Notre Dame Street.

Montreal, May 7, 1858.