

## COFFEE GROUNDS.

Not long ago, *Punch* figured that social bore, the chronic fault finder, in the guise of a complaining recruit. "Now then, Pat," says the sergeant testily, "what's the matter now?" "Sure, sor," the undeveloped hero replies, "they ch'ate me out of the thick of me coffee, sor!"

At sight, no complaint could seem more destitute of grounds." To the average reader, none could be more absurdly ludicrous; for every one has learned by bitter experience what it is in the ordinary way not to be cheated of the "thick of the coffee."

Yet, without becoming the champion of cheap restaurants and boarding house madams, it is possible to argue seriously that Pat was the victim of a real wrong, that in losing the substance of the coffee berry he lost what would have been of actual service to him. The chemistry of the question is simple enough.

As commonly made, the infusion of coffee which we drink contains not more than twenty per cent of the substances which compose the berry. Of the remaining eighty parts, which we throw away as "grounds," about thirty-four are woody matter without nutritive value. The rest, or forty-six parts out of the hundred, contain in large proportions nitrogenous matters, fats and mineral salts, demonstrably useful for the nourishment of nerves, muscles and bones. In other words, by our mode of making coffee we lose more than half its available and valuable constituents. Considering the tons of coffee imported every year, this wholesale wastefulness becomes a matter of considerable magnitude, this of course only on the condition that the rejected matter can be used with pleasure and profit. That it can be so used is shown by the practice of the Turks, who make coffee as we do chocolate. The coffee, finely powdered, is drunk with the infusion. In this way all the stimulating qualities of the infusion are secured, with the full aroma and all the nutritious elements of the berry. It is perhaps needless to add that, for use in this way, the coffee must be reduced to an impalpable powder.

To those unaccustomed to oriental coffee, the limpid infusion may seem much to be preferred. As a stimulating drink, it is undoubtedly preferable; but the good qualities of coffee are not exhausted with the infusion; and as a matter of economy, it may be worth while to sacrifice limpidity for nutrition. Besides, as one becomes accustomed to thick chocolate and learns to like it more than the clear infusion of the cocoa bean, so, it is claimed, the taste for *café à l'Orientale* may be acquired, with a corresponding improvement in the beverage.

## EVERYBODY'S CENTENNIAL.

If we did not have a fair degree of confidence in the ability of our people to carry through any great enterprise in a very short space of time, after their interest and enthusiasm in its behalf is once thoroughly aroused, we should feel serious doubts regarding the certainty of the success of the Centennial, in view of the apparent apathy which now exists concerning that undertaking. We believe, however, that the present tendency, though it is perhaps to be deplored, is to procrastinate and to leave to the last few months the accomplishment of work which might be more leisurely if not more completely performed within the two years to come. While therefore the people as a nation should be urged to appreciate the necessity of early preparation for so important an event, it would appear advisable to encourage besides other plans, tending to what may be termed the individual celebration of the anniversary. In other words, while in no wise neglecting a national enterprise such as the proposed exposition, the commemoration of the day by separate States, cities, or towns, professions, trades, or individuals, by the erection of statues and monuments, or by the establishment of useful institutions, would we think, involve an idea which would meet with a universally favorable reception, and at the same time would evoke a more immediate and more direct interest in every class of the community. Such a scheme has already been suggested by Mr. W. S. Ward, of this city, and has encountered no small share of general approval. The plan is well calculated to excite a spirit of emulation and to arouse local attention. "It is proposed," says Mr. Ward, "that each class of artisans, artists, and students, and professors, scientists, and theologians, be requested to undertake the erection or endowment of some fitting memorial of the day, which should at the same time be of service either in educating and amusing the living or honoring the worthy and distinguished dead. Thus the artisans might, through their various organizations and in different localities, erect reading rooms, night schools, etc.: there might be art museums, law, medical, and theological libraries, museums of natural history, zoological and botanical gardens, aquaria, etc."

It is hardly necessary to descant upon the advantages of the scheme, which is at once practical and feasible, and at the same time free from the clog of politics. We would especially commend it to the classes to which the large majority of our readers belong. The mechanics, through their trade societies, might provide training schools for apprentices, establish centennial funds for the poor or unfortunate of their craft, and, in their various abodes, erect halls for meetings or educational uses.

As an instance of what the manufacturers might do, there is the proposed testing laboratory of the Stevens Institute, an establishment which they would find of constant benefit. Let them endow that, and half a dozen similar ones throughout the country. The wealthy in the same calling might found scientific scholarships, erect colleges, or additions to those already in existence. There is the Cambridge Museum, Agassiz's great work, now with an income inade-

quate for its support. The teachers' memorial subscription Plan, it is true, has met with a noble response; but cannot the scientists, and the manufacturers who depend upon the teachings of Science, endow the institution with a centennial gift sufficient to place it above all possibility of future want? And speaking of Agassiz, who out of the many scientific men in this great city will contribute toward erecting a statue of him in Central Park? Are there not enough teachers and students of Science in the metropolis to raise the necessary sum by a very small subscription from each, and thus to provide a noble memorial both of the Centennial and of the great naturalist?

We might continue, and devote columns to suggestions similar to the above, did we believe the same were necessary to interest the people. That such interest has been aroused and has borne fruit is seen in the offer of Mr. Gordon Burnham to place a statue of Daniel Webster in our beautiful park, at his individual expense. Now let some of our millionaires help the people of the city to establish the Museum of Natural History, the corner stone of which has just been laid, or to found a free lending library, or to add to the Metropolitan Museum of Art, or to build the proposed aquarium in Central Park. Or perhaps we have another Peter Cooper among us, who will erect such another grand and enduring monument of whole souled charity, or a second Peabody who will give our working classes cheap and commodious homes and emancipate them from the miseries of the tenement houses.

But it must be remembered that in thus honoring the past to serve the future, it will not do to delay. What is to be done, must be done now. Those first in the field will do the greater service in arousing others to like action. If every one, and the gift is purely a matter of individual choice, will determine to contribute something, whether a subscription of a few pence or a check for thousands, and carry out his determination right speedily, we shall have such a celebration for our hundredth birthday as the world never before saw, and besides shall have conferred upon posterity lasting benefits, of which as a nation we may well be proud.

## THE AMERICAN MUSEUM OF NATURAL HISTORY.

"In this country, we popularize knowledge and give to Science a holiday air; and instead of putting our collection, as some have proposed, into cold catacombs of Science and long, gloomy galleries in which Nature is classified, ticketed, stuffed, and covered with dust, in a manner well adapted to create weariness rather than to attract people to the study of natural objects, it is our purpose to provide such structures as shall furnish agreeable entertainment to the general visitor, while at the same time affording valuable aid to common school education." We quote from the very able address of Mr. Salem H. Wales, read, in the absence of that gentleman, by Mr. Henry G. Stebbins, on the occasion of the recent laying of the corner stone of the Museum of Natural History in this city; and the words, we are confident, will excite the hearty satisfaction not only of our own citizens, but of every advocate of popular science throughout the country. They denote the fact that the days when the people were content to read of the rare and wonderful in Nature, or when even their knowledge of her teachings was confined to the limited horizon of their daily existences and abodes, all else being but as abstractions, are passed. We are no longer satisfied with the claptrap of the showman and the presentation of Nature in connection with the tinsel of the arena; nor yet with the other extreme, as exemplified in the classic collections of the academy, which, buried under a mountain of technical knowledge, speak but to the erudite, and are dumb to the ordinary mind. With the growing taste for Science and her teachings, so palpably apparent in this country during late years, has arisen a desire for closer intimacy with the foundation on which our human learning is based, and in that spirit of inquiry the people demand to see more of Nature in intelligible form.

To gratify this thirst almost as soon as recognized has been and is the object of all thinking men, who, in the wider dissemination of useful and valuable knowledge throughout the masses, see the road to a higher national existence and prosperity. In this great movement the press is the pioneer; then follow the lecturer and individual teacher to expand and impress the ideas suggested; and lastly, as the outgrowth of the interest awakened, appears the museum, in which the public may study, in palpable shape, objects existing formerly but in the imagination. Here in the metropolis, the journalist and the teacher have labored long and faithfully, and it is to their lasting credit that, amid the whirl and confusion of a vast city, more rapid, more active in its business life than any other in the world, temples of Science, now nearly equal in magnitude to, perhaps in time to excel, all elsewhere, are slowly rearing their massive walls. New York, although at present behind some of her sister cities in devotion to scientific culture, will, we believe, eventually lead in the van; and the recent ceremonies initiating the construction of the first of her great permanent museums, to which the presence of the Chief Magistrate of the country lent a dignity and importance which they well merited, are but the presage of future and greater work which will more than cover past deficiencies.

The Museum of Natural History was incorporated by the legislature of this State some five years ago. Up to the present the trustees have been steadily at work securing collections and carrying into practical operation the object of their trust. Many contributions have been received from public spirited citizens, and with means mainly thus raised the extensive collection of mammals, birds, fishes, etc., belonging to the late Prince Maximilian, of Neuwied, the Elli-

ott collection of birds, besides a large part of the celebrated Verreaux and other collections of specimens in natural history, have been purchased, the whole forming a large and sufficient nucleus for future additions. These objects are now temporarily deposited in the former arsenal within the limits of Central Park, a building too small to contain even the aggregate of all now in the possession of the institution. In view of the latter fact, as well as from the appreciation of the need of popular museums in the city, a number of influential citizens petitioned the legislature for a permanent and fitting structure, in response to which a large plot of ground, covering some four city blocks, known as Manhattan Square, and adjoining the Central Park on Eighth avenue, was set aside for the site of a substantial fireproof edifice, to cost \$600,000. The basement of this structure has been completed, and the exterior walls rise, at the present time, to a few feet above. The materials used will be brick, granite, and iron, and the building will be four stories high, with mansard roofs and towers. The ground floor will measure 66 feet by 290 feet.

The proceedings incident to the laying of the corner stone were witnessed by a large gathering of the best known residents of the city. There was an address by the President of the Museum, Mr. Robert L. Stuart, giving the objects of the institution, followed by the speech from which, as above remarked, we extract the initial paragraph of this article. Mr. Stebbins, after reading Mr. Wales' written address, hinted that at some future time the Museum of Natural History, now begun on one side of the Central Park, together with the Lenox Library, nearly finished, and the Metropolitan Museum of Art, soon to be commenced on the other side, might be joined with other buildings to form a national university worthy of the greatest city on the continent. The idea is a lofty one, and, from its magnitude and grandeur, may well invoke serious consideration. Governor John A. Dix then made a few appropriate remarks, and an able and learned address by Professor Joseph Henry, mainly devoted to the subjects of endowments for fostering original research, and the value of popular museums as educators, closed the verbal portion of the ceremony. The stone, under which copies of the city papers, coin, currency, etc., had been deposited, was then lowered, the mortar being previously spread by the President. A promenade concert and inspection of the collections, at the Arsenal where they are deposited, completed the proceedings.

## STEEP GRADIENTS.

We are indebted to Mr. Henry Handyside, of London, for a copy of a small publication entitled as above, containing a description of his newly invented method of surmounting steep railway grades, together with a statement of its merits and other facts relating to railways in general. Mr. Handyside's invention consists in attaching a drum and traction rope to the bottom of the locomotive or tender. When the train reaches the foot of a steep grade, the engine is uncoupled from the train, and runs up the grade, paying out the rope, one end of which is attached to the train. On reaching the summit the locomotive is locked to the track by means of a pair of gripping levers, steam is applied to the drum, the rope wound and the train drawn up. By the use of this simple and cheap attachment, Mr. Handyside shows that any ordinary locomotive will readily draw the heaviest trains up grades of one foot in ten, or 528 feet to the mile, and he therefore proceeds to point a few of the advantages that would result in railway construction by the adoption of his plan of operation, among which are the following:

Saving in first cost of survey. Saving on embankments. Saving on face cuttings. Saving in the length of tunnels. Saving in the length and height of viaducts. Materially shortening all lines which have high land between their extremities. A corresponding saving in length of rails. Any locomotive capable of hauling a given weight up a gradient of say 1 in 50 to be capable of hauling the same load up 1 in 10 or even 1 in 8. A much lighter class of locomotive necessary. A corresponding reduction in weight of rails. Simplicity of construction, inexpensive, and not easily deranged. Less friction and wear and tear on all steep gradients, of say 1 in 10, than on the generality of gradients now in ordinary use. No break of gage necessary, and applicable to any gage. Especially applicable to tramways, which as feeder lines will often penetrate into hilly districts. The carrying power along the whole line not limited by the frequent occurrence of steep gradients.

All of these are important points in favor of the invention which will be readily appreciated by railway engineers and projectors.

An application of steam to the towage of canal boats, somewhat analogous to the foregoing, was patented in this country last year, by G. S. Olin. He uses a light steam tug carrying a rope drum on deck, one end of the rope to be attached to a train of boats. The tug steams rapidly ahead, paying out the rope, then drops pole anchors, and winds up the rope, drawing the boats along at a good speed. The tug then starts ahead, unreels the rope, and, before the boats have lost headway, begins to wind up the rope again. In this way a small tug of light draft, burning but little fuel, may successfully tow several hundred tons of freight through the canals, at the required average velocity of 3 miles per hour. This method appears capable of being worked out into a valuable system of canal navigation. It is worthy of careful attention and encouragement.

A WHALE, 60 feet in length and 10 feet in diameter, was recently captured in the Raritan river, near Perth Amboy, N. J. The fish accidentally ran aground, and was shot by a farmer.