How, in the light of these extracts, *Science* can say, "We can find in Dr. Mills's address no evidence that he has ever given them [Professor Morgan's views] any consideration," it is difficult for me to understand.

Now, Professor Morgan bases his belief in the mind of the lower animals on, 1°, "*the justification by results.* We habitually act towards our four-footed friends as if they were conscious beings, with results which point to the correctness of our hypothesis." 2°. "*The justification based on evolution.* Animals have inherited brain-structures in many respects similar to those possessed by man, and there is no reason for supposing that in them no psychoses run parallel or are identical with their neuroses." Now, the whole tenor of my paper shows that I have adopted a similar line of reasoning.

It will be perceived that up to this point Professor Morgan and myself are very much in accord. The difficulty which Professor Morgan feels in regard to all our knowledge of minds other than our own is one that occurred to me many years ago with great force. The views expressed in the address now under consideration were penned months before I had read Professor Morgan's paper in *Mind;* and it was with much gratification that I found my own opinions, formed independently, shared by so able a thinker. Professor Morgan's position may be logically impregnable; but while there is need for the greatest caution in regard to the 'eject' we form, it seems to me impossible for one, at least, who believes in the *evolution* of mind, to agree with Professor Morgan, "that our ejective inferences concerning their motives, minds, and characters, are so largely liable to error as to render the drawing of them unprofitable for purposes of scientific investigation, except in so far as they may aid the objective study of habit and activity."

Professor Morgan defines *intelligent* actions as "those which are performed by the individual, in virtue of his individuality; in special adaptation to special circumstances." Now, is it *possible* to understand this adaptation at all except by some sort of 'eject'? Professor Morgan's views, if pressed, strike at the root of all psychology as a science. There is great need of such caution, as he and I myself have urged; but the belief is irresistible that the inner life of the lower animals is not totally and radically different from our own.

It seems to me the whole difference between Professor Morgan and those who would, like myself, be a little less conservative as to the 'eject,' is that of mere *quantum;* and, as psychology does not admit of exact weighings and measurings, in the present state of knowledge it cannot be expected that men will agree as to how far we shall be justified in using the ejective method. But of one thing I am fully convinced, that the study of the psychology of the lower animals cannot but improve the highest, whether he considers himself of them or apart from them.

In conclusion, I think it will now appear that *Science*, Professor Morgan, and myself are much more in harmony than was supposed.

T. WESLEY MILLS.

Montreal, April 23.

[We print Dr. Mills's lucid communication with much pleasure. He brings out very clearly the fact which we did not gather from the reading of the address in question, namely, that he has not only read but carefully weighed Professor Morgan's argument. We still think, however, that this fact is not readily inferrible from the original address without the emphasis of the present letter. — ED.]

The relations of the International geological congress to geological workers.

A very wide-spread misapprehension exists of the purposes of the International geological congress which is to hold its fourth session in London next year, as well as of the definite steps it has taken in the way of recommendations to geologists.

In order to throw some light on the matter, the following list has been prepared, which includes all the points upon which the congress has expressed a decided opinion. It ought to be remembered that this congress has not any interest in maintaining this or that theory, but has been organized by geologists, of geologists, and for geologists (to slightly alter Lincoln's noble definition of our republic).

It has no authority but that of the influence of the large number of eminent geologists who either compose it or support its conclusions; yet when one considers the advantages which must result from agreeing upon a common scientific language (written and spoken) whereby widely separated observations may be made comparable, and may be utilized by persons of any nation as soon as they appear in print, to add to their own observations, and thus form base lines from which to triangulate to new generalizations, it does not seem to be a fatal objection to these recommendations either that they have not attained perfection, or that it may be found desirable with later experience to modify them.

It is apparent from the modest number of decided preferences which the congress has yet expressed, that it will not be difficult for any geologist to adapt to its large framework any provisional scheme which he may prefer. It is only those having strongly defined prejudices in antagonism to the broadest generalizations generally accepted among geologists, who will have any difficulty in joining in the acceptance of the recommendations of the congress.

1. The congress voted (solely for the purpose of bringing out the map) that a gray color should be provisionally chosen, of which different tints should be applied to the carboniferous and Permian (*Report of Amer. com.*, p. 20, ¶ 3).
2. Solely for the purpose of printing the European map, the committee on the map was authorized to select a color for the Silurian (Cambrian inclusive), but this choice was not to affect the scientific question connected with the classification at all (*Ibid.*, p. 21, ¶ 1).
3. The eruptive rocks were to be represented by seven tints, ranging from dark to light red (*Ibid.*, p. 21, ¶ 3).
4. The solution of other questions which might arise in the construction of the map were left to the committee on the map (*Ibid.*, p. 21, ¶ 4).
5. The congress decided that 'Archaean' should be the term applied to the group preceding the paleozoic (*Ibid.*, p. 23, ¶ 2).
6. The congress agreed to abandon Protogine as a division of rocks (*Ibid.*, p. 23, ¶ 10). The division of the Cambrian and Silurian was postponed till the congress at London.
7. The upper limit of the Devonian was placed at the base of the carboniferous limestone, that is to say, that the system comprises the psammites

of Condroz and the upper old red (*Ibid.*, p. 26, ¶ 1).

8. "The congress, not wishing to pronounce any view on the scientific question of the proper division of the Permian and carboniferous, preserves the classification as it now is" (*Ibid.*, p. 31, ¶ 4).

As to the tertiary and the eruptive rocks, no action was taken; but, for the purpose of bringing out the map, sufficient discretionary power was lodged with the committee (*Ibid.*, p. 32, ¶¶ 8 and 14).

This is all, and it does not look much like an attempt at usurpation.

As for the colors and symbols used on the map, they are purely tentative, and designed to furnish a test on a sufficiently large scale to enable all defects to be seen and subsequently corrected.

Persifor Frazer.

Philadelphia, May 2.

City feeding of milch-cows.

In *Science* for April 29 is an editorial note on the use of distillery slops in feeding milch-cows, in which you say, "It is well settled that distillery swill in any amount is an unnatural food for milch-cows, and that the milk produced from animals so fed is unwholesome and injurious." Will you please indicate the source of the 'ample evidence' which you claim 'will demonstrate' 'that distillery swill is totally unfit food for milch-cows?' I have tried to keep informed upon this subject, but have failed to find any trustworthy evidence to support your propositions. On the contrary, milk from swill-fed cows is often of better quality — so far as we are able to demonstrate this chemically — than milk from cows poorly pastured. The important point to remember, it seems to me, is that the animals should be well stabled. It is as important to the health of cows that their habitations should be clean, dry, warm, and well ventilated, as it is to human beings. If boards of health would see to this, the swill-milk problem would bother them in a much less degree than it does at present. George H. Rohé.

Baltimore, May 2.

[In the report of E. H. Bartley, M.D., chief chemist of the Brooklyn board of health, made in 1886, occurs the following paragraph: "The very objectionable practice of feeding distillery waste — a practice that three years ago was, during the cold weather, almost universal — has been almost broken up. This result alone is of incalculable benefit to the consumers of milk, as such milk is without doubt a dangerous food for infants, especially in warm weather." In other reports by Dr. Bartley the question has been fully discussed, and the evidence therein contained seems to be conclusive on the unwholesomeness of this food. Some ten years ago the sanitary superintendent of Brooklyn communicated with the health officers of the large western cities where distillery swill was extensively used in the feeding of cows, and received from them statements which satisfied him that this material was entirely unfit for the food of milch-cows. As a result of this investigation into the subject, together with the experience had in Brooklyn and its vicinity, swill-feeding has not been permitted within the jurisdiction of the Brooklyn board of health. The New York state penal code, section 662, provides that a person who keeps a cow for the production of milk, and feeds such cow upon any food that produces impure or unwholesome milk, is guilty of a misdemeanor punishable by fine and imprisonment. Section 669 states that the words 'impure and unwholesome milk' shall include all milk obtained from animals in a diseased or unhealthy condition, or which are fed on distillery waste, usually called 'swill,' or upon any substance in a state of putrefaction or fermentation. The most recent law passed by the New York state legislature touching this question is chapter 183, laws of 1885. This act declares that milk from animals fed on distillery waste is "unclean, unhealthy, impure, and unwholesome." We think that the general opinion of sanitarians is that the feeding of distillery waste to milch-cows should be prohibited rather than encouraged, which will be the effect of the Philadelphia regulation if enforced. — Ed.]

Queries.

1. Archeological and ethnological collections. — I am aware that considerable ethnological work is done by private persons and institutions in America, but the results of their researches are difficult to obtain. The queries of *Science* seem to me an excellent means of getting information which it would be difficult to obtain in any other way. Readers of *Science* will oblige me by informing me of name and place of private and public archeological and ethnological collections, particularly in the western parts of the United States and Canada. — Franz Boas, 47 Lafayette Place, New York.

2. Gaseous enemata in the treatment of consumption. — I desire to obtain results of the new treatment of pulmonary consumption and phthisis by gaseous enemata, for publication in *The polyclinic*. The correct therapeutic value of this method can only be arrived at by the collection of statistics, and I therefore request any one who has administered the gas to communicate the result to me, the formula used, and any special information that may be useful. — Henry Leffmann, editor of *The polyclinic*, P.O. box 791, Philadelphia.

3. Origin of consumption. — I have been much interested in the theory of consumption which has been suggested by Mr. Hambleton, and which was described in *Science*, ix. No. 221, but cannot agree with all his inferences. He says that the natives of America, Africa, and the South Sea Islands were entirely free from consumption till they came into intimate relationship with civilized Europeans, and that the disease then came among them because they adopted the habits of the civilized nations. This seems to me to be a very weak argument. The same is true of syphilis, small-pox, measles, and other diseases, and yet I presume no one would explain their introduction in this way. Is not the fact stated by Mr. Hambleton one of the strongest arguments in support of the contagious theory of consumption? Not until the germ, the bacillus tuberculosis, was introduced, did the disease occur, and then it spread among the natives in the same manner as small-pox and other communicable diseases. That narrow chests and impeded respiratory movements are conditions favorable to the production of consumption no one doubts, but that they can actually produce the disease seems incredible. — Medicus.