be raised as to the specificity of the heat of wetting between soil material and different liquids, are overcome, because water, besides being the most natural and universal reagent, it is the chief natural agent by which soil colloids have been formed. Water is mainly responsible for the formation and physical condition of the soil colloids.

If the heat of wetting phenomena is accepted as a criterion for distinguishing colloids from non-colloids then soil colloids could be defined as any soil material dried at 110° C. that will give heat of wetting in water irrespective of size of particles.

It has been found experimentally that nearly all the soil material classified as clay, and some of the very finest silt, give heat of wetting. This would include soil particles as large as .008 mm. and even larger in some soils. Above the very finest silt there is hardly any measurable heat of wetting. All the organic matter that gives heat of wetting would also be classed as colloids.

According to the above definition of soil colloids then, any soil particles which give heat of wetting, which may be .008 mm. or larger in size would be classified as colloids. Such a definition and classification would be strongly objected to by those who believe that only material of the finest size, such as .000005 mm., should be classed as colloids. But what will these people say when they realize that particles of .008 mm., or larger and having the same composition as those of .000005 mm., also exhibit energy phenomena the same as those of the smaller size, only of a slightly lower degree? Are we not justified then in classifying the larger particles under the same category as the finest? The present classification of soil colloids, which is based upon an arbitrary size of particles, is illogical. A true classification should have for its basis a natural transition point, such as is possessed in the heat of wetting phenomenon, which shows definitely that above a certain size of particles the phenomenon of heat of wetting is not at all manifested.

If the phenomenon of heat of wetting is adopted as a criterion for defining soil colloids, then we not only have what appears to be a logical and correct definition, but also, by the aid of such a definition, we can determine the colloidal content of soils, in less than 15 minutes as compared to more than 10 days by other definitions. This is accomplished by the rather remarkable relationship that has been discovered to exist between the percentage of colloids as determined by the heat of wetting method, and the percentage of material that stays in suspension in a liter of water at the end of fifteen minutes. The heat of wetting method used for determining the colloids is by means of the ratio:

$$\frac{\text{Heat of wetting of soils}}{\text{Heat of wetting of extracted colloids}} \times 100 = \text{per cent. colloids}$$

The extracted soil colloids are obtained by allowing the dispersed soil to stand 24 hours in a beaker 6 inches high and siphoning off the material that stayed in suspension. This method of extracting colloids seems to give the best representative sample of colloids in any soil.

It is firmly believed that the definition of soil colloids as proposed here is a natural and logical definition. It is simple, definite and comprehensive. It will have very few exceptions.

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SCIENTORS APPEAR IN THE SOUTHWEST

A NUMBER of years ago some prosperous real estate operators awakened to the fact that they were being hampered in their chosen field by a motley array of amateurs of a low order. Something needed to be done and that quickly if real estate were to continue as an active field in which men of culture and refinement could profitably perform. Accordingly a few of the more erudite among them formulated an imposing set of platitudinous rules which would not interfere with "business as usual," but which would permit disbarment of unwelcome competitors. These gentlemen also had the wisdom to coin a new word—"realtor"—with which to dignify their new profession. Both the code of ethics and the new name were approved enthusiastically and are still in use, to the great benefit of all members in good standing.

Having seen what wonders a code of ethics accomplished for the barratrous real estate agents of the southwest, the scientists in that region have taken heart, and with true western optimism have adopted unanimously a set of trade rules of their own that should go far toward making the profession respectable—at least in the eyes of the public.

Many of us here in the economical East had no idea that science was in such a bad way in the far West. Of course we had our suspicions, but that investigators were mulcting each other of ideas and jobs, when they were not doing dishonest work for miserably inadequate pay, had never occurred to us. But the rules speak for themselves and show only too clearly just how deplorable everything is. Those interested in scientific slumming will find the reforms duly and dully set forth in SCIENCE[1] all nicely numbered and ab'd for ready reference.

[1] "A Code of Ethics for Scientific Men." SCIENCE, Vol. LXVI, No. 1700, pp. 103–104, July 29, 1927.

When once these rules are put in force, we can rest assured that the southwestern scientist in good standing will be courageously doing fine work, regardless of all sorts of prejudices. He will not be maliciously criticizing his colleagues nor will he have stolen their mental offspring or their means of subsistence. In fact he will be wholly respectable, scientifically speaking. His pay will be adequate and he will enjoy administrative authority of a sort. His publications will be prompt but not too prompt and the public will be in his confidence, for he will have learned that the public pays the bills. He will be conversant with politics, religion and economics, but it will be useless to approach him on literature, history or philosophy, for these have been left to the charlatans as unworthy of ethical scientists.

With all this careful charting of the course of the true scientist the rules committee unfortunately neglected the all-important matter of a distinctive name and appropriate insignia for these new paragons of scientific virtue.

As any realtor could have told them, rules are all right as far as they go, but the important thing is for the paying public to be able to discriminate between those who have a framed copy of the rules and those who have not. The southwestern scientists, having aped the realtors to the extent of adopting a code of ethics, should go the rest of the way and grasp the substance of reform by choosing a name.

The writer, ever anxious to encourage and aid in the salvation of southwestern science suggests "Scientor"[2] as a designation for those very earnest-minded practitioners seeking a way out of the wilderness—or what have you?

J. H. KEMPTON

BUREAU OF PLANT INDUSTRY

A DAYLIGHT METEOR

I READ with great interest the note of William L. Bryant, entitled "A Daylight Meteor," which appeared in the issue of SCIENCE of July 22, 1927. Several years ago, about four o'clock in the afternoon of a beautiful October day, while walking in the open country just north of the city of Stamford, Conn., I chanced to see at an elevation of about 30° above the horizon a veritable "ball of fire" moving in a northerly direction with an exceedingly high velocity. The brilliance of the moving body, which I immediately assumed to be a daylight meteor, was fairly dazzling notwithstanding the fact that the sun was shining brightly in the western sky. During the brief interval that the meteor was visible its trajectory appeared to be nearly horizontal. Unlike the luminous body observed by Mr. Bryant, the daylight meteor which I chanced to see did not leave a train of sparks in its wake. Unfortunately, I was alone at the time when this phenomenon occurred and hence was unable to compare my observations with those of an independent observer.

FREDERICK H. GETMAN

[2] Lest I be accused of transgressing Rule 10 of the southwestern code I hasten to admit having read a series of letters, appearing in *Nature* a year or so ago, in which the question of a proper designation for men of science was discussed. Although I am not conscious that Scientor was among the suggested appellations, it may well have been, and ethically I can claim credit only for appreciating its appropriateness for the group of men in question.

QUOTATIONS

SCIENCE FOR CITIZENSHIP

OF the importance of science in any modern system of education there can here be no question: but there is danger of a certain confusion of thought. The value of the practical application of science was fully brought out during the war; it has been apparent in many of the problems which have arisen since the war; while scientific men have repeatedly and justifiably urged upon the public and the government the fundamental importance of the promotion of scientific research for all departments of the administration and life of the community and the British Empire. This insistence upon the value of science, aided by a confusion between instruction in science and a technical training, has obscured its true function as an element in the training of the average individual in preparation for his duties as a member of the community. Now that science enters so widely and so intimately into every department of life, especially in all questions relating to health and well-being, it is essential that both the individual who ultimately through the vote will control policy, as well as those by whom that policy will be framed and carried out, should have a general knowledge of the scope and aims of science, as well as of scientific method and the mode in which science envisages and attacks its problems. It is, however, beyond question that it should be a general knowledge on broad lines: a specialized training in some highly technical branch of science is neither needed, nor indeed is it desirable. The educationist need feel no alarm.

As a medium of culture, the history of scientific discovery opens up to the imagination vistas of man's endeavor which place it in the front rank of humanistic studies. Through a general familiarity with the