health, provides for the training of public health workers. These institutions, it was stated, saw no reason for continuing their partial support of the Anne Arundel unit when the city health center can serve their purposes more conveniently and without duplication of expenditures. The county's activities will be taken over by the state and county health authorities.

THROUGH the contribution of labor by the Temporary Emergency Relief, it has been possible for the New York State College of Forestry to move its timber-treating laboratory into new quarters and make improvements in the plant. The laboratory is now housed in the building formerly used as the heating plant which gives more room for the assembly and efficient handling of apparatus. The equipment and layout compare favorably with the best experimental plants of this type. The plant is in charge of J. O. Blew, of the Department of Forest Utilization. The equipment in the new laboratory has been designed and assembled to make possible the application of any of the pressure processes for impregnating timbers with preservatives. Two complete pressure cylinders each equipped with working tanks, heating coils, pressure, vacuum and steaming facilities offer wide opportunities for class instruction and research. The cylinder for treating is nine feet in length so that timbers such as cross ties and fence posts may be accommodated. This cylinder is equipped with indicating and recording pressure vacuum and temperature instruments and has a maximum pressure capacity of three hundred pounds per square inch. A small four-foot cylinder is mounted on scales making possible the accurate weighing of its contents at any time during the timber treating process. The smaller cylinder due to its low capacity makes possible the use of a wider variety of treating solutions or preservatives than could be used economically in the larger equipment.

ACCORDING to *Nature*, the inaugural meeting of the newly formed Royal Society of New Zealand (hitherto called the New Zealand Institute) was recently held at Wellington, when the presidential address was delivered by Dr. R. Speight, professor of geology at Canterbury College, Christchurch, New Zealand. Lord Bledisloe, the Governor-General of New Zealand, in a written address to the society, intimated the King's approval of the new designation of the Dominion's chief organization for the promotion of science. The New Zealand Institute was founded in 1867 and the fellowship of the new society is held by forty-eight men of science. In his address, Lord Bledisloe emphasized the importance of science in solving the world's economic and social problems. Only by the further application of science in all its ramifications and a more enlightened recognition of its beneficent potentialities by the world's rulers will effective remedies for current human disorders be found. The New Zealand Institute has achieved a high prestige in a land of immeasurable opportunities for industrial and cultural expansion. It is therefore to be hoped that under its new appellation it will enjoy to an ever-increasing extent the confidence and respect of the community at large.

The Christian Science Monitor reports that following the recent decision to terminate the work of the Empire Marketing Board, the Australian Federal Government has decided to contribute £5,800 to the maintenance of certain institutions in England engaged in research of particular significance to Australia. The British Government has undertaken to maintain several of the research stations involved, but it invited the Dominions to assist in supporting others. Australia will contribute £800 a year toward the "Parasite Zoo" at Farnham Royal, the center from which research in Europe for beneficial parasites was directed. More important to Australia is the low temperature research station at Cambridge, where the fundamental work is the preservation and transport of meat, fruit and other foods exported by Australia.

DISCUSSION

NUCLEAR-PHYSICS SYMPOSIUM A CORRECTION

IT is already clear that numerous interested readers of SCIENCE construe the report of the secretaries of Section B for the recent Berkeley meeting[1] to mean that we have quietly (and hence improperly) withdrawn our previously announced conclusions.[2] After stating correctly that our investigations "had differed in the results yielded from the investigations carried on at the California Institute and at the University of California," the secretaries' report makes no mention whatever of contamination-effects, discussion of which occupied a considerable portion of my Berkeley talk, and states that "Dr. Tuve was able to show that the previous outstanding discrepancies in the findings were almost entirely to be ascribed to the difference in energies of the incident particles utilized in the respective laboratories, together with the measuring techniques used in the identification of the disintegration-products." This statement is erroneous and misleading. Our work at the Department of

[1] SCIENCE, July 20, 1934, p. 49.
[2] Washington meeting, American Physical Society, April, 1934—see *Physical Review*, May 1, 1934.

Terrestrial Magnetism, Carnegie Institution of Washington, part of which was published more than a year ago, has demonstrated the overwhelming importance of various contaminations in experiments of this kind. This work still stands, and the importance of contaminations is not superseded by any discussion of energies of particles or of measuring technique. Resolution of the outstanding discrepancies between our findings and those of the Berkeley investigators came about through their abandonment several months ago of a striking hypothesis with quantitative consequences that they had claimed were demonstrated by their observations, but which they were notified could not be substantiated in Pasadena, in Cambridge nor here in our laboratory, and by their admission at that time and recently in a paper on another subject that spurious effects have been present in their observations, due to various contaminations. Their published reports of sharp voltage-thresholds, which have been sought for but not verified, automatically invalidated any work carried out at voltages below their announced values, and delayed somewhat the examination of these questions. These facts were matters of record in the *Physical Review,* and at Berkeley I avoided this type of emphasis.

At the time of the Berkeley meeting, one of the few remaining respects in which a comparison of our results was possible concerned the identity of the contamination affecting certain of their observations. This is a question of quantitative absolute yields, and, although our experiments have shown that heavy hydrogen (present in these experiments) is a very prolific source of spurious disintegration-effects of this type, the Berkeley investigators believe that carbon was the contamination affecting their results, on the basis of certain findings of the Cambridge investigators. Our yield for carbon (ascribed by us to H^2 contamination) was 25 times greater than the only comparable result (for a "brass-wax" target) published by the workers in Berkeley as taken at the same voltage, and this in turn is greater by a factor of roughly 1,000 than the value for carbon published from Cambridge (which was taken at a different voltage with no existing data which would give a reliable correction for the change in voltage—absolute yields are expressly disclaimed in their paper). I therefore restricted my remarks to carbon, and for these and other quantitative reasons readily agreed that the reality of a small proton-emission from carbon was not disproved by our gas-phase experiments, leaving the question an open one. The latter experiments only set an upper limit to the effect at a given voltage and indicated the necessity for proving that heavy hydrogen was not responsible. This type of proof that a contamination is not responsible for the effect is essential in every case where a positive result is claimed in disintegration-experiments, since contaminations were theoretically predicted to be of enormous importance, and beginning with March, 1933, have been proved responsible for many of the strikingly unexpected results so far reported.

The question of the induced radioactivity of carbon under proton-bombardment, in which our findings differed from those of the investigators at the California Institute, is a matter of apparently real differences in our experimental results, with contradictory indications, as well as of voltages and of technique, all of which I remarked in my talk. Strenuous efforts are being made in both laboratories to resolve this difficulty.

The conclusion expressed in the above-mentioned secretaries' report, apparently as a consequence of my paper, that all results to date can be fitted together to make a "consistent picture," that they are "not contradictory in the least, but rather supplementary," is an optimistic one for which I am not responsible, and to which I do not subscribe. The whole point of my paper, devoted to illustrating some of the difficulties encountered in this type of work, was that because of these quantitative and qualitative differences in results, and the different conditions under which they have been obtained, very few conclusions can yet be accepted with confidence in this new field.

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TRAVERTINE DEPOSITS NEAR LEXINGTON, VIRGINIA

LARGE travertine deposits near Lexington, Virginia, are found only in association with rapids and falls, their localization being largely due to algae and mosses. The most important travertine builder was the moss *Philonotis calcarea.* It grows outward from the face of the falls, its compact foliage on the surface, smothering the basal foliage from which it grew, but nature forestalls the collapse that would ensue by reenforcing the base with a sheath of crystalline calcite. The moss thriving only in the foamy water at the top and front of the falls, the travertine deposit starts on the face of the falls and grows vertically as well as down-stream. By this process of accretion some falls were raised 25 feet above bedrock and their front was pushed more than 100 feet down-stream. The living foliage shows no calcite, excepting a little in the basal part. Most of the calcite gathers on the dead tissue in tiny, very fine-grained nodules.

Flat beds of travertine, with many imprints of