contribution towards the cost of equipment of the new department of geology.

Harold Ernest Burtt has been appointed instructor in psychology at Harvard University.

The first incumbent of the newly founded chair of phthisiology at the University of Edinburgh is Sir Robert W. Philip, professor of clinical medicine, said to be the founder of the first antituberculosis dispensary.

DISCUSSION AND CORRESPONDENCE

EVIDENCE FROM ALASKA OF THE UNITY OF THE PLEISTOCENE GLACIAL PERIOD

To the Editor of Science: In an article entitled "Frozen Muck in the Klondike District, Yukon Territory, Canada," by J. B. Tyrrell, of the Canadian Survey, published in the *Transactions of the Royal Society of Canada,* Series III., 1917, Volume XI., pages 39–46, there is a remarkable collection of facts seeming to prove the unity and continuity of the Pleistocene Glacial Period. It is true that there was no extension of moving glacial ice over the Klondike region, but there is abundant evidence of a change of climatic conditions corresponding to that of the generally glaciated region of the continent. During the warmer climate of the Tertiary period the streams had built up extensive gravel deposits over the bottoms of many of the valleys. For a long period "the climate had been temperate, or at all events, not arctic, and large numbers of animals, such as bison, mammoth, elk, moose, horse, etc., had roamed over the country.

Suddenly, a new set of climatic conditions began to prevail. The Glacial Period began, and, while the vast sheets of ice which covered so large a portion of Canada during that Period never extended over the Klondike district, the cold undoubtedly became very intense, and as a consequence the ground became permanently frozen. With the freezing of the soil and of the underlying rock the processes of oxidation and disintegration of this rock were no longer possible, and the small tributary brooks which flowed over the frozen land into the main streams were no longer able to collect and wash down sand and gravel from it. The supply of sand and gravel having been thus cut off, it could no longer be distributed by the main streams over the alluvial flats as it had been distributed before, but nevertheless the sand and gravel flats themselves were not worn away by the streams as they would have been under normal conditions, for they were cemented into very resistant masses by a matrix of ice.

The sand and gravel so deposited and preserved on the alluvial flats is now overlain by a deposit of vegetable material locally known as "muck," which may have a thickness of ten, twenty, thirty, or even as much as one hundred feet. The plane of separation between the gravel and "muck" is usually sharp and well defined, though occasionally little layers of "muck" may be found included in the upper beds of the gravel. The general impression that a person gets from a study of the deposits, however, is that of a sudden change from gravel to "muck" (pp. 40, 41).

The significant thing is that this layer of muck whose formation started in a period of great cold in early glacial times, has gone on continuously and uninterruptedly accumulating down to the present time. The bones of the extinct animals above enumerated "are found in large numbers in the underlying gravels and in the bottom of the muck; but the climate would seem to have soon become too inhospitable for them, and their remains are very scarce in the higher portions of the muck and finally disappear from it altogether" (p. 45). Dr. Tyrrell believes "that a critical study of the plant remains from the various layers of the muck might furnish much interesting information as to the character and climate of that portion of the world, in which there has been a continuous formation of vegetable beds from the beginning of the Glacial Period down to the present" (p. 46). The bearing of all this upon the unity of the Pleistocene Glacial Period is too evident to need statement.

G. Frederick Wright

Oberlin,

DRAWINGS ON LANTERN SLIDES

It often occurs that one wishes to interpose diagrams or line drawings in a classroom lecture which is being illustrated by lantern slides, and one has to either forego the point entirely, or turn on the lights and use a chart, or put the necessary diagram or

drawing on the blackboard. In the first case the good teacher usually feels there is a failure of full elucidation on his part, while in the second case valuable time is lost, and a break is made in the lecture.

To overcome this difficulty the writer recently devised a simple plan to make line drawings and diagrams on glass slides to be used as regular lantern sides. Clean lantern slide covers are taken, and on them the objects desired are drawn with a "china marking pencil." One must not lift the pencil from the glass while drawing, or else use great care at the points where the pencil is lifted and the same line then continued. It is not necessary to make an absolutely black line, as any mark shows plainly. A few trials will show how sharp one's pencil should be for the best results. As wide a margin must be left as in making ordinary slides. If a mistake is made it can be erased with the finger or a blunt piece of wood. The mark does not rub out too easily, consequently the slides can be used without the further trouble of covering if they are to be of a temporary nature. However, they can be fixed permanently by finishing them in the usual way with a clean cover slip and bound with tape.

As the "china marking pencils" come in at least three colors, black, blue and red, and as their cost is slight (15 cents) and the whole process is simple and short, their use in this way is practicable and inexpensive. The pencils can be purchased at any good stationery store.

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A SUGGESTION FOR MAKING THIN SECTIONS FOR BRYOZOAN SLIDES

IN making thin sections for bryozoan slides it has been noted by the writer that many of them have a frosty, crystalline appearance when they have been ground to the desired thickness. In the process of grinding, numerous small particles of calcium carbonate are forced into the openings, obscuring the structure. As these fine particles have relatively large surface exposure, they will dissolve much more readily than the rest of the fossil when treated with dilute hydrochloric acid. It is best to let the acid act for only a very short time and then wash it off quickly, repeating the treatment several times, if necessary, until the structure stands out clearly.

CHARLES E. DECKER
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A NATIONAL FLORAL EMBLEM

Now that America is engaged in the grim business of war for the defense of democracy, we are tempted in our zeal to forget the things which are purely sentimental because of the pressing needs of the things practical.

But with the dreaded arrival of casualty lists, the great heart of the nation has been deeply stirred, the grief of America stands in yearning need of sentiment. And so sentiment—pure sentiment—sponsors the thought that the American people have a real need for a recognized national floral emblem.

When the cherished day of peace arrives, how shall we greet our boys returning from the front? With flowers? Of course, but how with flowers? Goldenrods? Daisies? Violets? Yes, with all of these, but national sentiments might well be crystallized on a single national symbolic flower.

The rose of old England, the Fleur-de-lis of France, the thistle of Scotland, the chrysanthemum of Japan; all these remind us that America at present does not possess a floral emblem to epitomize the things that are noble and good in the nation.

Why should not all that is best in the American nation be symbolized in a flower as a national emblem? The very mention of such a symbol should stir the depths of patriotism in the breast of every true American. Surely Germany is the loser by not having a well-known floral emblem. In Europe, America has been criticized for being too material—would not the adoption of a national flower be an esthetic step in the right direction?

If, then, it is agreed that America will be benefited by possessing a recognized national floral emblem, the selection of a suitable flower is a difficult task indeed. The flora of the country is so rich that the choice