"Professor Bauer, the distinguished chemist of Vienna, once said: 'Give me a student who has been taught his Latin grammar and I will answer for his chemistry.'" Let the writer try this test on his own class. See if those who have studied their Latin the most diligently are not as a rule good in their chemistry.

Moreover, the author is himself under a greater debt to the classics than he realizes. His article abounds in Latin English and in some English Latin. Witness, he says *formulae*, when he might have gotten further from the despised subject by saying *formulas*. How can the author be a really up-to-date chemist without a knowledge of French and German? I have been told that much which a chemist should know of French and German research is not found in translation.

Through enthusiasm for one's own subject, one must not fall into the error of overlooking the worth of another's. All are good. Some appeal to one, some to another. The public schools should make their appeal to all. Therefore, may chemistry flourish, but permit geometry and language to occupy their rightful place. Live and let live.

HINTS FOR COLLECTING BOTANICAL AND ZOOLOGICAL MATERIAL.

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Botanical and zoological material can easily be collected and kept on hand for use by schools in any locality, rural and metropolitan alike, such collections making teacher and class independent of season, imperfect illustrations, and distant supply houses. This being the case, less stress should be laid on so-called museum specimens, and greater stress on material available at the threshold of almost every school. Many additions can be made by individual teachers to the suggestions given below.

BOTANICAL MATERIAL.

Dry fruits et al. as follows: ash, elm, milkweed, dandelion, maple (several forms), ailanthus, catalpa, cucumber tree, chestnut burrs, horse-chestnut burrs; pine cones and those of other evergreens; acorns; various cultivated forms as morning-glory, balsam, poppy, nasturtium, etc.; seeds of all kinds from several successive years (label according to year collected, as 1915-1916-1917-1918), excellent for trying viability tests; desiccated twigs to show morphology of tendrils, spines, thorns,

etc., dried specimens of all unusual conditions in nature, such as cross sections to show knots in wood, grafted stems, characteristics of bark of all available trees, etc.; cornstalks.¹

Fleshy fruits et al. (these may be preserved in four per cent formalin as a rule): thorn apples, osage orange, bean pods and pea pods, rose hips, cucumbers whole and in section, boiled corn cobs for extracting easily the embryo from the "seed"; stages in the development of the apple fruit, for example, from the bud to the blossom and the very small fruit, then various stages in the development of the fruit, and sections of the mature fruit; cultivated fruits of all kinds, such as cherry, plum, peach, currant, strawberry, etc.; specimens of seedlings in various stages of development; fleshy roots, whole and in section.

Rare specimens (if fleshy, preserved in formalin): pitcher plants; petals of the water lily to show the transition from petal to stamen structures; pistils of the double cherry blossom to show the leaf-like character of the pistil; sprouted potato showing the development of small potatoes from the parent; etc.

ZOOLOGICAL MATERIAL.

Special equipment, of course, is necessary to take care of living material in the classroom. For preserved material the hints for collecting botanical materials will suggest what sort of zoological specimens to collect (four per cent formalin may be used as a rule for preserving proper zoological material).

Several stages in the life of the grasshopper, showing incomplete metamorphosis; abundance of crayfish material, showing varying sizes, also female with eggs attached; dried material, showing metamorphosis of various kinds of insects; insect collections, showing mimicry, protective resemblance, etc.; earthworms; habitations of various hymenoptera, made of paper, mud, leaf, and stem tissues; cocoons of various kinds; collections of birds' eggs and stuffed birds (and other animals) obtained under proper circumstances, etc., etc.

METHODS OF PRESERVATION.

Mice, insects, and dust are factors destructive of biological material but are easily guarded against. Ordinary preserving jars are cheap, transparent, easily stored, and mouse-and-dust proof. No rubber rings should be used for dry material, as a circulation of air and desiccation is desirable. Material preserved in formalin should be made air-tight to guard against evaporation.

¹Many specimens may be preserved both in a dry and a fleshy condition.