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WHAT IS SOCIAL SCIENCE?

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LIKE many another English word, science is used in a variety of senses from knowledge or comprehension to art or skill and its meaning in any context must be judged from that context. The usual meaning seems to be knowledge gained by systematic observation or knowledge coordinated and systematized, *i.e.*, science, referring whether to method of gaining knowledge or to a body of knowledge, implies something more than sporadic activity. There is often contrast between science and art as may be illustrated by a quotation from Ruskin ("The Eagle's Nest"):

> In science you must not talk before you know. In art you must not talk before you do. In literature you must not talk before you think. . . . Science—the knowledge of things, whether Ideal or Substantial. Art—the modification of Substantial things by our Substantial Power. Literature—the modification of Ideal things by our Ideal Power.

It will be noted that Ruskin does not here emphasize the systematic nature of that knowledge which is science, but inasmuch as without a certain degree of continuity there could hardly be art or literature I take it that the passage must imply the same of science.[1]

[1] Whether it is justifiable to place this interpretation on Ruskin's words may be questioned. Certainly his primary definition of science is sheer factual knowledge. "It is not the arrangement of new systems, nor the discovery of new facts, which constitutes a man of science; but the submission to an eternal system; and the proper grasp of the facts already known." (Art. 37) "We are so much, by the chances of our time, accustomed to think of science as a process of discovery, that I am sure some of you must have been gravely disconcerted by my requesting, and will to-day be more disconcerted by my firmly recommending, you to use the word, and reserve the

which the specimens finally find their way. Frequently, too, such scattered and obscure sources of vital information become lost, and occasionally the place names used seem never to have existed except in the mind of the collector.

Since the method here described leads to precision in floristic studies and involves only slight additional cost in time and money over the conventional method of labeling, it should find ready use not only in the field of botany but in any field where precision in recording the source locality of natural objects is of importance.

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A SPATULATE PIPETTE SERVING AS SECTION LIFTER

DOUBTLESS one of the most distressing manipulations in the histo-pathological laboratory is the handling of frozen sections of tissue or of transferring celloidin sections from fluid to fluid. In the first case, a partial or total loss of a section is the rule rather than the exception. One reason for such high casualty is the want of suitable tissue carriers. The most commonly used carrier is a glass rod, but to this the tissue frequently adheres so completely that destruction of the section during the attempt to loosen it and spread it out is unavoidable. Some workers employ a spatula, a micro-slide or a brush, and though such appear to be preferable to the glass rod, considerable loss of sections is admitted.

A former associate, Dr. Baeslack (d. 1929), at the University of Würzburg, manipulated frozen sections with pipettes made from glass tubing of various sizes. In this way a section remains suspended in its liquid medium (water, alcohol, dye, etc.) while being transferred, and consequently the possibility of the loss of the section is reduced to a minimum, since it is not touched mechanically until it is placed on the slide. But a tube with a round lumen encourages the frequent twisting and folding of the section, making it difficult to flatten it. The writer overcame this disadvantage by making a flattened pipette, as illustrated in Fig. 1. The device is published here at the suggestion of Professor Kampmeier, who was impressed by its simplicity and effectiveness. Its usefulness as a section "lifter" or "carrier" has been demonstrated sufficiently well in our laboratory to bring it to the attention of other workers.

To make a spatulate pipette, one end of a thin-walled glass tubing with an inner diameter of about 7 mm (approx. ¼ inch) is heated in the flame to plasticity and placed between asbestos-covered jaws of a pair of pliers. To prevent cracking of the glass tube as the jaws are gently squeezed down on it, the asbestos must of course also be hot. With a little practice a uniformly flat chamber is made from suitable glass tubing, the size of the opening or slit being varied according to need; a slit 1 cm long and 2 mm in height

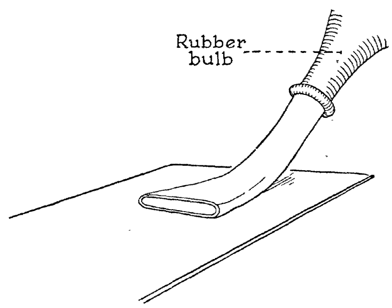

FIG. 1.

or width is generally adequate. The tube is then slightly bent, as shown in Fig. 1, to make it handier. A rubber bulb, as used on eye-droppers, is attached to the round end of the tube to complete the instrument. It is imperative that the pipette is always clean to prevent the sticking of the section to the glass as it is drawn into the lumen. For similar reasons any sharp edges at this end of the pipette must be rounded in the flame.

It is hardly necessary to add directions regarding the use of the spatulate pipette, so obvious are its advantages. When transferring a frozen section, for example, to a slide, it is allowed to be drawn into the slit of the pipette slowly and in a flattened condition with the fluid in which it is suspended. The middle of the slide is then flooded with a little additional fluid and the section expelled under gentle pressure so that it floats on the pool on the slide. The excess fluid is drained or sucked off with the pipette, letting the section settle flat on the slide. Should the section be crumpled or folded in part, fluid is rushed under that part which needs correction, meanwhile tilting the slide downward in the same direction; this maneuver prevents the section from separating from the slide.

EMIL MARO SCHLEICHER
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BOOKS RECEIVED

Annual Report of the Rockefeller Foundation, 1939. Pp. 507. Illustrated. The Foundation, New York.

BABOR, JOSEPH A. and ALEXANDER LEHRMAN. *General College Chemistry.* Pp. xiv + 659. 150 figures. $3.75. *Laboratory Manual for General College Chemistry.* Pp. 289. 46 figures. Crowell.

COMSTOCK, JOHN H. *An Introduction to Entomology.* Ninth edition. Pp. xix + 1064. 1228 figures. Comstock Publishing Company. $5.00.

HOLMAN, RICHARD M. and WILFRED W. ROBBINS. *Elements of Botany.* Third edition. Pp. xi + 392. 277 figures. Wiley. $2.75.

NECKERS, J. W., T. W. ABBOTT and K. A. VAN LENTE. *Experimental General Chemistry.* Pp. vi + 282. 22 figures. Crowell. $1.75.