

SHHH! METALLURGY IS "BORROWING" THE MASS SPEC FROM PHYS CHEM

This could happen at your laboratory. Bendix makes the time-of-flight mass spectrometer to do a multitude of research and analytical jobs. It's compact, easy to move, a breeze to maintain, and about as versatile as the user's imagination. Five basic inlet systems help to make this versatility possible: the molecular leak inlet, the fast reaction inlet, the hot filament inlet, the Knudsen cell, and the vapor phase chromatograph. To be more specific, the Bendix® mass spec will do almost any routine analytical problem, plus all of the following:

- Monitoring chromatograph output
- Determination of vapor pressures Determination of heats of vaporization
- Free radical studies
- Solids analysis
- Thermal decomposition
- Shock tube research Appearance potential measurements Fast reaction studies

- Photoionization studies Molecular structure studies Photochemical reaction studies
- Negative ion analysis Pilot plant studies
- Combustion analysis
- Plasma jet analysis Rocket jet analysis
- Ion-molecule reactions

Here's versatility that makes a mass spec really pay off. Isn't this what you want in your lab? Write Dept. C-4 at 3130 Wasson Road, Cincinnati 8, Ohio.

Cincinnati Division



Letters

(Continued from page 12)

a man to the moon or Mars, our intellectual capacity gets stratified in trying to conceive the final implications. I submit that, in all fairness, the vast intellectual, scientific, and technical talent possessed by the American nation should be channelized to carry out practical and down-to-earth research of a kind that would alleviate human suffering and misery and make life on earth-rather than on the moon or Mars-more pleasant and happy, not only for the people of the Western nations but for the world at large. The basic object of research would only then be fully justified.

S. K. GHASWALA 97 Queen's Road, Bombay, India

Applied Anthropology

While the review of my book Toward a Science of Mankind (1) by Richard B. Woodbury which appeared in Science (2) is friendly and sincere, it so misrepresents both the aims and the thesis of the book as to prejudice the reader not only against it but also against what seems to me to be a very promising recent development in the scientific study of man. I would therefore like to correct some misunderstandings which emerge from the review and at the same time to present very briefly an idea of the purpose of the book.

In the first place, Toward a Science of Mankind was written partly to try to dispel the notion, widely current among both laymen and social scientists, including anthropologists, that applied anthropology, or indeed applied social science in general, need necessarily involve the manipulation of human beings or groups toward preconceived goals superimposed by administrative agents (not the anthropologist himself as naively stated in the review) from without the group, whether such agents be governors, business executives, or military dictators. Although the role of the human-relations engineer, who commonly places his administrator-employer in a position of "arbiter of mankind's goals," is discussed at some length (1. pp. 17-22), one of the main contributions of the book, I believe, is the fact that in it an alternative role for the anthropologist concerned with applica-



The REICHERT "FLUOREX" is the most convenient, efficient and safest ultraviolet light source since its ingenious design is based on nearly fifty years of experience of Reichert in this field.

Note these advantages: The completely enclosed light path is a safeguard against exposure to stray UV light \star Compensating Power Packs prolong the life of Mercury Arc Burner \star AC input DC output power packs

increase light intensity \star Transitions to routine microscopy are accomplished in seconds \star FLUOREX and microscope are quickly aligned to form one integral unit \star Complete instrumentation for the fluorescentantibody technique.

antibody technique. Write for literature or request a demonstration of the "FLUOREX" unit and other REICHERT instruments for fluorescence microscopy.

WILLIAM J. HACKER & CO., INC. P. O. Box 646 / West Caldwell, N. J.



tions is described-namely, multidiscipline community analysis and socialaction research (1, pp. 52-71, 223-229). This alternative role aims, one might say, to foster a group situation wherein the wisdom of the community's unconscious and conscious energy may be harnessed by its human components for the benefit of the local community, the nation, and the world. The main relevant point about "social-action research" in this context is that the community or group engaging in this type of social-planning endeavor defines its own practical problems and "arbitrates" its own goals, and the group also solicits and hires the anthropologist. The latter's main role becomes that of aiding the group to solve its practical problem by means of all its available resources, including his own professional and technical skills and know-how. In no way does the social-action researcher determine on or "arbitrate" goals for his employers-namely, the group with a problem.

Here should be mentioned another misstatement in the review, illustrating a belief commonly held by laymen and even anthropologists: "In general, the proposals [of applied anthropologists] have met with skepticism from administrators." While such a statement might have been partially correct 25 years ago when applied anthropology was in its infancy in the United States, it is most misleading today. The fact that there are many more well-paid jobs in applied anthropology than there are qualified, first-class anthropologists to fill them may be noted in this connection. The basic reason applied anthropology has burgeoned in recent years is, I believe, this: Due to the built-in clinical test which all findings undergo as soon as they are applied, the failures as well as the successes of the scientist concerned with applications are highlighted. This situation has given impetus to the development by anthropologists of a clinical method of predicting group behavior under certain circumstances-a method whereby such predictions, necessary in helping to resolve practical problems in a given situation, may be immediately tested for degree and kind of accuracy. Thus, applied anthropology has become the testing ground for anthropological theory and generalizations, a relatively recent and exceedingly significant development for all the disciplines that deal with man.

Limitations of space permit only one final point. The basic purpose of Toward a Science of Mankind was to formulate a heuristic, unified theory of mankind, adequate to the needs of a mature science of mankind, which might be applied successfully toward the solution of practical community problems, and to outline a multidiscipline methodology whereby, through fundamental research, anthropologists might test the theory. The book attempts throughout to dispel another stereotype regarding applied anthropology, also voiced in the review-that successful applied anthropology can be and is pursued at the expense of fundamental research. On the contrary, successful applied anthropology requires far greater theoretical and methodological sophistication on the part of its practitioners than academic or "pure" research ever has. Hence, this field of specialization, like medicine, is not for amateurs.

LAURA THOMPSON

Department of Anthropology, Southern Illinois University, Carbondale

References

 L. Thompson, Toward a Science of Mankind (McGraw Hill, New York, 1961).
R. B. Woodbury, Science 134, 1516 (1961).

Laura Thompson's letter is a helpful supplement to her book, expressing more concisely and clearly some of her viewpoints.

The question of the degree to which administrators have accepted applied anthropology or "social-action research" is, of course, difficult to define. My impression of their skepticism was strongly reinforced by some of the comments at the closing plenary session of the American Anthropological Association's 60th annual meeting in Philadelphia, in November 1961. It was made embarrassingly clear that anthropologists have frequently failed to win the confidence or respect of administrators of overseas programs. There have also been notable successes, of which Thompson unfortunately discusses very few. Those who are interested can find numerous case histories candidly evaluated in recent issues of Human Organization. For anyone hopeful that applied anthropology will avoid excessive claims and will apply rigorous tests to each new approach, in order to merit increasing support and gain wider applications, Laura Thompson's book will remain disappointing.

RICHARD B. WOODBURY Department of Anthropology, University of Arizona, Tucson

6 APRIL 1962

LOW TEMPERATURE BATHS AND CIRCULATORS

Lauda low temperature baths and circulators are available for controlled cooling and heat removal applications between +40 and -85°C. Various models, sizes and cooling capacities are offered.

Both the design of the direct coil cooling Ultra Kryomats, featuring maximum heat removal at temperature constancies of ± 0.5 °C, and the design of the Ultra Kryostats, featuring temperature constancies to ± 0.02 °C, are exclusive and singular in this field. For example, rates of cooling are much faster than previously offered — from ± 20 to -60 °C in just 35 minutes — due entirely to newly engineered mechanical refrigeration design. Yet, compressors available either as single units or as cascade systems are fully protected.

Multiple bath units covering a wide range of temperatures $(-60 \text{ to } +300^{\circ}\text{C})$ for thermal shock treatment, thermometer calibration, etc. can be delivered in a single console.

Insulation, bath materials and pumps have been selected and designed specifically for this application under continuous operation at temperatures to -110° C. Pumps are available in two versions for operation under pressure/suction control or a combination of pressure and suction simultaneously.

For less demanding requirements, four table model designs may be used.

