

Botany, Ohio Wesleyan Univ., Delaware, Ohio.)

11. Vitamin B-12 Symp., New York, N.Y. (Miss J. Watson, 451 Clarkson Ave., Brooklyn 3, N.Y.)

11-12. Eastern Psychological Assoc., annual, Philadelphia, Pa. (G. Lane, Dept. of Psychology, University of Delaware, Newark.)

11-18. Horticultural Cong., 15th internatl., Nice, France. (Secretariat General, 84, rue de Grenelle, Paris 7<sup>e</sup>, France.)

13-14. American Soc. for Artificial Internal Organs, Philadelphia, Pa. (G. Schreiner, Georgetown Univ. Hospital, Washington 7.)

13-18. American Chemical Soc., 133rd, San Francisco, Calif. (R. M. Warren, ACS, 1155 16 St., NW, Washington 6.)

13-19. Federation of American Societies for Experimental Biology, annual, Philadelphia, Pa. (M. O. Lee, FASEB, 9650 Wisconsin Ave., Bethesda 14, Md.)

14-16. Automatic Techniques Conf., Detroit, Mich. (J. E. Eiselein, RCA, Bldg. 10-7, Camden 2, N.J.)

14-18. American Assoc. of Immunologists, annual, Philadelphia, Pa. (F. S. Cheever, Graduate School of Public Health, Univ. of Pittsburgh, Pittsburgh 13, Pa.)

14-18. American Soc. for Experimental Biology, annual, Philadelphia, Pa. (J. F. A. McManus, Univ. of Alabama Medical Center, Birmingham.)

14-18. American Soc. of Biological Chemists, annual, Philadelphia, Pa. (P. Handler, Dept. of Biochemistry, Duke Univ. School of Medicine, Durham, N.C.)

15-17. Gas Measurement, 34th annual

conf., Norman, Okla. (M. L. Powers, Extension Div., Univ. of Oklahoma, Norman.)

17-19. Association of Southeastern Biologists, annual, Tallahassee, Fla. (J. C. Dickinson, Jr., Dept. of Biology, Univ. of Florida, Gainesville.)

18. Iowa Acad. of Science, annual, Des Moines. (C. H. Lindahl, Dept. of Mathematics, Iowa State College, Ames.)

18-19. Arkansas Acad. of Science, annual, Little Rock. (L. F. Bailey, Botany Dept., Univ. of Arkansas, Fayetteville.)

19-21. American College of Apothecaries, Los Angeles, Calif. (R. E. Abrams, Hamilton Court, 39th and Chestnut St., Philadelphia, Pa.)

20-22. American Assoc. of Colleges of Pharmacy, annual, Los Angeles, Calif. (G. L. Webster, College of Pharmacy, Univ. of Illinois, 808 S. Wood St., Chicago 12.)

20-23. Chemical Engineering Conf., Canada-United States, Montreal, Quebec. (H. R. L. Streight, DuPont Company of Canada, P.O. Box 660, Montreal.)

21-23. American Oil Chemists' Soc., Memphis, Tenn. (Mrs. L. R. Hawkins, AOCS, 35 E. Wacker Dr., Chicago 1, Ill.)

21-28. American Industrial Hygiene Assoc., annual, Atlantic City, N.J. (G. D. Clayton, George D. Clayton and Associates, 14125 Prevost, Detroit 27, Mich.)

22-24. Electronic Components Symp., Los Angeles, Calif. (E. E. Brewer, Con-vair, Inc., Pomona, Calif.)

22-24. West Virginia Acad. of Science, annual, Morgantown. (M. Ward, Glenville State College, Glenville, W. Va.)

## EQUIPMENT NEWS

The information reported here is obtained from manufacturers and from other sources considered to be reliable. Science does not assume responsibility for the accuracy of the information. All inquiries concerning items listed should be addressed to Science, Room 740, 11 W. 42 St., New York 36, N.Y. Include the name(s) of the manufacturer(s) and the department number(s).

■ PHASE-ANGLE VOLTMETER provides 10- $\mu$ v sensitivity as a phase-sensitive null indicator, with less than 5  $\mu$ v of noise. Harmonic rejection exceeds 55 db. Full-scale voltage ranges of from 1 mv to 300 v are available for measuring signal magnitude and the quadrature or in-phase components of a signal. (North Atlantic Industries, Inc., Dept. S794)

■ MILLIVOLTMETER features zero-center indication. Input impedance is 2 megohm. Nine ranges up to 10 v d-c full scale, are selectable. Zero stability is said to eliminate the need for zeroing control. (Industrial Control Co., Dept. S806)

■ pH MEASURING UNIT, used in conjunction with a vibrating-capacitor electrometer unit, defects full scale 0.1 pH at any point in the range from pH 3 to pH 10. Measurements are said to be accurate to  $\pm 0.002$  pH units and the zero



**STOP**

*Searching for One Dependable Source for All Your Research Biochemical Needs*

NUTRITIONAL BIOCHEMICALS CORPORATION offers you quality that merits your complete confidence . . . service you can always rely upon . . . plus the economy of lowest possible prices.

A COMPLETE SELECTION OF MORE THAN 200 AMINO ACIDS AND PEPTIDES  
Typical Amino Acids

Glutamine	Valine, D, DL, L
Phenylalanine, D, DL, L	Ornithine, DL, L
Homoserine	Dopa, D, L, DL
Homocysteine	Asparagine, D, L, DL
Histidine	Serine, D, L, DL



**NUTRITIONAL BIOCHEMICALS CORPORATION**

21010 Miles Avenue . . . Cleveland 28, Ohio

Write For New Catalog October 1957  
Over 1700 Items  
Write Dept. 102

## THE RICKETTSIAL DISEASES OF MAN

● This symposium volume is a comprehensive survey of the general field of Rickettsial diseases in man. Among the contributors appear the names of many of the foremost American authorities in this important and relatively new field of medicine.

● The first group of papers includes discussions of the taxonomy, biology, isolation, and identification of vectors, and reservoirs of infection of the Rickettsial diseases of man. The second group of papers is devoted to discussions of serological reactions, the Weil-Felix reaction, the complement-fixation and agglutination reactions, and the preparation and standardization of Rickettsial vaccines. The final group of papers treats of insecticides, methods of their application, and mite control.

### To: AAAS Publications

1515 Mass. Ave., N.W., Washington 5, D. C.

Please accept my order for one copy of *The Rickettsial Diseases of Man* (7½ x 10½, cloth-bound). My check in correct payment is enclosed (\$5.25 to A.A.S. members, \$6.25 to those who are not members; including postage.)

Name .....

Address .....

City ..... Zone .... State .....

# 3 *New Serial Publications . . .*

## *Advances in* CLINICAL CHEMISTRY

Edited by HARRY SOBOTKA, *Mount Sinai Hospital, New York, New York*  
and C. P. STEWART, *University of Edinburgh, Scotland*

Volume 1. Ready Summer 1958

*Contributions by* A. L. CHANEY, C. E. DALGLIESH, JAN EK, B. JOSEPHSON, R. NEHER, J. A. OWEN,  
H. PEETERS, W. N. M. RAMSAY, J. G. REINHOLD, S. SILVER, and F. WROBLEWSKI

## MODERN MATERIALS

### *Advances in Developments and Applications*

Edited by HENRY H. HAUSNER, *Penn-Texas Corporation, New York, New York*  
Volume 1, 1958. In preparation

*Contributions by* F. A. BOVEY, T. D. CALLINAN, W. A. DELMAR, J. R. HENSLER, J. H. KOENIG, N. J. KREIDL,  
H. MARGOLIN, G. L. MILLER, J. P. NIELSEN, E. J. SMOKE, G. SZEKELY, and C. DE ZEEUW.

## *Advances in* INORGANIC CHEMISTRY and RADIOCHEMISTRY

Edited by H. J. EMELÉUS and ALAN G. SHARPE,  
*University Chemical Laboratory, Cambridge, England*

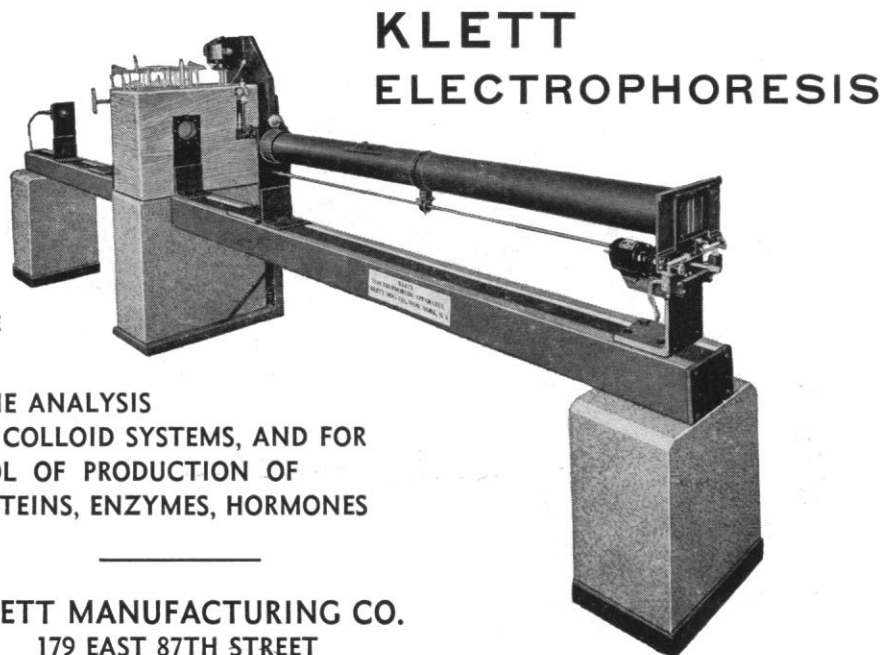
Volume 1, 1958. In preparation

*Special leaflets available upon request*



**ACADEMIC PRESS INC., Publishers**

111 Fifth Avenue, New York 3, New York



CUSTOM MADE

TOOL FOR THE ANALYSIS  
OF COMPLEX COLLOID SYSTEMS, AND FOR  
THE CONTROL OF PRODUCTION OF  
PURIFIED PROTEINS, ENZYMES, HORMONES

KLETT MANUFACTURING CO.  
179 EAST 87TH STREET  
NEW YORK, N. Y.

point is said to be stable to the same figure in 12 hours. The units which make up the complete instrument are interconnected by flexible leads. (Robertshaw-Fulton Controls Company, Dept. S801)

■ **SOUND SPECTROGRAPH** makes a permanent aural record in addition to three visual analyses of vibrations in the 85- to 12,000-cy/sec range. The instrument can be adapted to subsonic vibrations. The record medium is a flexible magnetic disk 12 in. in diameter. The three visual records relate frequency and intensity to time; intensity, over a wider dynamic range, to frequency at a selected time; and amplitude of an over-all sample to time. Frequency response is constant within  $\pm 2$  db. Bandwidths are 45 and 300 cy/sec. Recording time is 2.4 sec. (Kay Electric Co., Dept. S805)

■ **FOLDER** produces accordion folds in a long strip or roll of paper, such as the chart from an oscillograph or pen-and-ink recorder. A five- to tenfold increase in speed over the speed of manual folding is claimed. (Benson-Lehner Corp., Dept. S812)

■ **VARIABLE-AREA FLOW METER** is an all-glass instrument designed for research applications. Flow is sensed by a super-

fine-finished float which rises or falls in a precision-bore glass tube to expose more or less of a V-shaped orifice cut in the wall of the tube. Standard flow-tube sizes are  $\frac{1}{2}$  in. and  $\frac{1}{4}$  in., with ranges from 0.05 to 0.50 lit/min to 1.35 to 13.0 lit/min. Maximum operating pressure is 80 lb/in.<sup>2</sup> at 70°F; maximum operating temperature is 150°F. Other ranges can be furnished. (C-Mar Corporation, Dept. S810)

■ **PHASE SHIFTER** consists of resistance-capacitance networks, a phase inverter, and an output cathode follower. Phase-angle lag between input and output is shown on front-panel dials for 400 cy/sec operation. Range is 0 to 360 deg. Maximum error at 400 cy/sec is less than 0.1 deg. Maximum input signal is 25 v r.m.s. A correction curve permits use of the instrument at frequencies other than nominal. (Advance Electronics Lab., Inc., Dept. S808)

■ **ELECTROPHORESIS APPARATUS** features a chamber with built-in interlocks to prevent electrical shocks. The power supply will accommodate four chambers. Voltage is variable up to 500 v, current up to 50 ma. Each migration chamber will hold 20  $\frac{1}{2}$ -in. strips or 12 1-in. strips. (Labline, Inc., Dept. S813)

■ **DIRECT-READING SPECTROGRAPHIC ANALYZER** scans the spectrum of the specimen to be analyzed, stopping at selected lines according to a prearranged program. In this way only two multiplier phototubes are required, and continuous observation of instantaneous values of intensity ratio is permitted. A typical analysis of a metal alloy for six elements requires 57 sec. Dispersion is accomplished by a quartz prism system. In operation, outputs of the phototubes are fed to identical amplifiers and thence to an indicating milliammeter and a chart recorder. Signal amplification is based on spark modulation, thus permitting use of a-c amplification. (Intercontinental Electronics Corp., Dept. S820)

■ **LABORATORY FURNACE**, for temperatures to 1760°C, operates on any available fuel gas. Working temperature is reached in 1 hr and is held with fuel consumption of 160,000 Btu/hr. Charge space is  $4\frac{1}{2}$  in. in diameter and  $2\frac{3}{4}$  in. long. By removal of a single element, the furnace may be converted into a lower-temperature unit with a larger charge space. (Selas Corp. of America, Dept. S816)

■ **CRYSTAL-CONTROLLED OSCILLATORS** are transistorized for compactness. Seated length is  $5\frac{1}{4}$  in. and diameter is  $1\frac{1}{8}$  in. Output is 600  $\mu$ w in the frequency range from 4 to 250 kcy/sec. Stability is  $\pm 0.015$  percent from  $-40^\circ$  to  $+60^\circ$ C. Shock of 100 g and vibration of 0.03 in. total excursion at 5 to 55 cy/sec are tolerated. (Dynamics Corp. of America, Dept. S817)

■ **SPEED-DEVIATION RECORDER** indicates and records percentage deviation from a predetermined but adjustable speed. Input is received from a d-c tachometer generator and is compared with a stable d-c reference voltage. Accuracy is 0.1 percent. A variety of ranges is available; minimum span is 2 percent. (General Electric, Dept. S811)

■ **MAGAZINE PROCESSER** attaches to standard oscillographs and provides developed and dried photographic records as fast as the instrument records data. Development rates up to 25 in./sec are reached. Magazine capacity is 400 ft of 12-in. paper. Dimensions are  $15\frac{1}{2}$  by 13 by  $11\frac{1}{4}$  in. (Consolidated Electrodynamics Corp., Dept. S815)

■ **MICROPROJECTOR** includes a horizontal stage, an inclined screen on which the enlarged image is viewed, and a choice of fixed magnifications from 10 to 100, selectable by interchange of lenses. The unit is self-contained on a rigid floor base. The stage opening is 4-in. in diameter, and the screen is 14-in. in diameter. (George Scherr Co., Dept. S819)

JOSHUA STERN  
National Bureau of Standards

*Your key to a new world of enjoyment*



An incomparable portable telescope by America's leading manufacturer of astronomical instruments. Although it weighs only 45 pounds its sturdy construction, fork-type mounting and integral electric drive mark it as an instrument of professional quality.

**Celestar** 

Complete with Electric Drive, Slow Motions, Right Ascension and Declination Circles, Heavy Duty Tripod and Finder Telescope.  
Magnifications of 35X, 70X, 105X and 210X.

ONLY \$198.50 f.o.b. Pittsburgh, Pa.

**j. w. fecker, inc.**

A Subsidiary of AMERICAN OPTICAL COMPANY

6592 HAMILTON AVENUE • PITTSBURGH 6, PA.

# APPLICATION FOR HOTEL RESERVATIONS

## 124th AAAS MEETING

### Indianapolis, December 26-30, 1957

The list of hotels and their rates and the reservation coupon below are for your convenience in making your hotel room reservation in Indianapolis. Please send your application, *not* to any hotel directly, but to the AAAS Housing Bureau in Indianapolis and thereby avoid delay and confusion. (Exception: Members of the American Astronomical Society who wish reservations at the Marott Hotel, 2625 North Meridian Street, are asked to correspond directly with that hotel.) The experienced Housing Bureau will make assignments promptly; a confirmation will be sent you in two weeks or less.

**As in any city, single-bedded rooms may become scarce; double rooms for single occupancy cost more; for a lower rate, share a twin-bedded room with a colleague.** Most hotels will place comfortable rollaway beds in rooms or suites at 2.50 to 3.00 per night. Mail your application *now* to secure your first choice of desired accommodations. All requests for reservations must give a definite date and estimated hour of arrival, and also probable date of departure.

#### AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

##### Rates for Rooms with Bath

All hotels have sessions in their public rooms. For a list of headquarters of each participating society and section, please see *Science*, July 19, or *The Scientific Monthly* for August.

Hotel	Single	Double Bed	Twin Bed	Suite
Antlers	\$4.50-10.00	\$7.00-12.00	\$10.50-12.00	\$14.50-19.50
Claypool	7.00-10.00	9.50-14.00	10.50-14.00	13.50-34.00
Continental	8.00-10.00	8.00-12.00	8.00-12.00	12.00-15.00
Marott	7.00-14.50	9.00-14.50	10.00-17.50	14.50 and up
Severin	6.00- 9.00	8.50-12.50	11.00-15.00	25.00
Sheraton-Lincoln	6.50-11.50	9.85-15.00	13.35-16.00	24.35 and up
Warren	6.50-10.50	8.50-12.50	12.00-13.00	25.00-35.00
Washington	5.50-10.00	7.00-11.00	11.50-16.00	18.00-45.00

#### ----- THIS IS YOUR HOUSING RESERVATION COUPON -----

AAAS Housing Bureau  
1201 Roosevelt Building  
Indianapolis 4, Ind.

Date of Application .....

Please reserve the following accommodations for the 124th Meeting of the AAAS in Indianapolis, Dec. 26-30, 1957:

##### TYPE OF ACCOMMODATION DESIRED

Single Room ..... Desired Rate ..... Maximum Rate .....

Double-Bedded Room ..... Desired Rate ..... Maximum Rate ..... Number in party .....

Twin-Bedded Room ..... Desired Rate ..... Maximum Rate .....

Suite ..... Desired Rate ..... Maximum Rate ..... Sharing this room will be:  
(Attach list if this space is insufficient. The name and address of each person, including yourself, must be listed.)

.....

.....

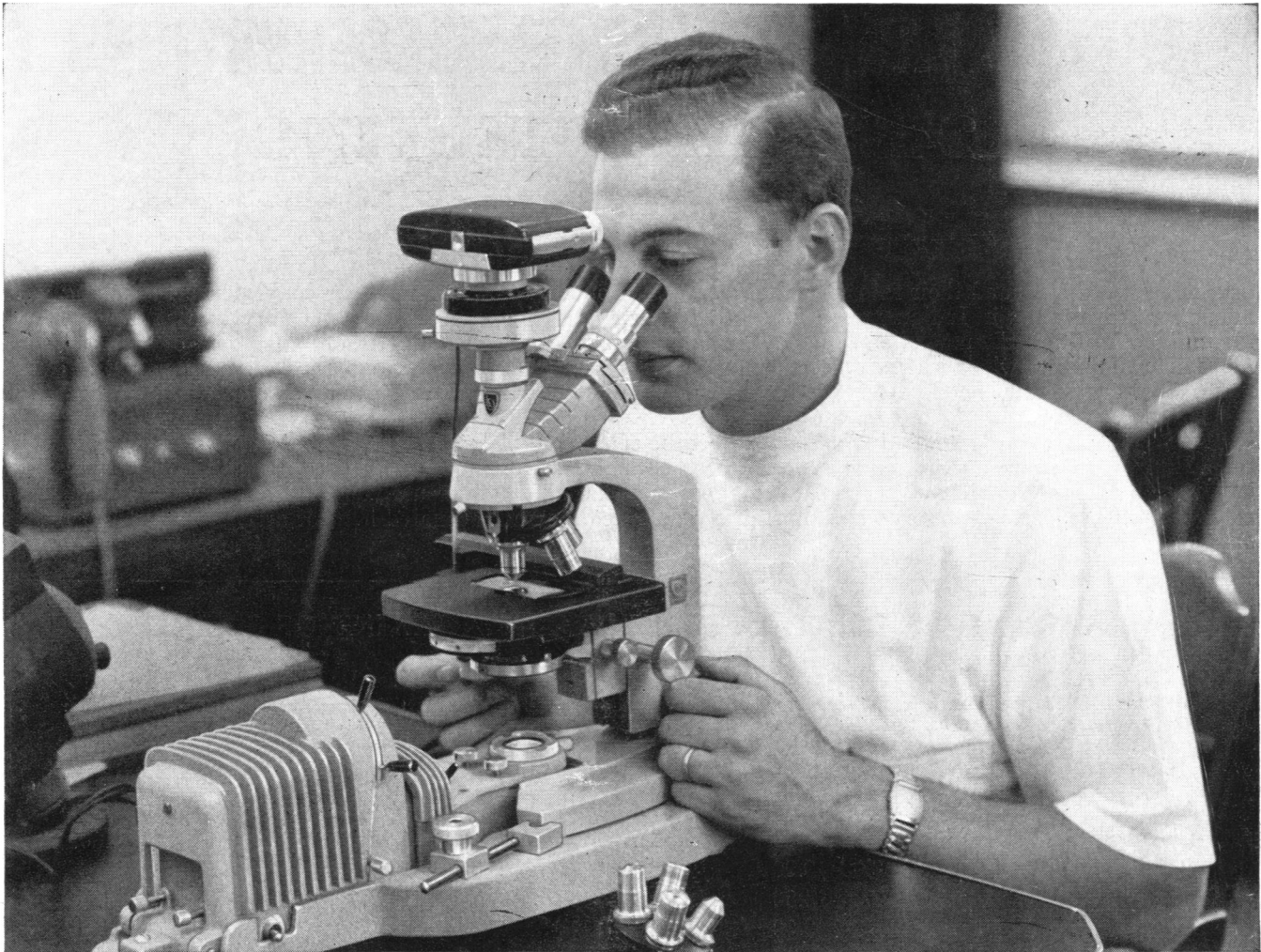
First Choice Hotel ..... Second Choice Hotel ..... Third Choice Hotel .....

DATE OF ARRIVAL ..... DEPARTURE DATE .....  
(These must be indicated—add approximate hour, a.m. or p.m.)

NAME .....  
(Individual requesting reservation) (Please print or type)

ADDRESS .....  
(Street) (City and Zone) (State)

Mail this now to the Housing Bureau. Rooms will be assigned and confirmed in order of receipt of reservation.



PHASESTAR with ORTHO-ILLUMINATOR  
Millard Fillmore Hospital, Buffalo, N. Y.



**PHASESTAR**

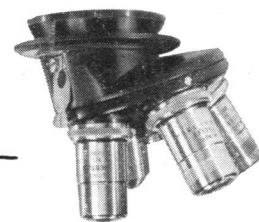
## America's Newest Phase Microscope

### Outstanding Features:

- Advanced styling and design...Convenient and versatile
- Interchangeable bodies...Trinocular, binocular, monocular
- Wide selection of objectives. .Bright, dark, B-minus contrasts
- Choice of condensers...Standard or long working distance
- Focusable stage...Variable Autofocus...Constant eye level
- Wide selection of mechanical stages...Micro-Glide, graduated, ungraduated
- Top quality optics...Outstanding contrast and resolution

*Phase microscopy permits the effective study, count and measurement of living or unstained transparent microscopic specimens such as cells, tissues, protozoa, yeast, mold, bacteria,*

*spores, emulsions, replicas, plastics, fibers and crystals. If you need to examine your material more effectively, we invite you to investigate the new AO Spencer Phasestar.*



*Plus -*

**MULTIPLE QUICK-CHANGE NOSEPIECE . . .**  
for convenient interchange of other phase, achromatic or apochromatic objectives.

**American Optical Company**

Instrument Division • Buffalo 15, N. Y.

Dept. X-3

Gentlemen:

Please send Phasestar Brochure SB6

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_