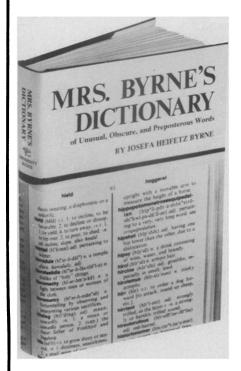
# For years I suffered terribly from

# LETHOLOGICA

# until a nice doctor friend prescribed

# Mrs. Byrne's Dictionary of Unusual, Obscure, and Preposterous Words



Yes, for years I couldn't remember the right words. People I considered complete idiots were finishing my sentences for me. I was leaving blanks in my love letters and suicide notes. I found how bleak the future was when I tried a little cephalonamancy (fortunetelling by boiling an ass head), and tyromancy (fortunetelling by watching cheese coagulate).

I went from doctor to doctor looking for help, finally becoming a confirmed iatrapistiac (one having little faith in doctors), especially when one suggested I needed a hepaticocholangiocholecystenterostomy (look it up).

Then I found Mrs. Byrne's Dictionary. Now I can be unusual, obscure and preposterous by turns. Now I don't need an unabridged to go along with my collegiate. For entertainment now, I browse instead of groak (watching people silently while they eat, hoping they'll ask you to join them). I don't care anymore that we have a kakistocracy (government or rule by the worst).

Mrs. Byrne's Dictionary by Josefa Heifetz is better than omphalos-kepsis!

# GARDYLOO!

Herb Caen in the San Francisco Chronicle: "Wildly funny!"

Leslie Hanscom in *Newsday:* "You can dip in anywhere and come up with pay dirt... hundreds of words to stand your hair on end. Only a clinchpoop could scan these pages without a feeling of awe at the undiscovered boundaries of the English tongue!"

Nels Nelson in the Philadelphia Daily News: "A treasure! We should all kiss the publisher's feet!"

Camilla Snyder in the Los Angeles Herald-Examiner: "Hilariously useful . . . delicious!"

Donald B. Thackrey of *United Press International:* "A dictionary you can browse through and read like a book . . . a dictionary that will give great pleasure to many. Every page contains at least one nugget."

Sydney J. Harris in the Chicago Daily News: "There is no comparable work; I unreservedly recommend it."

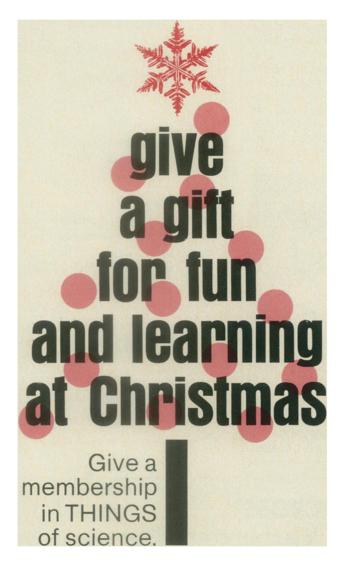
At your favorite bookshop or order directly from the publisher, using the handy coupon below.

#### University Books, Inc., c/o Science News, Dept. MB-3, 1719 N Street, N.W., Washington, D.C. 20036

Please send me by return mail a copy of MRS. BYRNES DICTIONARY for which I enclose \$12.50 plus \$1 for postage and shipping.

My name:		
Address:		
City:	State:	Zip:

(University Books is a Lyle Stuart company)



## your gift of THINGS of science

will bring a year of pleasure a year of activity and involvement a year of exciting scientific experiments to boys and girls 10 to 16.

There is no more rewarding or welcome gift for a science-minded boy or girl than a membership in **THINGS** of science. It brings the young scientist constantly changing experiments, exciting learning experiences, new adventures in science every month for an entire year.

Each month he receives a surprise package containing materials and detailed, easy-to-follow instructions for conducting numerous experiments and demonstrations that stimulate interest, activity and involvement in science. These kits are fascinating home learning centers.

**THINGS** of science ranges the wide fields of science to introduce boys and girls to biology, chemistry, physics, mathematics and many other disciplines—and explains basic scientific laws and principles. Subjects explored by **THINGS** of science include

Chemical Models Hydroponics
Probability Liquid Crystals
Life Cycle of a Can Pinhole Photography

Optical Illusions Topology

Touch Center of Gravity
Mirrors Electrostatics

#### special Christmas savings!

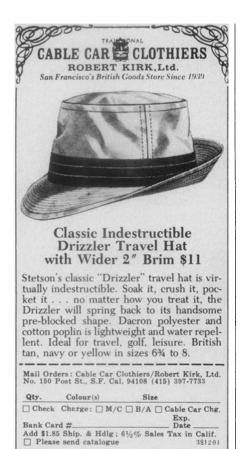
Your first gift membership in THINGS of science is \$9.50. Each additional one-year membership is only \$8.50—and you may include your own renewal or new membership at this money-saving rate.

#### send your gift orders now!

**THINGS** of science Membership Department X14 231 W. Center Street, Marion, Ohio 43302 Please enter the following **THINGS** of science

Christmas gift memberships:
one membership for \$9.50

nam	ne	(please print)	
add	ress		
city		state	zip
eac	h additional men	nbership, \$8.50 ( save	\$1.00 each)
nan	ne	(please print)	
add	Iress	· · · · · · · · · · · · · · · · · · ·	
city	<del></del>	state	zip
nam	ne	(please print)	
add	Iress		
city	/	state	zip
my	name and addre	ss as donor is:	
nan	ne	(please print)	
ado	iress		
city	,	state	zip
(	(if more gifts ar	e desired, use sepa	rate sheet)
	Send gift annou	uncement card to re	ecipients.
	Please enter or	extend my THI	NGS of science
	•	r one year at the lov	
	which my total	membership order	entitles me.
	l enclose \$	Plea	ase bill me.
	_	rifts going outside th	
	_	litts going outside the exico, \$3.00; all othe	



These large aperture binoculars are superb. Perfect for neophyte or seasoned professional astronomers, and now available at unprecedented popular prices. Nebulae, clusters and star clouds are seen with breathtaking three-dimensional realism. In the daytime, try birdwatching. The larger objectives yield more intense colors with greater resolution. Easily hand held.



10x70 binoculars with case ...\$119.95 11x80 binoculars with case ... 149.95 20x80 binoculars with case ... 159.95 Tripod adapter ...... 7.95

Please add \$5.00 postage and handling. Astronomical telescopes also available. Truly the finest for less. Please send .25 for information.

#### ESSENTIAL OPTICS

Box 1552-SN, Big Bear Lake, CA. 92315

## **ABSTRACTS**

26th International Science and Engineering Fair

Consists of 394 abstracts of the projects of the Finalists in the International Science and Engineering Fair held in Oklahoma City, Oklahoma, May 12-17, 1975.

Price \$2.50 each postpaid from

SCIENCE SERVICE 1719 N Street, N.W. Washington, D.C. 20036

#### **HELP US HELP YOU**

Address

Each week's issue of Science News is mailed the day before the date shown on the cover. Thus this issue was mailed Dec. 5. If there is undue delay in the mail delivery of your copy, please complain to the Postmaster of your city or town. This should help in our efforts to improve delivery service.

—The Editor



**WINDWATCH™** ANEMOMETER—WIND VANE \$2295

ANEMOMETER — WIND VANE "ZZ".

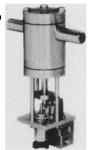
Neon lights in Indoor indicator show wind speed and direction. Decorative indicator with gold dial in dark mahogany case. Designed for desk use or wall mount. Outdoor instruments of durable aluminum with electrical parts enclosed in rigid vinyl housings. Easy to assemble and install. Attach directly to roof or pole. Comes with wire and materials for installation up to 60 feet. Uses regular 120V AC. Unique low amp circuit assures absolute safety. A fascinating addition to any home. Five year guarantee. 15 day trial. Your satisfaction or money back. Only \$22.95 postpaid.

WINDWATPU Debt. SN-5 6/0 Science News. 1719 N St WINDWATCH Dept. SN-5 c/o Science News, 1719 N St., Wash., D.C. 20036

(Make check payable to Science News)

# **NORCROSS®** Ring Viscometer





Model M28

FOR IN LINE APPLICATIONS No Bearings — No Stuffing Box Ask For Bulletin No. V1290

#### A Complete Line of **Process Viscosity Controls** for

Fuel Burning Polymerizing Pumping Cooking Diluting

Blending Coating Homogenizing Extruding

Write Dept. A-119 or phone (617) 969-7020 NORCROSS CORPORATION, NEWTON, MASS. 02158 25 Years Experience with Viscosity Control

Representatives in Principal Cities and Foreign Countries

### LIVE IN THE WORLD OF TOMORROW ... TODAY!

And our FREE 164 PAGE CATALOG is packed with exciting and unusual values in hobby, electronic and science items — plus 4,500 finds for tun, study or profit . . . for every member of the family.



#### WORLD'S SMALLEST CALCULATOR!

Small but mighty! 8-digit, 4-function electronic



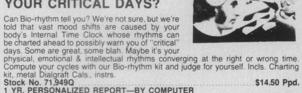
Small but mighty! 8-digit, 4-function electronic calculator does everything big ones do—even has automatic % key ... for only \$19.95. Take it anywhere. Fits in your pocket—3/s size of cigarette pack. 3½ oz. dynamo features floating decimal, constant key, lead zero depression, more! Includes plug-in rechargeable Ni-Cad battery pack. 2 x 3½ x ½ n/s with plenty of room for most fingers. Another Edmund first with advanced technology.

. . . . . . . . . . . . . . . . .

Stock No. 1945Q

\$19.95 Ppd.

#### WHICH ARE YOUR CRITICAL DAYS?



Stock No. 71,949Q 1 YR. PERSONALIZED REPORT—BY COMPUTER Stock No. 19,200Q (Send Birthdate)

. . . . . . . . . . . .

\$15.95 Ppd.

#### AN ALPHA MONITOR FOR \$34.95?

Yes, because you build it! Use your ability to tune in your brainwaves, an aid to relaxation, concentration. Kit incls. everything you need (except 9v trans. batt.) to own a portable self-cont. BIO-FEEDBACK unit for a pitance: steth. earphones, electrode headband, solid-state circuitry; 5 microvolt sensitivity, more! Compl. assembly instructions & op. manual. With basic electronics knowledge, you can do it!



No. 61,069Q . . . (KIT) No. 71,809Q . . . (FULLY ASSEMBLED)

#### **ELECTRONIC DIGITAL** STOPWATCH: \$69.95



## FREE BICENTENNIAL LIGHT SHOW IN BARRINGTON, N. J. ONLY 10 MINUTES AWAY AT EDMUND FACTORY STORE



#### **NASA-CHOSEN** FOR APOLLO/SOYUZ

157 mi. out in space, the Astronauts used this super 20x60 binocular (modified) to view Earth! Our biggest, most powerful for distance. Far-off objects come in big, clear & sharp to the edge through big 60mm objective lenses; 173-ft. field of view at 1000 yds. Relative brightness, 9.0. Fully coated optics; 20X spcl design eye lenses. Coated BK-7 Porro prism. Extra long All-American style with fold-down rubber eyecups. Includes case & straps.

No. 1556Q ... (91/4 x 81/2"; 47.5 oz.) \$99.95 Ppd.

. . . . . . . . . . . . . . . . . .



#### **BUILD A SOLAR HOME** AND SAVE!

Beat the energy crisis—build a modern 10 room solar heated & air conditioned home designed by famous ecological architect Malcom B. Wells! Its 10-yr-proven Thomason "Solaris System" can cut conventional heating costs as much as <sup>2</sup>/<sub>2</sub>! Your builder can modify or use as-is the complete blueprints included with "Solar House Plans III" (by Edmund, Homan, Thomason & Wells). Estimated \$40,000 building cost. 48-pg. book shows all pro's and cons. Illustr.

. . . . . . . . . . . . . . . .

No. 9469Q (8½x11" PPRBK)

\$24.95 Ppd.



#### DAY-AHEAD **WEATHER "COMPUTER"**

Predict local weather (30-mi. radius) accurately, easily 24 hrs. in advance w/ our professional time-tested instrument. Use w/ barometer & viscular plastic slide rule "computer" ("programmed for over 5000 input variations); 13 pgs. of coded tables to interpret input data; 8 photos; 2 charts; full instrs. Predict anywhere N. of 25° lat.!

Stock No. 61,061Q



#### 50-150-300 POWER MICROSCOPE

. . . . . . . . . . . . . . .

Amazing Value—3 Achromatic Objective Lenses on Revolving Turret! Color-corrected, cemented achromatic lenses in objectives give far superior croscope price range. Results are worth the difference! Fine rack and pinion focusion Imported!

ing. Imported!
Stock No. 70,008Q
MOUNTED 500 POWER OBJECTIVE: atic lenses, 3mm F.L. Threaded achromati Stock No. 30.197Q ......\$9.75 Ppd.



#### **SUPER POWER** FOR ANY RADIO

.......

New antenna assist turns a tiny transistor into a tiger, has pulled in stations up to 1000" miles away! Just set beside radio (no wires, clips, grounding) and fine-tune Select-A-Tenna's dial to same frequency—"gangbusters"! Great for clearing weak signals in radio depressed areas, off-coast islands, crowded frequency stations. Solid state—uses no electricity, batts., tubes.

Stock No. 72,095Q	\$15.95	Ppa
ULTRA SELECT-A-TENNA		1900
No. 72,147Q ("OVER 1000 MI.)	\$22.95	Ppd
		-



#### MAIL COUPON FOR GIANT FREE **CATALOG!**

164 PAGES . MORE THAN 4500 UNUSUAL

Completely new Catalog Packed with huge selection of felescopes, microscopes, binoculars, magnets, magnifiers, prisms, photo components, ecology and Unique Lighting items, parts, kits, accessories — many hard-to-get surplus bargains 100's of charts, illustrations. For hobby-ists, experimenters, schools, industry.

EDMUND SCIENTIFIC CO. 300 Edscorp Building, Barrington, N. J. 08007 Please rush Free Giant Catalog "Q"

Name			1000
Address			
City	State	710	

」脈()	COMP	LEI	_
	EDMUI	ND	S
		How	M
PLEASE SE	END GIANT		
FREE CATA	ALOG "Q"	70.3	
		_	_

#### AND MAIL WITH CHECK, M. O. OR CHARGE NO.

EDMUND SO	CIENTIFIC by Stock No.	CO. 300 Edscorp Buil	ding, Barrington,	N.J. 0800
PLEASE SEND GIANT FREE CATALOG "Q"				
☐ Charge my BankAmericard *				
NOTATION OF THE PROPERTY OF TH	Acti	enclose check money  Signature	Shirt and the same of the same	
Card Expiration Date	NameAddress			
refund. *\$15.00 minimum	City	State	·	P

# Correction Pieces

# Catts Cuts the Cost of Command Training

Every time there's a military budget squeeze, the Army is forced to cut back on field exercises. It's inevitable. In terms of logistics alone, live training is expensive. But there are much more serious costs in terms of lost opportunities for realistic practise, particularly in the difficult art of making command decisions at the battalion level.

Fortunately, something can be done about it and the Army is doing it...with CATTS, which is TRW's Combined Arms Tactical Training Simulator.



Instructors in command center.

To people who have already used this system, it is almost misleading to call it a "simulator." Because what impresses them most is its realism.

The students work in a standard mobile command post with fully functional communications equipment. In a separate area, teams of experienced controllers play the parts of subordinate units, adjacent units, higher head-quarters, and a wily, well-equipped enemy force. Operating through a carefully programmed computer system, the controllers present their students with changing battlefield conditions, analyze their responses, and challenge them with new problems that range from bad weather, misunderstood orders, and supply foul-ups to unexpected increases in enemy strength.

The student is forced to think, sweat, and make life or death decisions under conditions of stress that very closely approximate real battlefield environments.



Student commanders in tactical operations center.

In addition to its realism, CATTS has a fundamental advantage over the old-time sand table and other less sophisticated systems. This is its objectivity. The computers model the effects of decisions and the computers have been programmed by independent specialists who are not involved in the training at all. This eliminates a lot of judgement calls at the operational level and frees the judges for the more important business of judging on the basis of actual results.

In order to develop CATTS, TRW started an independent research and development program of formidable size and complexity several years ago. This provided a solid foundation of experience on which the detailed models and software for CATTS were built. The result is an unusual capability that is now being applied to even more complex training needs within the Department of Defense. If you are interested in using TRW's skills in this area, you are invited to write and tell us about your specific needs.



Attention: Marketing Communications, E2/9043 One Space Park Redondo Beach, California 90278

