



- 8 9:00 p.m. Moon nearest, distance 222,700 miles.
- 9 7:56 p.m. Full moon.
- 10 3:57 a.m. Algol at minimum brightness.
- 12 early a.m. Meteors visible radiating from Gemini.
- 4:44 p.m. Moon passes Jupiter.
- 15 9:35 p.m. Algol at minimum.
- 16 9:21 p.m. Moon in last quarter.
- 18 6:24 p.m. Algol at minimum.
- 21 4:00 a.m. Moon farthest, distance 252,200 miles.
- 4:00 a.m. Venus at greatest brilliancy.
- 10:30 a.m. Moon passes Saturn.
- 2:46 p.m. Moon passes Venus.
- 22 4:25 a.m. Sun farthest south, winter begins in Northern Hemisphere.
- 25 2:33 a.m. New moon; annular eclipse of sun visible in vicinity of Indian Ocean.
- 31 6:40 a.m. Moon passes Mars.

Subtract one hour for CST, two hours for MST, and three for PST.  
 Science News Letter, November 27, 1954

CHEMISTRY

**Pattern for Insecticide Found in Plant Study**

► BY TAKING apart the insect-destroying principle extracted from the pyrethrum plant, British scientists may be able to make still stronger insecticides.

Understanding the chemical differences that make one substance made from pyrethrum highly poisonous to insects while another harms them much less may point the way to better insecticides, states Dr. L. Crombie of the Imperial College of Science and Technology, London. He describes, in *Nature* (Oct. 30), his work with pyrethrum, a plant known to medicine since the time of Dioscorides.

In addition to pellitorine, the previously known extract not strongly poisonous, Dr. Crombie has obtained a new substance, anacyclin, from which he has produced an insect poison.

Knowing the chemical structure of these pyrethrum products, he believes their differences show the direction in which they can be modified to make artificially insect killers more potent than the original plant.

Science News Letter, November 27, 1954

PUBLIC HEALTH

**Carbon Monoxide May Be Cause of Many Accidents**

► LEAKAGE OF carbon monoxide from engines may be the reason for many accidents caused by drowsy, inattentive drivers, the California Highway Patrol has found.

The deadly gas was present, in concentrations described as above the safety limit, in 30 of 1,007 cars inspected.

Carbon monoxide is produced by the partial combustion of gasoline in the engine and can cause drowsiness, dizziness and headaches when present in small amounts.

Opening windows seems to be no safeguard against carbon monoxide in cars. The report notes that the gas may be drawn into the cars by the suction of air.

Science News Letter, November 27, 1954

**Where do Ideas come from?**

How are ideas created? What role does the unconscious play? Are ideas best developed through word-reasoning, mathematical-reasoning, or visualization? Why has Poincare's "forgetting-hypothesis" proved such a powerful method for illuminating new ideas? How did Helmholtz' "rest-hypothesis" help him? For just \$1.25 (a saving of 50% over the regular edition) you can own the book that answers these and many similar questions. This non-technical 156-page study—written by one of the fore-

most mathematicians of our day—can help you produce ideas more efficiently no matter what your field is. It is a fascinating volume for engineers, scientists, psychologists, writers, and researchers, with its case histories of Pascal, Dalton, Descartes, Norbert Wiener, Max Muller, Poincare, Helmholtz and over 40 other innovators. Included is a special two-page letter from Albert Einstein in which he offers a surprising analysis of his own thinking processes. Paperbound.

**Jacques Hadamard's classic 156-page study in new \$1.25 edition**  
**Psychology of Invention in the Math. Field**

**2. ANALYSIS OF MATTER** by Bertrand Russell. Can curved space be visualized? In this absorbing analysis of causality, physics, and perception, Lord Russell shows how Einstein's relativity and other modern conceptions must ultimately rest on "common sense" observations to be considered valid. 400pp. Paper, \$1.85

**3. CONCERNING THE NATURE OF THINGS** by Sir Wm. Bragg, Nobel prize winner. A 9,000-word report on radioactivity—what it is, how it penetrates other substances, why scientists cannot "stop" it—plus five other non-technical accounts of gases, liquids, and crystals. 244pp. 89 ill. Paper, \$1.25

**4. WHAT ARE COSMIC RAYS?** by Pierre Auger, one of France's most noted physicists. 150-page explanation of cosmic ray phenomena, positrons, negatrons, ionization, etc. 22pp. of photos. Diagrams. Orig. \$2.00. Now, \$ .98

**5. BIRTH & DEVELOPMENT OF THE GEOLOGICAL SCIENCES** by F. D. Adams. Fascinating 511-page history of early theories, incl. holes in bottom of ocean, bezoar stones to cure poisoning, etc. Also early mining and engineering methods. 91 ill. Paper, \$1.95

**3000 "flying saucer" curiosities explained in this amazing \$1.95 reference book.**

**6. LIGHT & COLOUR IN THE OPEN AIR** by M. Minnaert. This 378-page book doesn't discuss flying saucers per se, but does give scientific explanations for similar phenomena: green flames seen on horizon . . . azure sunsets . . . eerie orange light from flower petals . . . black snow, etc. 202 ill. Paper, \$1.95

**7. MATH. BIOLOGY OF SOCIAL BEHAVIOR** by Nicolas Rashevsky. Revolutionary application of mathematics to psychology-biology-sociology relationship. Publ. by U. of Chicago Press at \$5.00. 255 pp. Now, \$1.85

**8. EXPERIENCE AND PREDICTION** by Hans Reichenbach. Analysis of meaning, logic, relativity theory, probability theory, etc. Pub. by U. of Chi. Press at \$5.50. 410pp. Now, \$1.98

**9. MATH. PUZZLES FOR BEGINNERS & ENTHUSIASTS** by G. Mott-Smith. 188 superior puzzles involving logic, algebra, geometry, permutations, etc. Tables & solutions. 248pp. Ill. Paper, \$1.00

**10. INTRO. TO SYMBOLIC LOGIC** by Susanne K. Langer. How to use math. logic, even if you never

got beyond high school algebra. Boole, Russell-Whitehead systems, etc. 367pp. Expanded 2nd ed. Paper, \$1.60

**11. NATURE OF PHYSICAL THEORY** by P. W. Bridgman, Nobel prize winner. How much of modern physics is fact, and how much fancy? Read this discussion of relativity, cosmogony, and astronomy and find out. 264pp. Paper, \$1.25

**12. RISE OF THE NEW PHYSICS** by A. d'Abro. Brilliant exposition (mostly non-math.) of relativity, quantum theory, pre-relativity physics. 994pp. Paperbound, 2-vol. set, \$3.90

**13. THE BOOK OF MODERN PUZZLES** by G. L. Kaufman. 113 unusual puzzles involving words and logic. Ill. Answers. 192pp. Paper, \$1.00

Prices reduced 50% on these advanced tech. books

**14. VECTOR & TENSOR ANALYSIS** by G. E. Hay. 208pp. Save \$1.25 Paper, \$1.60

**15. ELEMENTS OF NUMBER THEORY** by I. M. Vinogradov. 256pp. Save \$1.25. Paper, \$1.75

**16. DESIGN & USE OF INSTRUMENTS & ACCURATE MECHANISM** by T. N. Whitehead. 295pp. Save \$2.00 Paper, \$1.95

**17. DYNAMICAL THEORY OF GASES** by Sir James Jeans. 444pp. Save \$2.00. Paper, \$2.00

**18. ELECTRICITY & MAGNETISM** by James Clerk Maxwell. Two vols. bound as one. 1060pp. Terrific buy. Cloth, \$4.95

**19. SENSATIONS OF TONE** by Hermann L. F. Helmholtz. 608pp. Of special interest to hi-fi enthusiasts. Cloth, \$4.95

**EDITIONS LIMITED—MAIL COUPON TODAY**  
 Dover Publications, Dept. 16  
 920 Broadway, New York 10, N. Y.  
 Please send books circled below:  
 "PSYCHOLOGY OF INVENTION"  
 2. 3. 4. 5. 6. 7. 8. 9. 10. 11.  
 12. 13. 14. 15. 16. 17. 18. 19.  
 NAME.....  
 ADDRESS.....  
 CITY.....ZONE...STATE.....  
 I enclose \$..... in full payment. Add 10¢ per title to cover postage & handling. ALL BOOKS RETURNABLE IN 10 DAYS FOR FULL CASH REFUND.