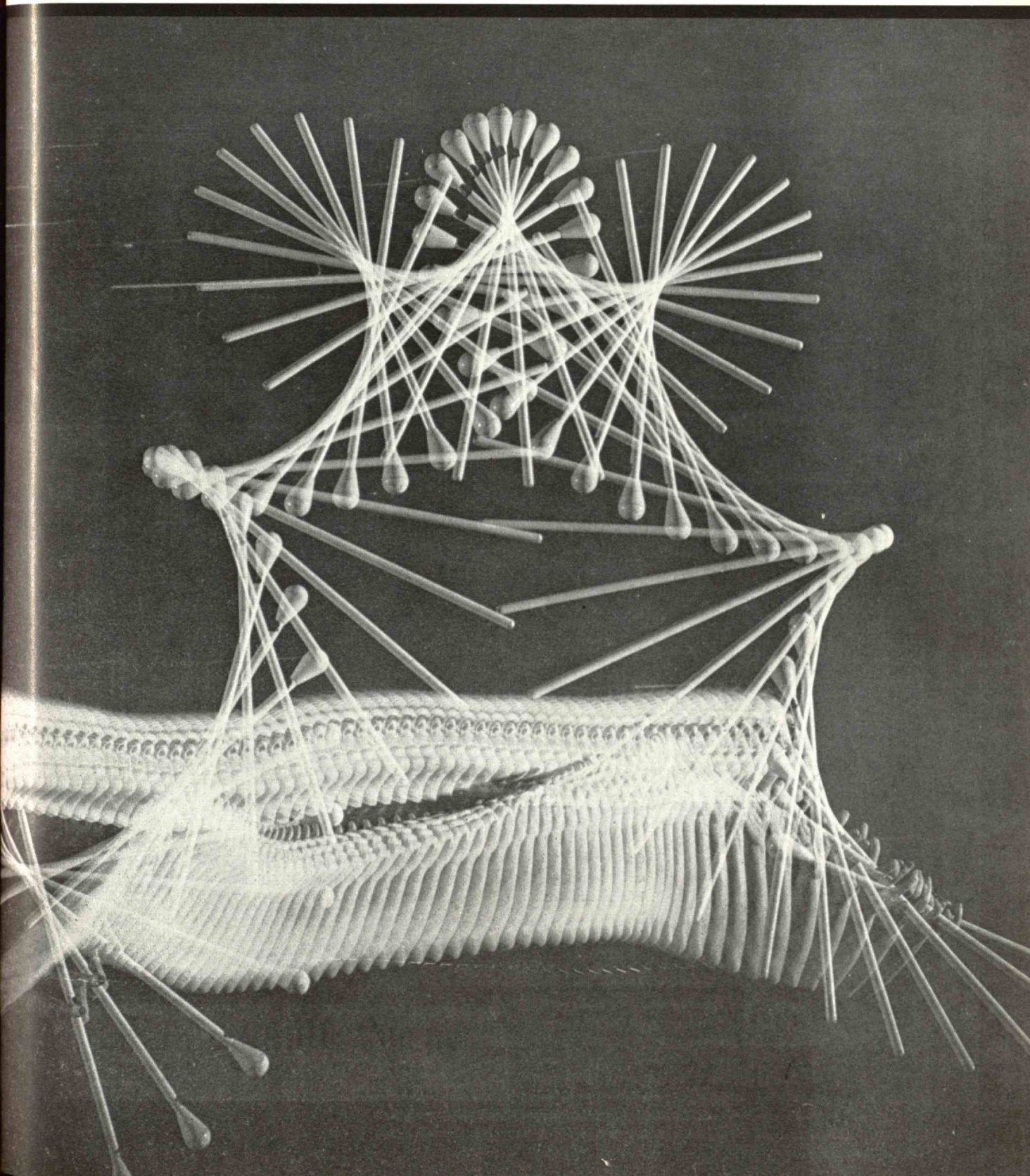


TECHNOLOGY

REVIEW *April* 1953



pioneers in precision

Aircraft Radio Corporation

since 1928 has developed many dependable airborne communications and navigation instruments. Their R-15 receiver assures pilots of distinct static free voice signals. This equipment is tunable over the entire VHF frequency band, and its controls require minimum cockpit space.

Miniature Precision Bearings

contribute the precise operational characteristics necessary to efficient instrument function under unusual operating conditions. This R-15 receiver is designed for long, trouble-free operation under extremes of humidity, temperature and vibration. Similar and other unusual problems present in thousands of vital equipment designs are being solved with **MPB** ball bearings.

More than a million **MPB** ball bearings have been installed in many unusual and distinctive devices. Originators and pioneer developers of ball bearings in this size range (1/10" to 5/16" O.D.), **MPB** has, for more than twenty years, supplied ultra quality bearings to discriminating users. Exclusive and exacting production and inspection procedures assure the type of quality ball bearing which permits installation in control and recording instruments of highest possible performance standards.

The most extensive engineering knowledge in miniature ball bearing application is available to you — as well as catalog and survey sheet TR4.

Continued expansion in production facilities has enabled us to enlarge the scope of service to our clientele. We would welcome the opportunity of including you.

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More go per gallon

Your automobile motor has more than 200 parts. They require close to 900 precision grinding operations.

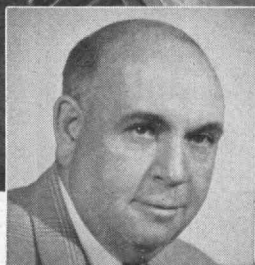
Your motor's crankshaft, for instance, must be dimensionally true within .001 inch. It gets this accuracy from Norton ALUNDUM* grinding wheels on high production Norton grinding machines. The finishing touch is given with a special Norton lapping machine, using Behr-Manning Lightning ADALOX* coated abrasive. Such true, smooth surfaces make parts fit . . . cut friction . . . give you "more go per gallon."

The automotive industry is only one of many industries which rate Norton and Behr-Manning products essential to their production. As the world's largest manufacturers of abrasives and abrasive products, Norton and Behr-Manning keep seeking better ways to help *all* industries make better products.

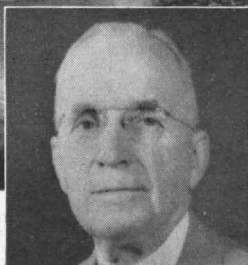
NORTON makes abrasives, grinding wheels, refractories, Norbide grain and molded products, grinding and lapping machines, non-slip floors. Norton Company, Main Office and Works, Worcester 6, Massachusetts.

BEHR-MANNING makes abrasive paper and cloth, oilstones, abrasive specialties, Behr-Cat brand pressure-sensitive tapes. Behr-Manning Corporation, Division of Norton Company, Troy, New York.

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J. HOWARD BAKER is General Superintendent of the Behr-Manning Abrasive Division. His exceptional ingenuity in 34 years' service has resulted in many outstanding improvements in the quality of Behr-Manning products.



HARRY O. ANDERSON has completed 51 years with Norton. Now Chief Grain Inspector of the Abrasive Division, he has originated and patented many improvements in abrasive processing and quality control.

*Trade-Marks Reg. U. S. Pat. Off. and Foreign Countries



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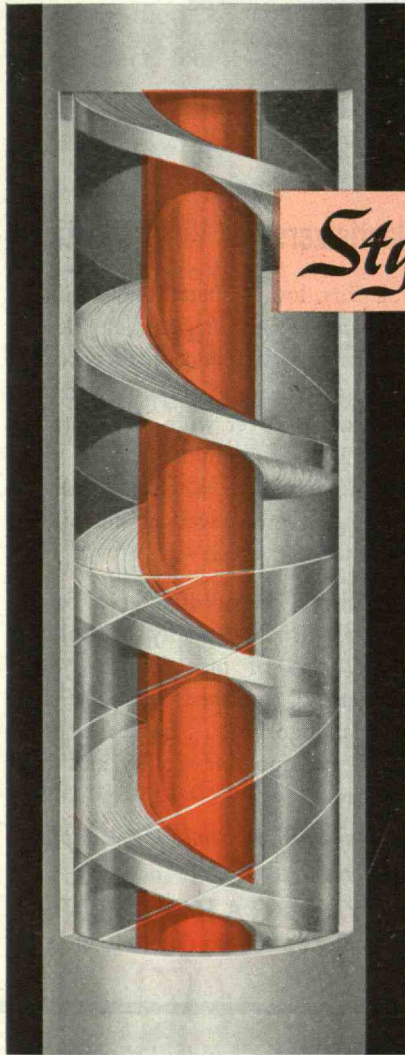
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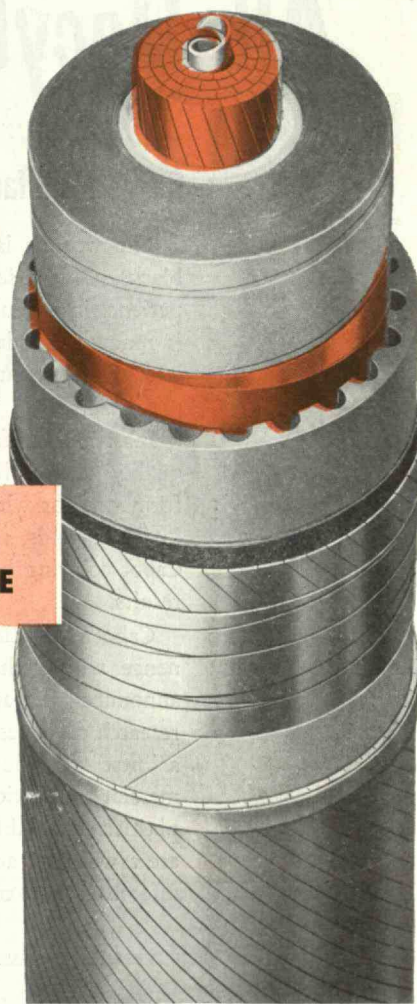
Styroflex COAXIAL CABLE

developed by Felten & Guillaume, Cologne, Germany. The strong, semi-flexible aluminum sheathing on this cable opens possibilities for many new and interesting uses.

400 KV OIL-FILLED POWER CABLE

designed by Les Cables de Lyon, France. This cable is presently in service in Sweden.

These new cables exemplify Phelps Dodge's policy of supplementing its own broad research with the latest foreign developments in cable research and manufacture. This international "know-how" is one of the reasons why Phelps Dodge enjoys a wide reputation among engineers for the finest in modern power and communication cables.



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The world's largest manufacturer of carbon blacks, with a seventy-year background of experience in producing raw materials for industry, is renowned today for a variety of top quality products, including a complete range of plasticizers.

Plastics manufacturers, confident of the extra quality and uniformly superior product performance for which the Cabot name is famous in other fields, specify Cabflex plasticizers and Cabot coloring blacks whenever they want best results.

Cabot's Plasticizer Division gained prominence within the industry last year when it announced expansion of its production and research facilities. In August, Cabot announced a "first" for the plasticizer industry with commercial production of the world's first all-decyl plasticizers. Cabflex DDA and Cabflex DDP are a welcome addition to the Cabot line. They offer the vinyl compounder the usual combina-

tion of low volatility, low temperature flexibility and high permanence at competitive prices. Cabflex DDA imparts permanence, low temperature performance and minimum changes in drape and flexibility over wide temperature ranges. Cabflex DDP is recommended for use with standard plasticizers to improve quality, add permanence, and give excellent flexibility over wide temperature ranges.

Today, the Cabot Companies offer a complete range of plasticizers, quality controlled throughout every step of manufacture . . . tested in modernly equipped, competently staffed research laboratories . . . backed by the Cabot reputation for superior quality and reliable performance.

For technical information and for samples, address: Plasticizer Division

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Cabflex Di-OP	<i>di-iso-octyl phthalate</i>
Cabflex DCP	<i>di-capryl phthalate</i>
Cabflex DDP	<i>di-decyl phthalate</i>
Cabflex Di-BA	<i>di-iso-butyl adipate</i>
Cabflex Di-OA	<i>di-iso-octyl adipate</i>
Cabflex DDA	<i>di-decyl adipate</i>



*"The 5:22 went
that-a-way!"*

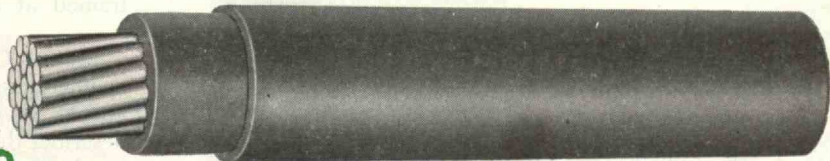
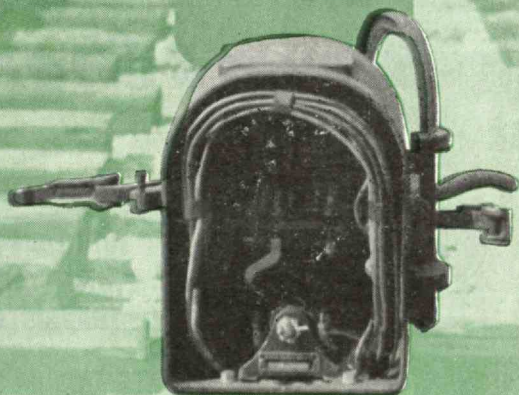
Down the track comes the 5:22 loaded with homeward-bound commuters. She's whistling as she comes calling for the switch that will put her on the outbound track as she leaves the yard limits. Silently and dependably the switch swings into position and the 5:22 has "gone that-a-way."

* * *

How do trains get on the right track? By means of vital relay boxes like the one illustrated here. Relay boxes that are wired with long-lasting, dependable Anhydroprene Case Wire. They offer exceptional resistance to water, moisture, oil, grease, acids and flame. They have no fibrous braids to fray or rot.

The light weight, small diameter and greater flexibility of Anhydroprene Case Wires make them ideal for relay wiring installations. They are easy to handle and terminate.

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THE TABULAR VIEW

Today's Aeronautics.—Originator of the Institute's Course in Aeronautical Engineering, pioneer aeronautical engineer, administrator, educator, and chairman of the National Advisory Committee for Aeronautics, PROFESSOR JEROME C. HUNSAKER, '12, has witnessed the entire span of man's successful attempts at flight, and has made outstanding contributions to man's progress in this field. From his vast experience in aviation, Professor Hunsaker discusses the "Social Aspects of Aeronautics" (page 309). His Review story, delivered at the Eighth International Congress for Theoretical and Applied Mechanics last summer in Istanbul, is based upon the 28th series of Terry lectures, delivered at Yale University and published in book form as *Aeronautics at the Mid-Century* in 1952 by Yale University Press. Last summer Professor Hunsaker retired from his post as head of the Department of Aeronautical Engineering at M.I.T. which he established in 1914.

Science and Religion.—A mathematician's point of view is reflected in the essay (page 314) by PROFESSOR EMERITUS H. B. PHILLIPS of the Department of Mathematics, on science and religion. Defining good as that which accelerates progress, Professor Phillips concludes that world morals may be expected to improve steadily, and that, in a statistical sense at least, right makes might. After graduation from Erskine College in 1900, Professor Phillips received the Ph.D. degree from the Johns Hopkins University in 1905. He joined the M.I.T. Department of Mathematics in 1907, becoming head of that Department in 1935. Dr. Phillips is author of more than a score of books and scientific papers, chief among which are "Notes on Einstein's Theory of Gravitation," "Faraday's Law as a Basis of Electromagnetic Theory," and a textbook entitled *Vector Analysis*.

Health Enterprise.—A major aim of modern medicine is to prevent, as well as to cure, maladies. An unusual phase of such preventative medicine has been in operation at M.I.T. since 1947 and is described (page 315) by DR. HARRIET L. HARDY, Assistant Director of the Institute's Medical Department. In addition to being in charge of the Occupational Medical Service at M.I.T., Dr. Hardy has been chief of the Occupational Medical Clinic of the Massachusetts General Hospital since 1949, and is consultant to the Atomic Energy Commission, the Massachusetts Division of Occupational Hygiene, and the Atomic Research Center at Ames, Iowa. Dr. Hardy is a graduate of Wellesley College, took the M.D. degree from Cornell University Medical College, and trained at the Philadelphia General Hospital.

Project Glacier.—Bringing together his knowledge of engineering, geology, and history in his article, "Project Glacier" (page 319), E. H. CAMERON, '13, poignantly describes the essential and prosaic task of our forefathers in clearing their fields and enclosing them with stone fences. Mr. Cameron has had a wealth of professional experience in civil engineering since his graduation from the Institute in 1913. For the past decade, Mr. Cameron has been head of the Technical Publications Division of Jackson and Moreland, Boston firm of consulting engineers. Mr. Cameron is no stranger to Review readers; his first Review article appeared in 1932, and for about 10 years he has averaged one article per year.

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 Pennsylvania State College,
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 dustrial Engineer and became
 Purchasing Agent in 1950.
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February 11, 1953

Continental Screw Company
 New Bedford, Massachusetts

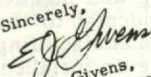
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As manufacturers of a new kind of product--the Durall aluminum tension screen--we have been in an excellent position to appreciate Continental Screw's quality and service. For instance, we must have a screw that even a housewife can drive, and with a head large enough to seat properly in our screen clamp bracket. The screw that you designed for us has more than met our specifications.

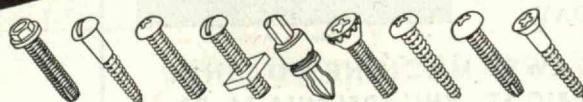
Another feature that has resulted in additional sales appeal for our product is your method of fastening our screws on a tape, which has been pre-printed with our Durall brand name. This tape has proven a very convenient method of insuring that the exact number of screws reaches each customer.

Over a period of twelve months, our production schedules fluctuate, but whenever this happens you respond promptly with every possible effort to keep our line operating. We want you to know that this type of performance rates very high with us.

These extras, plus a top quality product, have given Continental the number one spot on our vendor list for screw requirements. It has been a pleasure to work with you during the past and earnestly hope this same association will continue for many years.

Sincerely,

 E. J. Givens,
 Purchasing Agent

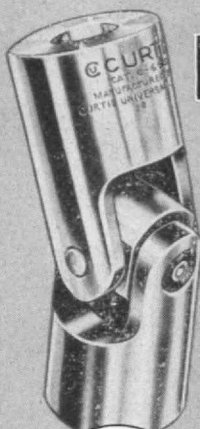
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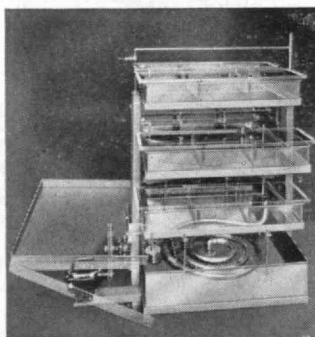


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MAIL RETURNS

Nostalgia Evoked

FROM WILFRED BANCROFT, '97:

I have just read with great interest and a touch of nostalgia the "History of Bacteriology at M.I.T." by Murray P. Horwood in the January, 1953, Review: the references to Professor Sedgwick in that article brought up happy stimulating memories. He was a great scientist, great teacher, and a great human being. I was Course II so I never studied under Professor Sedgwick but I had the good fortune to know him and Mrs. Sedgwick and to share the hospitality of their charming home.

In the Class of '97 *Technique*, page 189, is a rather intimate biography of Professor Sedgwick; as he was kind enough to read this before publication, the facts in this brief life are correct.

Haverford, Pa.

Ordeal Omitted

FROM WM. HOWARD BEASLEY:

In your report on John Jewkes in the February, 1953, issue of The Review (page 211) you failed to mention his book *Ordeal By Planning* (Macmillan Company). This book was widely read both in England and in the United States, and had considerable effect in reversing the trend "to the left." It was frequently quoted by Raymond Moley. Jewkes should be heard more!

Dallas, Texas

Philosophical Profit

FROM SAMUEL E. MCCRARY:

I wonder if you could send me three copies of the January, 1953, issue of The Review. I am particularly interested in the article "The Two Philosophies" by F. Alexander Magoun and R. Carter Nyman.

I would like to pass this article on to an admiral and to a member of the clergy. I believe they will profit by reading it. The other copy I would like to keep for myself.

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