

that he can order a tractor and plow and have it delivered ready for use. The same applies to packaged plumbing systems.

Such equipment is not available like the tractor and the plow. It requires planning and expert "help" to install, but more important, few of these units are being manufactured and there isn't one "old line" implement dealer in a thousand now fully qualified to sell, to install, and to service such equipment. It is true that all sorts of merchandisers sell electrical equipment that can be plugged in, and some sell ranges that must be installed, but they often get a special service agency that may be selling another competing line to install and service it.

Mr. Childs is completely wrong in saying: "Farm educators still think in terms of big machines and hand labor." In every research program of state experiment stations where electric motors are involved, the equipment development is directed toward the use of motors not larger than 5 to 7½ h.p. that will not create too high a demand and through automatic control will be operated to eliminate labor. In the production of dairy, poultry, and livestock products, push button equipment for feed processing and feed handling is now being developed by these educators.

FRASER YOUNG'S LITERARY CRYPT No. 463

A cryptogram is writing in cipher. Every letter is part of a code that remains constant throughout the puzzle. Answer No. 463 will be found in the next issue.

MCIMJNMPUM NQ PYA

SFDA FDIIMPQ AY D HDP.

NA NQ SFDA D HDP EYMQ

SNAF SFDA FDIIMPQ AY

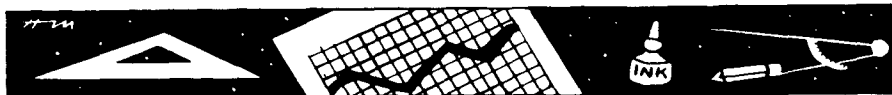
FNH.

—DOEYRQ FRCOMK.

Answer to Crypt No. 462

Riches are gotten with pain, kept with care, and lost with grief.

—THOMAS FULLER.



Latter-Day Ben Franklin

COTTRELL: *Samaritan of Science.*
By Frank Cameron. New York:
Doubleday & Co. 414 pp. \$4.50.

By BOYDEN SPARKES

THE great mystery—and tragedy—of Frederick Gardner Cottrell's life is made ironically plain (without interpretation) in Mr. Cameron's biography through an incident that occurred in London in 1921. This gifted inventor, chemist, devotee of science, and man of good will was then earning \$6,000 a year as chairman of the chemical division of the National Research Council. As a convinced internationalist he was, with typical zeal, promoting Esperanto. For his espoused cause he was passing the hat; and there in London he had treed a rich philanthropist, the late George Eastman.

Eastman supposed their new acquaintanceship was merely a coincidence of shipboard travel. Actually Cottrell (accent on *trell*) had canceled cheaper passage for a berth on the *Aquitania* to stalk Eastman. Half the brief voyage was over before Cottrell contrived a meeting. For two hours they talked about Esperanto, but Cottrell decided to await a second meeting before asking for money. Mr. Cameron's book reveals that Cottrell spent lots of time soliciting rich and influential men for help for his chosen causes. However, Eastman, the Rochester multi-millionaire, said No.

Eastman's career and wealth bring into focus the plight of Cottrell during the last third of his life (born in 1877, he died in 1948). Eastman was able to operate as a man of good will on a magnificent scale because of wealth derived from a business based on the work of scientists; most notably perhaps, that of the late Dr. George Baekeland a Belgian, who sold to the Eastman Kodak Company his patented process for making Velox photographic paper. This enabled the Eastman Company to develop photography until it was literally common property and immensely useful to humanity. What it also did for Eastman is comparatively insignificant, although that bachelor certainly could put financial force behind any cause

he liked as much as Cottrell liked Esperanto. But Cottrell, as a young man, had abandoned his own great chance.

Human progress is hastened considerably by advances in scientific knowledge; but strong, well-managed corporations, whatever their assortment of faults, are wonderfully effective institutions in furthering material aspects of this progress. Cottrell, for most of his adult life, was in the throes of a peculiar ambivalence with respect to business. When he was only thirty, and getting \$1,000 a year as a faculty member at the University of California, he seemed well on his way to becoming a rich industrialist as well as a successful scientist.

What was his great chance? A lucky accident figured in it. Tobacco smoke from the pipe of an assistant was blown into a glass jar and vanished right before the eyes of Dr. Cottrell. Out of this resulted a great advance in the art of electrical precipitation of smoke, fumes, and dust. That jar had contained a wire through which flowed a powerful electric current.

In that time, Mr. Cameron points out, the problem of controlling dust and fumes in industrial operations was "largely considered from the standpoint of being a nuisance" rather than from that of the lost "values"—the millions of tons of recoverable material that went to waste out of industrial smoke stacks.

Two companies were formed: International Precipitation, to own all the patents; Western Precipitation Company, its wholly owned subsidiary, to be an operating unit. Of 10,000 shares of preferred and 10,000 of common stock, Cottrell owned 3,000 shares of each. That was in 1907. Certainly the business had turned the corner in 1911 when Cottrell became a Government bureaucrat.

He left the University of California to work for the United States Bureau of Mines at a salary of \$4,000—notwithstanding his desire to receive only \$3,000. He transformed his business

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interests into an "endowment" for scientific work called Research Corporation, which received title to the patents of International Precipitation.

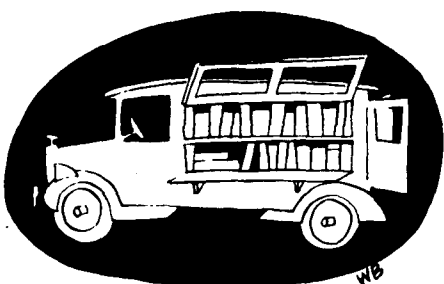
Research Corporation grew and continues to grow as a business engaged in the licensing and management of patents. Aside from this, in obedience to Cottrell, it has given millions in profits to aid scientific advances in various fields. Since the end of World War II several big companies have been licensed to manufacture precipitrons, household dust settling appliances intended to improve family life.

Nevertheless, had Cottrell not turned away from this opportunity through what appears a premature generosity, he might have fostered an industrial organization big enough to have solved to a far greater extent the problems represented by the evils and waste of fumes, smoke, and dust. But Cottrell, this well-intentioned genius, instead became a bureaucrat. From 1911 until 1930, except for a brief period, he remained in the Government's service, working in the Bureau of Mines and the Department of Agriculture.

During his boyhood there had been many signs that Frank Cottrell was a scion of the Benjamin Franklin tradition. Much too commonly "success" is underrated as something stemming from the influence of Horatio Alger when the real influence was Franklin, exponent of hard work, thrift, scientific knowledge. The boy Cottrell, at thirteen, operated a number of business enterprises; job printing, publishing, and landscape photography for real estate dealers. He installed electric doorbells. A magazine he published and edited, called *The Boys' Workshop*, enjoyed second-class mailing privileges. He certainly ran his business ventures for a profit.

How, then, did he happen to get fixed in his conscience a reluctance to take his due reward in many, many situations of his later career? What Mr. Cameron sees as nobility of purpose in Cottrell's repeated refusals to make the most of his opportunities seems no more noble, in fact, than

(Continued on page 46)



Belles-Lettres. *There is a cyclical theory of literary history according to which the reputations of authors undergo periodic rises and declines until finally they stabilize at a generally accepted critical estimate. To contemporary critics and scholars the reputation of Alexander Pope is clearly in the ascendent. The poet who yesterday was accused of facile brilliance and bad manners is today back in fashion. The four books reviewed below, though unequal in merit, demonstrate Pope's return to scholarly grace. Whether Pope has reached a secure plateau in literary topography remains to be seen. Two authors still in process of assessment are Wilkie Collins and Leslie Stephen, Victorian talents of the second rank who have waited long for full biographical attention. Kenneth Robinson's "Wilkie Collins" (page 20) is a skilful reconstruction of a little-documented life; Noel Gilroy Annan's "Leslie Stephen" (page 21) examines the influence of an agnostic and industrious writer.*

Eighteenth-Century Savant

ALEXANDER POPE. By Bonamy Dobrée. New York: Philosophical Library. 120 pp. \$3.

ALEXANDER POPE: Catholic Poet. By Francis Beauchesne Thornton. New York: Pellegrini & Cudahy. 312 pp. \$4.75.

POPE AND HIS CRITICS. By W. L. MacDonald. Seattle: University of Washington Press. 332 pp. \$4.50.

POPE AND THE HEROIC TRADITION. By Douglas Knight. New Haven, Conn.: Yale University Press. 119 pp. \$3.

By ROBERT HALSBAND

DURING the last few decades there has been, along with a revival of interest in English literature of the Augustan Age, a revaluation of its greatest poet. Now in progress are the superb Twickenham edition of his poetry, issued in this country by Yale University Press, and George Sherburn's forthcoming edition of the complete correspondence: they will afford us a sound basis for understanding the poetry as well as the poet's complex life and career. These two massive projects will be the cornerstone of future writing on Pope. In the meantime books about him continue to appear, of which the four most recent display important trends.

In his slight book Bonamy Dobrée has written an extremely generous interpretation of Pope's life, sketching the events, friendships, literary campaigns and victories, and interpolating rather emphatic praise of the poetry. To the uninitiated his book may be a persuasive introduction to the poet whose reputation has suffered in the

past, but one may still question his method of achieving that praiseworthy end. Pope is defended by special pleading, his graceless actions condoned in him (and condemned in his opponents), and his infinite stratagems charitably explained away. We are even told that the greatness of his poetry is proof of his "greatness as a man as well." These flaws arise from accepting Pope's autobiographical poems as factual. In other words, the rhetorical pose of, say, the "Epistle to Dr. Arbuthnot" is set forth as Pope's actual personality—a confusion pointed out some time ago by another scholar. Why can we not accept the poetry as great and the poet as merely human?

Father Thornton's is a full interpretive biography which tries to show Pope as "an aggressive Catholic," and is written with uncommon felicity of expression and observation, and with a sympathetic appreciation of the poetry. His particular approach is valuable for reminding us that Pope's religion rendered him the victim of several kinds of intolerance, disadvantages we must appreciate in counting up his poetic and personal achievements. Perhaps, as he suggests, Pope's devious personality is partially the result of his religious milieu. But in claiming that Pope bravely retained his faith in spite of the taunts of enemies, the biographer overlooks the possibility—mentioned by a previous scholar—that if Pope had changed his religion he would have laid himself open to far more damaging insult, that (one might say) it was a comfortably mild cross to bear. Among the

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