

relationship, if it exists, should be of volume of oil to volume of sediments of proper type instead of volume to area—entirely three-dimensional instead of partly two-dimensional—and one may suspect that area rather than volume of sediments was used because, in the studies upon which he based his estimate, volume was not available. This relationship should be even more precise for coal deposits since coal requires no secondary step to be concentrated into workable deposits, as does oil. Such relationship does not hold. From Mr. Pratt's citation that the United States, with eleven per cent of the earth's total area of sedimentary rocks, has forty-five per cent of the total estimated coal reserves, it may be derived that we have 4.09 per cent of the earth's coal per percentum of its area of sedimentary rocks and that the rest of the earth has only 0.616 per cent of coal per percentum of area of sedimentary rocks, or that the concentration of volume of coal to area of sedimentary rocks in the United States is more than six and one-half times as great as it is for the rest of the earth.

One might question also the validity of the yardstick by which the author arrives at his estimates. More than twenty years ago your reviewer attempted an estimate of world reserves upon an equal areas basis, using the continent of North America as a yard stick. He arrived absurdly low in the light of present knowledge but one which checked very closely the estimate of David White, arrived at by entirely different methods, and published a short time later.

Your reviewer hopes that our nationals have the particular genius for discovering oil with which the author credits them. Possibly, at the moment, we are more experienced than the nationals of most other countries and, to my mind, such preëminence as we may have arises out of such experience and willingness to take a gamble. We cannot overlook the competence of the Dutch-British group in all parts of the world; of the British themselves in the Middle East, in Mexico, in Russia, and in Trinidad; and of the Russians in their own land. Nor can we overlook the importance of the Swiss group of oil geologists nor of specific contributions to our own techniques such as geophysics from Germany and Hungary and electrical logging from France. Our preëminence, if such we have, lies in the size of our group of experienced oil technicians and managers and in the amount of capital which is oil minded.

For all of these disagreements, however, Wallace Pratt has made a notable contribution to a subject which is of prime national importance.

## Applied Science for Richer Land

*NATURAL PRINCIPLES OF LAND USE.* By Edward H. Graham. New York: Oxford University Press, 1944. xiii plus 274 pp. \$3.50.

Reviewed by PAUL B. SEARS

**E**DWARD H. GRAHAM is Chief Biologist of the Soil Conservation Service, a division of government which in little more than a decade has directed the restoration of some sixty million acres—an amount equal to about one-tenth of our national plow-land. Thus Dr. Graham has had abundant opportunity to observe the working of biological forces upon the landscape, both for good and ill. In addition, he teaches a course—one of the few of its kind anywhere—in the Graduate School of the Department of Agriculture. This course deals with the ecology of land use and management, and its substance is available to the general reader in this book, wisely called "The Natural Principles of Land Use."

The material in the book is generally available, for it is written in plain language, with numerous excellent photographs, skilfully paired to convey their message almost without explanation. Yet there are few professionals who will not learn much that is new and freshly presented.

The art of medicine left its Dark Ages when physicians took pains to learn about the normal human body. The other great art of applied biology—land management and use—must follow a similar course. It cannot get far by a mere policy of trouble-shooting; it must be based upon a sound knowledge of the normal processes of the natural landscape. Curiously enough, our industrial civilization makes the most realistic use of the

laws of energy and matter in planning its engines and machines. Yet it fails to realize that immutable principles also govern the complex, interwoven behavior of land and life. Part of the trouble comes from the fact that, if we want to keep the landscape healthy and in order, men must change the way they live and carry on their business. This is not an easy problem, true, but human habits have been changed to control typhoid and cholera. More of our difficulty comes, I suspect, from a general ignorance of broad biological relationships—a point of view known austere as ecology and not much taught, even in the schools. It is to this latter phase of the problem of land that Dr. Graham addresses himself. He does it so well, so simply, and with such conviction that you wonder how anyone can keep such living truth out of any place where young men and women are taught.

The merit of this book is attested by a quality which any reviewer finds troublesome. There are no striking epigrams or broad generalizations which can be plucked out as samples and guides. Rather, Dr. Graham is content to build up his argument steadily and soberly, piling evidence upon evidence with "deadly fair play," until the whole structure carries its own unity and integrity. After all, life and land are wonderfully complicated, so that anything you say too briefly about either is likely to resemble terse statements concerning Russia—being at once true and false.

Essentially, the book demonstrates the function of the land-management biologist, or ecologist—a technician quite as necessary as a city chemist, a county engineer, or a local health-officer and one who should be as generally available. It is his task to supply that perspective without which much of the work of other scientific civil servants is likely to become a kind of tinkering, often at cross-purposes. Yet Dr. Graham realizes that in the end it is not the technician, but the man who lives upon and operates the land who determines what will become of it. He, too, must be aware of the broad features of the picture of which he is a part.

And Dr. Graham makes clear, after devoting most of his volume to man's dependence upon the forces of nature, and their restrictive, often compulsive, effect upon him, that man is not a helpless puppet. For man can guide the course of events, not in the crude sense in which we often speak of our control of nature, but by knowledge of nature's laws and conformity to them.



"Grains of Wheat," from a painting by Dale Nicholas.

# A Collection of Irish Poetry

*IRISH POETRY FROM THE ENGLISH INVASION TO 1798.* By Russell K. Alspach. Philadelphia: University of Pennsylvania Press. 1943. 146 pp. \$1.75.

Reviewed by PADRAIC COLUM

THE first part of Mr. Alspach's book is not so valuable as the second for the reason that the matter treated there is more fully covered in St. John Seymour's "Anglo-Irish Literature," published in 1929—poetry written in English in Ireland and reflecting Irish conditions. There is very little of such poetry: it may be that very little was written or that much of what was written was lost in the suppression of the monasteries. Of the early Anglo-Irish poems that have come down to us, a few only, to my mind, are worth talking about. There is "The Land of Cockaigne," of course; then there is a spirited satire by some wandering scholar on the guilds and their patron saints in some Irish town; there is the "Song of Repentance," by the Baron of Ossory, which has real personal feeling in it. I greatly enjoy the satire: it is a genuine bit of medieval mockery and merrymaking and it is very curious and interesting in its verse structure. But while Seymour gives these poems completely, Mr. Alspach gives only bits.

The first part of Mr. Alspach's book shows how slow was the process of getting any racial distinctiveness into poetry written in English in Ireland. But to talk about a process is to misunderstand the situation. The poets who wrote in Irish had no interest in bringing their heritage into English, and the poets who wrote in English wanted to be like the generality of English poets. It was only when Irish declined as a literary medium, became restricted, that one finds some racial distinctiveness coming into poetry written by Irish people. The first poem in which this distinctiveness is achieved is, Mr. Alspach shows, a poem by Jeremiah Joseph Callinan, a translation of an Irish folk song, that has the music and the movement of Gaelic poetry. Mr. Alspach's survey ends with the publication of this poem, "The Outlaw of Loch Lene," because something new begins with it: hence the terminal date, 1798. I would accept this date as significant with something else in mind. In 1792 the last harpers were convened in Belfast, eight men and one woman, "all either blind or lame," as a letter-writer of the day reported. The music they were the custodians of was written down. It gave a distinctive rhythm to poems in English written to it—one

or two of Thomas Moore's, three or four of Samuel Ferguson's.

The second part of Mr. Alspach's book records the attempts made from the seventeenth century on to bring to the attention of readers of English "the matter of Ireland." It is noteworthy that the nearer they get to the Romantic Movement the better these attempts and the more interest they produce. Charlotte Brookes's "Reliques of Ancient Irish Poetry" was received favorably; in the manner of the eighteenth century it was recommended "to the antiquarian and the man of genius." This book published in 1789, though in the convention of the period, was a sincere presentation of some of "the matter of Ireland."

A seventeenth century Gaelic historian, Geoffrey Keating, furnished the source for those who dealt with "the matter of Ireland" in the eighteenth and early nineteenth centuries. Mr. Alspach makes a decided contribution to our information by showing how important Keating's work was in this respect. But as Geoffrey Keating is not even a name to readers outside Ireland something will have to be said about him in this review.

He was one of those men whose work has historical effect, not because it has intrinsic greatness but because it is the only thing of its species. Geoffrey Keating (his name shows he was not a hundred per cent Gaelic but a descendant of a Norman-Irish family and had received his training as a priest on the Continent) survived the wreck of the Irish schools. He had access to the miscellanies of prose and verse, history and romance that were still in the possession of important families, and to the annals which were still being compiled in out-of-the-way religious houses. In 1640, it is supposed, he finished his "Foras Feasa ar Eirinn"; it was the last important book, Mr. Alspach notes,



to be circulated in manuscript in the British Islands.

"Foras Feasa ar Eirinn" is by way of being a history. But it is history as written in an epoch previous to that of historical criticism. The divine beings of mythology and the heroes of the sagas are brought into the historical record. Mr. Alspach thinks of Keating as a detached agnostic, putting down a good story for the sake of the story and disclaiming any responsibility for its historical accuracy. This contradicts my feeling about the writer of "Foras Feasa ar Eirinn." Keating was like a modern refugee who puts his soul into a protest against enemy destructiveness and enemy propaganda and into a statement for his own side that might be accepted by right-thinking men. Discounted by later Irish scholars on account of the fabulous and romantic elements it incorporated, this book helped to give, through the terrible period of their downfall and dispersal, a national consciousness to those who spoke and read Gaelic.

"Keating's great work," writes Dr. Myles Dillon, "in smooth and graceful prose, was a triumph over defeat, and shows that the Irish were never stronger and finer than when the last hope was shattered at Kinsale."

It was its reminiscence of mythology and saga, "the matter of Ireland" that it contained, that made it interesting to English-speaking Irish people of the eighteenth century. A few amateurs attempted histories of Ireland taking their material from Keating. Only one, Sylvester O'Halloran, seems to have found an independent tradition. Then in the 1880's a student named Standish James O'Grady (not to be confounded with the more scholarly Standish Hayes O'Grady) read one of these quasi-historical works and got an inspiration from it. Standish James O'Grady had historical feeling and a kind of epic imagination; he divined the bardic elements behind the uncritical and prosaic narrative; meditating on the figures of Conn and Eoghan, of Finn and Cuchullain, he perceived they were larger than life and somehow charged with destiny: they did not belong to a finished record but to a future that had still to be fulfilled. Out of this inspiration he wrote his "Bardic History of Ireland." O'Grady had other material than Keating to draw on: by this time the really great scholars, O'Curry and O'Donovan, had added new domains to Irish tradition. A. E. Yeats, Padraic Pearse, and other writers were greatly influenced by O'Grady's work, and from this time on "the matter of Ireland," treated with enthusiasm and often with genius, appealed to a wide and interested audience.