

Book Reviews

The Education of Nations: A Comparison in Historical Perspective.

Robert Ulich. Harvard University Press, Cambridge, Mass., 1961. xiii + 325 pp. \$6.75.

Robert Ulich's book on the educational systems of five modern nations, including Russia and the United States, is particularly well designed to bring understanding, for he begins with a review of the nearly common heritage of 700 years, from the high Middle Ages to the age of industrial democracy. At every point, moreover, the author suggests parallels or makes analogies that show without didacticism how tightly linked the educational practice and the cultural assumptions of a period or country are. He is as ready to speak of our judgments of modern art in connection with the technological revolution as to speak of Pascal and Kierkegaard in a paragraph about the integration of science into the world of moral ideas.

If one adds to these evidences of a mind able to move easily and aptly within the realm of intellect the fact that *The Education of Nations* is written in ordinary English, which is to say, nowadays, extraordinary English, free from jargon, preciousness, or affectation of any kind, one is led to conclude that here is an uncommon work of manifest utility. The many persons from every walk of life who are at the moment gravely concerned about American schools would do well to provide themselves with a little detachment and perspective by assimilating the contents of Ulich's survey. They would find it assimilable, I am sure, not only by virtue of its lucid prose, but also by virtue of its unhurrying pace and quiet tone. Though serious from beginning to end, the work is a kind of *causerie* by a man who has read much, a man who remembers what he once read rather than copies out what he has just read. He never presses too hard on the point

he makes or the conviction he is moved by.

And this perhaps is the only weakness of the work, at least for readers who have a good grasp of the intellectual history of modern Europe and who have some acquaintance with the recent debates about education in England and on the Continent. Such readers are charmed by the author, and instructed in certain details (particularly about Russian education), and occasionally led to doubt or disagree; but they are not stirred into sharing a vision of past, present, and future. I do not mean that Ulich lacks an individual voice. He is a finely tempered rationalist, who balances reason with moral and esthetic sensitivity. He is a cosmopolitan mind of that rare sort to whom internationalism is a positive premise, not a means of expressing ill-digested resentments. No one would want to upset this urbane equilibrium by a greater dose of partisanship. But what one would wish from so competent a guide, from a spirit so self-aware and judicious, is—if I may press the image of judgment—a stronger charge to the jury.

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Sea Birds. Charles Vaucher. Translated from the French by James Hogarth. Oliver and Boyd, London, 1960. 254 pp. Illus. (225 photographs, 15 in color). £5 5s.

This English edition of *Oiseaux de Mer* (Delachaux and Niestlé, Paris, 1958) is primarily a remarkable collection of well-reproduced photographs, almost all of them of birds which breed exclusively on oceanic islands or coasts; but the text is well written, and the introductory chapter, "Islands of the birds," and the 14 chapters devoted, respectively, to the fulmar, the cormo-

rant, the shag, the gannet, the common eider, the shelduck, the arctic skua, gulls (four species), the kittiwake, terns (seven species), the razorbill, the guillemot, the puffin, and the oystercatcher, ringed plover, and turnstone are not to be dismissed as mere accompaniment or *obligato*. I have listed these names to make clear which sea birds are dealt with. As the author states in his foreword, the book is concerned only with certain species, notably those which live on the Farne Islands off the coast of Northumberland, Bass Rock and Tentsmuir Point in Scotland, the islands of the Stockholm Archipelago, and the islands near the biological station of Tvärminne in Finland. The peregrine falcon, which often preys upon the sea birds of northern Europe, is not discussed.

Coverage of the above-named 25 species is not equal by any means, the decidedly photogenic adult gannet being represented by no fewer than 26 photographs, including three striking color studies, one of which is used as a frontispiece and also on the dust jacket. Admirers of Vaucher's photographs of flying gannets will be hauled down from ecstasy by the humble little portrait of a 3-day-old gannet, which reminds one of a singed, decapitated hedgehog. I studied this photograph a long time before I found the creature's head. Finally, convinced that the eye was nowhere visible, I realized that what I had been calling the back of the neck was the top of the head and that the slightly opened bill was pointed almost straight down. Another nonphotogenic subject, the rock pipit (page 245), is the only passeriform bird pictured.

Three photographs are of seals on the Farne Islands, and several photographs are of the shore with its waves, limpets, barnacles, seaweed, "polished rocks," and spider crabs. When I first looked at the lower of the two pictures captioned "Molluscs and seaweed carpet the rocks" on page 24, I misidentified some of the "molluscs" as cliff swallow nests. I continue to be disappointed that the handsome little alcid known as the black guillemot, the bird the Eskimos call the *pitseolak*, is represented by only one photograph, and this a not particularly distinguished one. But what *Sea Birds* lacks in black guillemots is compensated for by seascapes as thrilling as the oil paintings of Frederick Waugh, by a remarkable twosome showing the wing-tip patterns of the herring gull and common gull (page 138), and by many action studies of birds in flight.

I am a very poor photographer, but I have devoted much time to bird painting; Charles Vaucher's photographs reveal certain facts about what a human being can hope to see of birds, and these facts may well be discussed here. Please look at the well-composed picture of flying gannets on page 84; here it will be observed that in the uppermost bird the white under side of the body, the part below the nearer wing, is *lost completely* to the eye as a result of shadow plus reflected color. The average bird painter (the word *average* is not intended to be snide) would feel it necessary to show the whole bird in order to give the viewer his money's worth, so to speak; but Nature seems to delight in breaking up shapes, in dissolving edges, and in neutralizing, changing, even destroying "local color." The top surface of a flying crow can flash pure white as the glossy plumage catches the sun; a flock of flying or running wild turkeys can lose their darkness and their gorgeous iridescence entirely in certain lights; the gray of an ordinary catbird (*Dumetella carolinensis*) can become as blue as the blue of an adult male blue grosbeak (*Guiraca caerulea*) on a cloudless summer day. This I know from memorable experience: I once shot a blue grosbeak in a stand of locust saplings; I was dead certain that my bird was of that species; but the dead bird that I picked up was a catbird.

The Swedish artist Bruno Liljefors knew wonderfully well how parts of birds and mammals can disappear as the sun-struck, shadow-marked creatures stand or crouch or move about in their habitat. One of his large oil paintings of a company of curlews is a meaningless mass of daubs at close range, but at a distance the eye finally sees the curlews in the grass, and the mind grasps the all-important fact that the process of finding the bird-shapes on the canvas has been very like that of finding the birds themselves in their actual habitat. It can be argued that more is to be expected of the artist than of the camera; but to my way of thinking the really great artist must fully understand *all* relationships between the viewer and that which is viewed; let him eventually become an abstractionist; let him eventually swing completely away from representation of that which is usually called and thought of as visible; even so, he will—even as did Picasso, who had his academic period—become the greater for having gone through the schooling process, for hav-

ing first learned, then deliberately, wittingly, intentionally unlearned.

What I am trying to say is that the photographs in such a work as *Sea Birds* can be a guiding force for a bird artist. No honest artist will allow himself to copy a photograph directly; but he will study shapes, edges, highlights, and shadows avidly, hoping to come to a full understanding of them. Especially will he study eyelids and mouth corners and feet—parts of birds which dry up and lose shape badly after preparation as museum specimens.

The ecologist, as well as the artist, will find *Sea Birds* stimulating. Vaucher does not, I rejoice to observe, feel it necessary to employ the complex, hyphenated terms so many ecologists employ. He is, none the less, a sound student of habitats; his presentation as a whole is proof of this. Nowhere in *Sea Birds* is there an element that does not belong in a very real sense to the *oikos* about which the author so clearly speaks through both photographs and text. Here are the cliffs with their masses of guillemots and gannets, the position of each bird so determined by "space requirements" as to give the colony a surprising symmetry and orderliness. Here is the pounding surf, with the rocks it has worn smooth, the chasms and arches it has formed, and the birds that have found nesting places thereon. Here are the flowers known as thrift and sea-campion and the terns that find summer shelter among them. In the so-called "descriptive summaries," which might well have been included in the major writeups, more could have been said about the way in which populations of the several species fit together in occupying available nest sites, in sharing predation pressures, and in competing for food at the height of the nesting season. For example, the lateness of the nesting of the lesser black-backed gull is mentioned, but there is no explanation of the way in which this delay insures protection for the eggs and chicks by the developing vegetation, an important point made in the chapter "Breeding time in the gull colonies" in F. Fraser Darling's remarkable little book, *Wild Country* [Cambridge University Press (1938), pp. 47-55].

Most of the errors in *Sea Birds* are minor. But some of them must be mentioned lest readers be led astray. The lovely "lesser black-backed gull" shown in color on page 117 is actually a great black-backed gull (*Larus marinus*), as careful comparison with specimens will

show. The black-and-white photograph of a great black-backed gull on page 132 is correctly identified. The two photographs, though not necessarily of the same individual bird, were taken at the same nest. The lesser black-back (*L. fuscus*) is decidedly more slender of bill and less slaty on the back than the bird shown in either of these two photographs. The statement to the effect that procellariiform birds "can only shuffle slowly and clumsily about on their tarsi" (page 35) does not apply to the albatrosses, a small but important procellariiform family (Diomedidae). The eye of the adult gannet is not gray (page 68) but pale yellow (see frontispiece). Evidence of very poor translation or of careless proofreading is the phrase "carmine-pink gills" which should read "carmine-pink bills" (page 87).

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Plasma Physics. James E. Drummond.
McGraw-Hill, New York, 1961. xiv
+ 386 pp. Illus. \$12.50.

Although the prospects for developing practical sources of thermonuclear energy seem remote, vigorous research programs in the field have excited considerable interest in plasma physics. It is only within the past few years that a full appreciation of the complexity of the plasma state has been achieved and exploited in the laboratory. This volume contains a collection of survey articles on recent advances in the field. All the articles are on a high technical level.

The introductory chapter on plasma oscillations (by Drummond) contains an interesting historical review and an unusually complete list of important publications on the subject. There follows the volume's *pièce de résistance*—a long article by Klimontovich and Silin on the spectra of systems of interacting particles. The authors pay particular attention to quantum mechanical questions and recent statistical mechanical considerations of collective effects; thus, they introduce a more fundamental approach to microscopic phenomena than is usually found in the literature. They also discuss the energy losses of charged particles which are able to excite collective oscillations in passing through a medium. Again, the bibliography is a valuable one.