

Outward Bound

SHIRLEY LORIMER

The Stars Belong to Everyone: How to Enjoy Astronomy, Helen Sawyer Hogg. Doubleday, 1976. 274 pp. \$12.50 cloth.

Astronomy has traditionally been the most abstract of the natural sciences. There was nothing that could be taken into a laboratory, weighed, tested, evaluated; the tools of the astronomer were the telescope, the spectroscope and mathematics. All that changed when the first man stepped onto the moon, and has changed perhaps more thoroughly if less dramatically with the journeys of the unmanned Viking, Mariner and Pioneer ships. Their photographic records and sampling techniques have provided new and extraordinary frames of reference for the universe; we have a global village and a new frontier, if not a very hospitable one. For the ordinary Earth-dweller, television has brought this knowledge within the walls of home, while planetariums draw large and enthusiastic audiences.

Nonetheless, thinking in abstractions, comprehending the theories guiding physics or astronomy, does not come easily to the great majority of humans. Explaining the theories in language suitable for an untrained adult or child is exceedingly hard. Furthermore, city dwellers tend to have a view of the sky much more restricted than any earlier peoples, both because of the height of buildings and their density, and because of the brightness of the night sky. There is a fictional quality to space probes watched on television when the view out the window is a circumscribed chunk of hazy gray; in the country on a clear night the brilliance of the stars, the quick sight of a falling star, exerts the same fascination it did on the Greeks centuries ago, with now perhaps a satellite pursuing its assured path as an added feature.

Whatever the difficulties, there are plenty of authors willing to try to explain astronomy: the shelves of the children's section of our local library possess a good eight feet of books on one or another aspect of astronomy. Most settle on a specific topic, Mars or Venus, or the Sun, and produce a book of the usual dimensions for children's literature (Richard Adams excepted). Many have excellent illustrations and reasonable clear descriptions. For an adult or older child, they can be limited, simplistic and slow-moving. For those who want a

comprehensive book that neither talks down to readers nor employs mathematical terminology, Helen Hogg's *The Stars Belong to Everyone* is a definite find. Her style shows the influence of her many years as an astronomy columnist for the *Toronto Star*; it is pleasantly journalistic and fluent, with an easy grasp of the colloquial word that will acceptably define a scientific concept. At the same time her scientific background is impeccable. Now a Research Professor at the University of Toronto, she has been a practising astronomer for over 40 years, is a recognized authority on globular star clusters and variable stars, and has held numerous prestigious positions in professional organizations.

A warning must, however, be issued: the book is a good hard read for an adult, when taken whole. Its slender size is deceptive. It will take an unusually able and interested reader under the age of twelve to get much out of it; those who like it best are the reasonably interested teen-agers, 14 to 17 year olds. The absence of scientific terminology is only a matter of degree; positions of stars, for instance, are regularly charted in terms of degrees above the horizon, and "light-years" is used as a matter of course. For all teachers involved in elementary or secondary school science, parents who want to become knowledgeable, and (definitely) all science fiction buffs, the book is highly recommended.

One of the attractive features of the book is its structure. The author begins with the close-at-home and familiar, describing the atmosphere around the earth and the natural events—rainbows, mirages and northern lights—that occur within it. From there Dr. Hogg proceeds outwards to the moon, to the planets, the stars, our galaxy and those beyond. Material becomes increasingly unfamiliar, tentative and abstract, with black holes and quasars exerting an imaginative charm much beyond intellectual grasp. In their proper places we have sections on comets, meteorites, the Milky Way and similar phenomena. One is left with a curious sense of a vast but ordered universe; I was incongruously reminded of Richard Hooker's seven symmetrical heavens in the *Ecclesiastical Politie* of 1594.

Dr. Hogg is an historical astronomer as well as a practising one, and sketches of various astronomers are interspersed among the other material. There is Abbé le Gentil who spent 11 years attempting to chart the transit of Venus, only to fail in the end because of a cloudy day. There is Heinrich Schwabe of Dessau, who faithfully observed the sun through his telescope every day for 30 years—or had, when presented with the Royal Astronomical Society's Gold Medal. He may have persevered for years after that. There is E. E. Barnard, who had in all two months' schooling and who discovered 19 new comets; with the prize money he was awarded he was able to build himself a house.

The section on Halley's comet is a good example of Dr. Hogg's combined scientific and historical approach. This is the comet recorded in the Bayeux Tapestry as appearing in 1066. The first record of its appearance dates from 240 B.C.; in 451 A.D. it was regarded as an omen of the death of Attila. The 1066 appearance was recorded almost simultaneously in China, Japan, Italy and England. "I can't wait until 1985," I heard a 14-year-old exclaim with passion. "Um, why?" "That's when Halley's comet comes back". We'll be expecting it.

An unexpected consequence of this looking outward into the universe is a new appreciation of our own planet. We are wrapped in the comparative safety of our atmosphere, a veritable security blanket, protected from too great extremes of temperature, from most meteorites and other flying objects, from too rapid dissipation of water and oxygen. "The surface of our earth is a heaven—a land flowing with milk and honey—beyond any other spot known in our universe," Helen Hogg wrote that in her introduction to the Noranda Lectures in 1967; its truth has become clearer with every passing year. We have in sufficient supply water and oxygen, we have temperature variations fantastically more equitable than any other known star or planet. When we realize just how rare these characteristics are, how vast are the quantities of methane, ammonia, helium, hydrogen—any one of which could eliminate the possibility of life as we know it—we realize how thoughtfully we must conserve our resources. Heaven is here on earth, and our resources are not natural but supernatural, in any universal terms.

The ability to change focus from the universal to the particular is a distinctive part of Dr. Hogg's approach. From pulsars and supernovae she closes in to a consideration of how often "once in a blue moon" is. (The answer is about once in a lifetime; only then does atmospheric dust, usually the result of volcanic eruptions or very large forest fires, scatter light rays to the extent that the moon appears blue—or, even more exotically, mauve.) This change of focus would also appear to occur in Dr. Hogg's life; the organizations to which she belongs include, along with the eminent astronomical societies one would expect, the Richmond Hill Field Naturalists. Her recreations are listed as knitting and gardening.

Doubleday has turned out a crisp and tidy book, easy to shelve, competently illustrated, with excellent print. There are other books, especially those specifically for children, that have more and better illustrations, but the ones in *Outward Bound* are carefully chosen and reproduced, and are completely up to date. My one quibble is over the title. Whether it is Dr. Hogg's choice or the publisher's, it seems unsuited to the book. There is a great deal more than stars dealt with

here, while the idea of their belonging to us, of any human exerting property rights over these remote giants, is downright ridiculous.

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Cultural Legacy in Canadian Folklore

JEANNE HENRY

Bluenose Ghosts, Helen Creighton. McGraw-Hill Ryerson, 1957 (1976), 280 pp. \$4.95 paper.

Folklore of Canada, Edith Fowke. McClelland and Stewart 1976, 349 pp. \$10.00 cloth.

Strange Tales of Canada, Louise Darios. McGraw-Hill Ryerson, 1965. 162 pp. \$6.95 cloth.

Folklore is frequently the only tangible legacy of a culture now gone, or at least so changed as to be scarcely recognizable for what it was. Even this endowment might well not have survived were it not for the efforts of nineteenth century collectors and their successors who continue the storytelling tradition (albeit in print) through numerous collections and retellings of folklore.

There are, though, some doubts being expressed as to whether folklore really has any future in our scientific and technical epoch. It would be easy to believe that we have become too sophisticated to enjoy the record of peasant experiences, much of which is rough edged, repetitive, haphazard, unself-conscious and predictable. But if that is so, folklore would not be such a prevalent topic in the spring and autumn releases from numerous publishers, a prevalence which suggests a popular readership of both children and adults. Nor would psychologists, sociologists and historians continue to look so closely at folklore, attempting to find in it insights into our traditions and our national psyche.

Perhaps each age—ours more than others—needs to retell the tales, the myths, ballads, riddles, legends, superstitions of its tribe for its own generation. In a rootless age, folk literature provides a satisfying connection to our forebears, giving us and our children a living experience of who they were and what they believed. In a country with a