

Book Reviews

Oil on Their Shoes. Petroleum geology to 1918.

By Ellen S. Blakey
American Association of Petroleum Geologists, Tulsa, Oklahoma
 202 p., 1985; AAPG members: \$34 US;
 non-members: \$38 US

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During the last few years, there have been a plethora of books on the petroleum industry published in the United States. Some of these are of great historical value; some tell the stories of individual oilmen, dully or vividly; and some are "coffee table books", large in format and consisting predominantly of photographs, intended to be skimmed rather than read.

The histories are usually success stories, temporary or longer-term, of companies, cities or regions. The urban and regional histories tend to be reasonably impartial assessments, recounting successes or failures in balanced fashion — except that, as one approaches recent times, the objectivity declines and only the successes are stressed. Among the company histories, Ida Tarbell's *The History of the Standard Oil Company* (McClure, Phillips, New York, 1905, 2 vols.) — that careful and devastating analysis of the career and methods of John D. Rockefeller, Sr., which generated the US legislation seeking to control monopolies — set a standard which few other writers have ever striven to attain. Most subsequent company histories and most biographies of individual oilmen are in comparison pallid works, most often written under financial support from the company or individual and almost always with a view to pleasing the patron. Criticism and appraisals, or even the shadow of a detached attitude, are depressingly rare.

To extract worthwhile material from this dense sediment of literature, the historian of geology needs to sieve very carefully. Biographies of those few geologists who have

become millionaires share all the faults of the other biographies of oilmen — in particular, a tone of hushed reverence and a perceptible effort to burnish the polish of, rather than removing the gloss from, the paragon. Lon Tinkle's biography of Everette Lee DeGolyer, *Mr. De* (Little, Brown, Boston, Mass., 1970) and *Wildcatter* (McGraw Hill, New York, 1979), Jack Donahue's worshipful and vague biography of the formidable Michel T. Halbouty, serve as examples. The autobiographies are more illuminating. James B. Eby's *My Two Roads* (Pacesetter Press, Houston, 1974) is lucid and forthright; John T. Scopes' *Center of the Storm* (Holt, Rinehart and Winston, Chicago, 1967) is a reasonably frank self-appraisal by the man who, after his star role in the Tennessee "Great Monkey Trial" of 1925, became a very typical sort of petroleum geologist; while Walter Youngquist's *Over the Hill and Down the Creek* (Caxton Printers, Caldwell, Idaho, 1966) is both amusing and highly perceptive. In the company and regional histories, unfortunately, geologists are paid little more than lip-service; it is admitted that they exist, but little attention is paid to their major contributions to the petroleum industry. The real tributes are reserved for the engineers, the production managers and (of course!) the financial manipulators who fixed the share-distributions, arranged the takeovers and made most of the money.

Some years ago, the American Association of Petroleum Geologists went a long way toward redressing this imbalance by publishing, quite inexpensively yet lavishly, Edgar Owen's careful, authoritative and extremely fascinating *Trak of the Oil Finders* (American Association of Petroleum Geologists, Memoir 6, 1975). This remains in print and is a "must" for anyone seriously interested in the development of petroleum geology; there is no account of even comparable range and quality and it is unlikely that there ever will be. That book is quite well illustrated, but its format did not permit large-scale, high-quality photographic reproduction.

Oil on their Shoes serves as a companion piece to Owen's work. It is the first "coffee-table-style" book specifically devoted to petroleum geology, containing well over a hundred photographs from the heroic days of

the search for petroleum, when geologists had still to prove to the businessmen that their salaries were a good investment and the products of their scientific skills superior to methods of "rule-of-thumb" or divination. Alongside these photographs is a text written in lively style, with many direct quotations from the writings and letters of geologists that do truly evoke that fascinating time of not-so-long-ago.

The quote from the *Nebraska Telegraph* that gives the book its title is so delightful, if double-edged, that I shall repeat it here:

"If you see a man walking down the street with oil on his shoes, where it shouldn't be, and no oil on his hair, where it should be, that's an oil man. If he has a faraway look in his eye and seems to be contemplating the depth of the first Jurassic sandstone in Persia, that's a geologist.

"Have pity on him. He's just as lonesome as he looks. He'd love to tell you everything he knows, but he doesn't know how. When he greets St. Peter at the gate and is asked to give an accurate account of his life on earth, he'll start out by saying, 'Well, whatever I say I don't want to be quoted because you can never tell what might happen, but...' That, my friends, is a Geologist."

Many of the other stories are equally memorable. Sometimes they make one wince, as when a dream led quite irrationally to a major discovery (p. 18) or when heifer dung was successfully used, in preference to geological data, as a method for locating wells (p. 79). Others are more satisfactory to the geological reader, as when Standard of California, after discharging its geologists, was convinced into rehiring them by Eric Starke's perception and chance-taking (p. 75) or when thorough stratigraphical studies located the great Eldorado field in Kansas (p. 104). Yet other stories are hair-raising, as that of C.H. Hamilton's narrow escape from death from poisonous gases and boiling water (p. 79), or hilarious, like the story of the "beer well" (p. 23). One can also, with hindsight, relish the words said by a disgruntled Producer's Oil Company geologist to young Wallace Pratt (p. 145):

"Why do you waste your time in Texas? Why don't you come up to Oklahoma where the oil is?"

Much amusement can be obtained from this text, then, and quite a bit of instruction gained painlessly. Yet geological historians will encounter too many imprecisions and irritations for their enjoyment to be unalloyed.

A great asset of Owen's work is that it did not concentrate wholly on the United States, but treated with the whole world. This new book is less broad in coverage, perhaps simply as a consequence of the availability of photographs. Much of it treats with the United States, but Mexico is well covered (p. 47-49, 51, 75-79, 90-92) and Colombia also (p. 116-132, 164-171). A number of other countries gain briefer treatment — Peru (p. 49), Venezuela (p. 93-95), the Caucasus, USSR (p. 51), Borneo (p. 51), Belize, Honduras and Guatemala (p. 162-164) and Turkey (p. 109-114). Canadians will be pleased by the fact that Logan's discoveries in the Gaspé gain proper mention (p. 11), less pleased that the discovery in Ontario (p. 23-24) is treated after, and less fully than, that in Pennsylvania. All in all, for whatever reason, the geographic coverage is very unequal.

Some inclusions are equally puzzling. Why that vague mention of Edward Hitchcock's work (p. 11)? Florence Bascom was not a petroleum geologist; is her inclusion (p. 183) a defensive nod to the feminists? Why that photograph of a glacial erratic, on p. 32? Why treat with mining in Mexico (p. 158-159) or volcanic geology in Hawaii (p. 133-134)? Surely there was enough else on petroleum geologists and their doings, without there being need for such irrelevancies?

There are a number of errors and misleading statements. That early offensive weapon called "Greek fire" was not merely crude petroleum, as the text states (p. 3), but prepared from a much more complex recipe that proved extremely dangerous because it was spontaneously inflammable in sunlight. We do not owe the term "Uniformitarianism" to James Hutton, as is implied on p. 4; it stems instead from the much later work of Sir Charles Lyell. Misprints are tiresomely numerous — "Pennsylvania" (p. 24); "Cecil Rhoads" (p. 61); "Kirtley F. Matther" (p. 94); and the several-times-repeated "Elwin Theodore Dumble" (p. 29, 47). Quotes are missing in several places, sometimes at the beginning of paragraphs (e.g., last paragraph, p. 158), sometimes at their end (paragraph 2, p. 113). Lorand Eötvös's name (p. 101) has lost its accents and, on the same page, one needs to be aware that "Turner Valley, Canada" is the famous Turner Valley of Alberta. Worst of all is p. 98, whose text begins in mid-paragraph. Such errors could have been eliminated very readily — and *should* be eliminated, before any second printing is made.

I am not sure whether the photograph reproduced on p. 104 was badly trimmed in the original or during reproduction. As it

stands, one can only presume that the persons depicted in line on the snowfield were skiers, since their legs are chopped off!

The captions generate problems and irritations also. Undoubtedly, many must have been so inadequately labelled in their original form that little could be done. However, in other cases, more precision could have been obtained with minimal effort. A good gazetteer or an enquiry would surely have tied down "Victoria, South America" and "Loma Corredor, South America" (p. 122) — and did Kessack Duke White really investigate *all* of that continent? (p. 126). A large task, if so! Surely it would have been easy to locate more specifically "Pence Rock" and "Pence, Canada" (p. 178, 181), especially since the IUGS went there? And, whilst it is interesting to know that Everett Carpenter was chief geologist (p. 175), it would have been nice to know of what! (Perhaps Cities Service Co., in view of the photo credit; but not necessarily, when there have been so many changes and amalgamations). All in all, one is left feeling that, in formulating the captions, much valuable information has been suppressed or simply not sought.

The "Select Bibliography" is an amateurish abomination. It is rife with inconsistencies. Sometimes publishers' names are given; quite often, they are not. Journal citations sometimes give pagination, sometimes only the volume and issue number, in one case only the name of the magazine! Such entries as:

"Wallis, William E. " *Oil is Where you Find It* ". Notes."

are scarcely helpful. Its inclusion into a bibliography implies that this work was published; but there is no date, no place of publication, no publisher. Unpublished notes, then? If so, where stored?

There is no least attempt to tie in the numerous quotations in the text, either with this bibliography or with the contributors of material listed on p. 190-191. Serious researchers, trying to track down sources, will encounter only frustration.

It is a pity that so well-conceived a work, with such a lively and readable text, should be so badly flawed. May I trust that AAPG will produce a second edition, in which these problems are remedied?

In the meantime, one should not analyze this book too profoundly, for it will not stand up to such analysis. Nor should one view it as a text suitable for educational use. Instead, treat it simply as a coffee-table book — as something by which to savour the flavour of a past period, for the photographs and text evoke that flavour very well. And, for the facts, turn back to Owen!

Trilobites of the Upper Cambrian Sunwaptan Stage, southern Canadian Rocky Mountains, Alberta

By Stephen R. Westrop

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Stephen Westrop has made a very important contribution to our knowledge of the paleontology of the Upper Cambrian strata of the southern Canadian Rocky Mountains. Over 9000 trilobites were collected and identified from six measured sections located in these rugged mountains, beginning near Banff, Alberta and extending northwestward to Chaba Creek. The trilobites were assigned to 81 genera and more than 130 species, including three new genera and 21 new species. Most of the trilobite collections came from the Mistaya and Bison Creek Formations, but a few collections were recovered from the upper part of the underlying Lyell Formation and some collections came from the Basal Silty Member of the overlying Survey Peak Formation. The biostratigraphic interval studied begins in the Upper Cambrian Middle Franconian Stage (*Elvinia* Zone) and continues through the upper Franconian, traverses the entire Trempealeauan Stage to the top of the Cambrian, and ends in the lower part of the Lower Ordovician Ibexian Stage (*Symphysurina* Zone). Most of the interval studied is usually called the Ptychaspis Biome; Westrop and his mentor Rolf Ludvigsen have proposed that this interval be called the Sunwaptan Stage, which is the term used in the title of the paper.

Westrop made a special effort to collect large samples from the fossiliferous beds, so that he would have a sufficiently large number of specimens for most species in order to perform some statistical manipulation of the data. He used Q-mode and R-mode clustering analysis to define twelve biofacies, which are discussed within a regional framework of seven biostratigraphic zones. Many of the numerically dominant taxa that define the biofacies have occurrences that are restricted to particular lithologies. These biofacies-lithofacies associations in the Bison