

MOBY DICK AND OIL  
PARALLELS AND FUSIONS IN THE WHALING INDUSTRY  
COMPARED TO THE PETROLEUM INDUSTRY

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We hereby recommend that the thesis prepared under

our supervision by Edna Louise Prange

entitled Moby Dick and Oil

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Industry Compared to the Petroleum

Industry

be accepted as fulfilling this part of the requirements for the Degree of

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## PREFACE

My first reading of Moby Dick in an American literature course conducted by Dr. Gladys Maddocks was a mature discovery, which changed the direction of my graduate study and eventually created the subject of my thesis. I had planned to write on diplomatic men of letters after a trip around the world in the United States Foreign Service. Melville sent me deeper into personal experience. His Moby Dick returned me to the oil fields, where I had spent thirteen years in gainful employment.

Visualizing a relationship between the whaling and petroleum industries, I began to investigate the mechanical substratum of the novel. And it was found no less worthy of further exploration than the well-traveled allegorical areas through which scholars customarily plunged into the philosophical depths of the work. Savoring the abstract as well as the tangible, I concentrated upon that aspect of Moby Dick for which the book was first received and later neglected. By treating the material aspect of oil related directly to the product of the whale, I found overwhelming parallels in the petroleum industry. The secondary recovery often assumed the nature of fusion as opposed to strained comparison.

In attempting to emphasize the fundamental story of whaling, I was carried on the rapturous waves of Melville's prose into a broader view of the petroleum industry. While I had enjoyed a wide work experience with Humble Oil & Refining Company in locations ranging from Houston to Los Angeles, I did not fully realize, until I undertook this study, how basic petroleum is to our present civilization. This second discovery was forceful enough to make me on occasion lose sight of the literary emphasis in Moby Dick. Fortunately, I had a prudent guide in my director, Dr. Maddocks, who kept me on course without diminishing enthusiasm for the subject. I felt as if I were constantly sharing the excitement of the adventurous research. Her reaction to its original worth and her sustained support in its development helped to explore new literary pay in a closely drilled field.

I also wish to acknowledge my debt to Dr. Autrey Nell Wiley, whose faith in me as a potential graduate student and teacher shaped a new, satisfying career. She opened a world with horizonless mental dimensions and deepened a mind eager to grasp the import and organization of academic knowledge. In addition, I owe Dr. Constance Beach gratitude for her close and appreciative reading of this thesis.

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## CHAPTER I

### EXPLORATION

The development of the petroleum industry, fully as epic as whaling in an American historical sense, closely followed the publication of Herman Melville's Moby Dick in 1851. Eight years later petroleum was discovered in Pennsylvania. "Kerosene, petroleum, and paraffin began rapidly to replace whale oil, sperm oil, and spermaceti wax as illuminating oil, lubricants, and raw materials for candles."<sup>1</sup>

In the mechanical substratum of Moby Dick the theme of oil, not too late for the romantic age, is also prescient of the realistic twentieth century. Melville uses, as Lewis Mumford points out, the "stuff" of his world, such as its science and exploration, to create a modern myth in which the facts are not lost in "further interpretation."<sup>2</sup> Although there is admission in Melville's chapter on cetology that the object "is simply to project the draught of a systematization of cetology,"<sup>3</sup> the methodical approach to the anatomy of the

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<sup>1</sup>Charles Olson, Call Me Ishmael (New York: Reynal & Hitchcock, 1947), p. 18.

<sup>2</sup>Herman Melville (New York: Harcourt, Brace & Company, 1929), p. 193.

<sup>3</sup>Herman Melville, Moby Dick (New York: Dell Publishing Co., Inc., 1959), p. 161.

whale constitutes thorough geological exploration of oil in the source common to the mid-nineteenth century. Obviously, the draught subsequently developed into an overwhelming gulp. Tyrus Hillway was sufficiently impressed by the volume of the cetological material to count the chapters featuring the subject:

The importance of the cetological materials in the present version of Moby Dick may be gauged quantitatively, at least, by counting the chapters which contain descriptions of the whale and his habits. It may surprise many readers to learn that eighteen full chapters and substantial portions of about fifteen more are devoted to the subject. This comes to almost a quarter of the total number of chapters in the book, and Melville's chapters pertaining to whaling as an industry are not included in the estimate.<sup>4</sup>

Howard P. Vincent credits the beginning of the cetological center in the novel with the merits of a formal essay replete with bibliography, definition, and classification. One exception, in Vincent's view, must be noted: "Melville's tone is mocking and his procedure high-spirited."<sup>5</sup> I respond to the personal theory that Melville employed irony when his facts were thin. In a conglomerate of fact and fancy, the writer is at liberty to dismiss the killer and thrasher whales, whose oil was unknown, with sadistic comparisons to warring

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<sup>4</sup>Melville and the Whale (Stonington, Connecticut: Stonington Publishing Company, 1950), p. 10.

<sup>5</sup>The Trying-Out of Moby-Dick (Boston: Houghton Mifflin Company, 1949), p. 126.

man and thrashing schoolmaster.<sup>6</sup> Discounting other asides in a lighter vein under cover of a social pun, as for example the phallic humor in the description of the Narwhale,<sup>7</sup> one finds cataloged a good sampling of oil, together with whale by-products in later relationship to petroleum by-products.

In essence, the incidental exploration for oil follows another twentieth century petroleum pattern. The location and yield of whale oil in the world hunting grounds could not be predicated on any uniform basis with absolute consistency. Neither can the source of petroleum.<sup>8</sup> According to Vincent, Melville's primary "fish documents" were serious works by the following authors: Beale, Cheever, Browne, Bennett, Scoresby, and Olmstead.<sup>9</sup> From them the author of Moby Dick incorporated into Chapter 32 discussions of oil in commercial amounts.

<sup>6</sup>Moby Dick, p. 170.

<sup>7</sup>Robert Shulman, "The Serious Functions of Melville's Phallic Jokes," American Literature, XXXIII (May, 1961), 180.

<sup>8</sup>Habitat of Oil, A Symposium; Conducted by the American Association of Petroleum Geologists, ed. Lewis G. Weeks (Tulsa: The American Association of Petroleum Geologists, 1958), pp. 3-4.

"The doctrine of uniformitarianism has been grossly overemphasized. Of course one finds similar products resulting from similar environmental conditions, but gross conditions . . . as a rule varied considerably, actually to form strong contrasts from one period to another. Certain periods and stages of earth history, for instance, are singularly spare in oil production or indications; others produce large percentages of the world's oil."

<sup>9</sup>Vincent, pp. 134-35.

Commercially, the sperm whale promised the best yield, and his capture was almost tantamount to a surface oil seep. As a species, Melville described his leviathan hero as "without doubt, the largest inhabitant of the globe; the most formidable of all whales to encounter; the most majestic in aspect; and lastly, by far the most valuable in commerce; he being the only creature from which that valuable substance, spermaceti, is obtained."<sup>10</sup> Before this whale was individually identified and when his oil was obtained solely and accidentally from stranded fish, the scarce spermaceti was reserved for an ointment and medicament.<sup>11</sup> Similarly the horn of the Narwhale, or Nostril Whale, provided what was mystically believed in ancient times to be an antidote against poison.<sup>12</sup> While his oil was considered high gravity ("very superior, clear and fine"), there was so little of it that he was seldom hunted.<sup>13</sup> This was not the case with the Huzza Porpoise, for whom Melville made small apology in classifying it as a whale. The one-gallon yield of delicate fluid extracted from the jaws of a well-fed, plump Huzza Porpoise sold to jewelers and watchmakers at an exceedingly valuable price.<sup>14</sup>

If the Pequod was concerned with only the sperm whale, and in the final analysis one particular sperm whale, Melville

<sup>10</sup>Moby Dick, p. 163.

<sup>11</sup>Ibid., p. 164.

<sup>13</sup>Ibid., p. 170.

<sup>12</sup>Ibid., p. 169.

<sup>14</sup>Ibid., p. 171.

was not. Like an underwater exploration crew which extends land maps beyond shorelines in bays where drilling permits could never be obtained, the cetology classifier encompassed the full scope of his research. He included such whales as the right, Greenland, and hump back, primarily baleen-bearing creatures. To capture one of these whales on a voyage mapped for spermaceti might be compared to finding gas when drilling for oil.<sup>15</sup> The right whale's potential was typed in the following statement: "It yields the article commonly known as whalebone or baleen; and the oil specially known as 'whale oil,' an inferior article in commerce."<sup>16</sup> Oil in the Greenland whale, notable for baleen, is not mentioned.<sup>17</sup> Of the oil in the hump back whale, Melville simply says that it is not very valuable, adding that this whale has baleen.<sup>18</sup>

Two whales, the grampus and the hyena, are categorized as mediocre prospects on the basis of quality rather than quantity. Never regularly hunted, the grampus was credited with considerable oil, "pretty good for light."<sup>19</sup> However, his approach, as a preliminary sand introductory to an oil-bearing Pliocene pay, was hailed by some fishermen as the advance guard for the great sperm whale. And when not more profitably employed, these fishermen sometimes harpooned

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<sup>15</sup>Ibid., pp. 357-63.

<sup>16</sup>Ibid., p. 164.

<sup>18</sup>Ibid., p. 167.

<sup>17</sup>Ibid., pp. 166-67.

<sup>19</sup>Ibid., p. 168.

a thin-blubbered hyena whale for thirty gallons of cheap domestic oil.<sup>20</sup>

Melville presented his credentials as a geologist five-sixths deep into his exploratory work in the chapter on the fossil whale. Speaking in the person of the seaman Ishmael, whose Yale and Harvard education was obtained on a whale-ship,<sup>21</sup> the author submits as his first reference the authority of practical experience:

Ere entering upon the subject of Fossil Whales, I present my credentials as a geologist, by stating that in my miscellaneous time I have been a stone-mason, and also a great digger of ditches, canals and wells, wine-vaults, cellars, and cisterns of all sorts. Likewise, by way of preliminary, I desire to remind the reader, that while in the earlier geological strata there are found the fossils of monsters now almost completely extinct; the subsequent relics discovered in what are called the Tertiary formations seem the connecting, or at any rate intercepted links, between the antichronical creatures, and those whose remote posterity are said to have entered the Ark; all the Fossil Whales hitherto discovered belong to the Tertiary period, which is the last preceding the superficial formations. And though none of them precisely answer to any known species of the present time, they are yet sufficiently akin to them in general respects, to justify their taking rank as Cetacean fossils.<sup>22</sup>

The cetacean relic found on an Alabama plantation in 1842 was believed by the "awe-stricken credulous slaves in the vicinity" to be the bones of one of the fallen angels.<sup>23</sup> Melville's humor in including a story of the relic that was the subject of Owen's paper read before the London Geological

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<sup>20</sup> Ibid., pp. 168-69.

<sup>21</sup> Ibid., p. 139.

<sup>22</sup> Ibid., p. 492.

<sup>23</sup> Ibid., p. 493.

Society has a contemporary counterpart in the experience of two Humble Oil & Refining Company surface geologists. Following an interesting outcropping of rock across a ridge in the deep backwoods of East Texas, one of the Humble geologists in the act of chipping out a rare fossil--a shark's tooth, millions of years old, embedded in the deposits of some pre-historic sea--was accosted by the landowner. When the scientist explained his presence by exhibiting the exciting evidence, the landowner, muttering that the fossil was merely some hound dog's tooth, chased the "crazy" geologists off the property.<sup>24</sup>

Biblical truths literally opposed to scientific facts offered some artificial alignments of loyalties in the second decade of the twentieth century when geologists first became professional members of oil companies. An incident in an unpublished oil field story illustrates the prevalent objection to any theory of the earth's formation not in strict agreement with the account in Genesis.<sup>25</sup> When a youth begs a geologist family friend to describe the history of the earth and how it was made, the boy's mother interrupts what she believes will certainly be an atheistic dialogue. Happily, the geologist manages to preserve social harmony by prefacing his discussion with the remark that he is a churchgoing Christian. Using the

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<sup>24</sup>"The Trail Blazers," The Humble Way, X (January-February, 1955), 10.

<sup>25</sup>Ed J. Hamner, "The Trail of the Christmas Tree," (unpublished MS).



first chapter of Genesis, he explains that historical geology, the reflection of the history of the earth in the rock strata, closely compares to the sequence of creation. Without detracting from the glory of a creator, the geologist calculates the biblical days in terms of millions of years.

Faith and fact have been more equally invested in the separate authorities of the theologian and the scientist in the space age. But in Melville's day "faith partly went through loss of belief in the literal truth of Genesis."<sup>26</sup> Although there is concession in the statement introducing the chapter on whale spouting to the theory dating creation six thousand years ago, the casual "and no one knows how many millions of ages before,"<sup>27</sup> set off by dashes, cancels the authenticity of absolute time. In the following paragraph Leviathan is given a timeless quality:

When I stand among these mighty Leviathan skeletons, skulls, tusks, jaws, ribs, and vertebrae, all characterized by partial resemblances to the existing breeds of sea-monsters; but at the same time bearing on the other hand similar affinities to the annihilated antichronical Leviathans, their incalculable seniors; I am, by a flood, borne back to that wondrous period, ere time itself can be said to have begun; for time began with man. Here Saturn's grey chaos rolls over me, and I obtain dim, shuddering glimpses into those Polar eternities; when wedged bastions of ice pressed hard upon what are now the Tropics; and in all the 25,000 miles of this world's circumference, not an inhabitable hand's breadth of land was visible. Then the whole world was the whale's

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<sup>26</sup>Geoffrey Stone, "Loyalty to the Heart," American Classics Reconsidered, ed. Harold C. Gardiner. (New York: Charles Scribner's Sons, 1958), p. 216.

<sup>27</sup>Moby Dick, p. 404.

and, king of creation, he left his wake along the present lines of the Andes and the Himmalehas. Who can show a pedigree like Leviathan? Ahab's harpoon had shed older blood than the Pharoah's. Methuselah seems a school-boy. I look round to shake hands with Shem, I am horror-struck at this antemosaic, unsourced existence of the unspeakable terrors of the whale, which, having been before all time, must needs exist after all humane ages are over.<sup>28</sup>

There is room in the above for the judgment of the 1851 reviewers of Moby Dick who withheld complete approval of the book on the grounds it was irreverent.<sup>29</sup> If the time that began with man was taken from inspired biblical history, what of the image erected in homage of the whale? Geologically, this creature accounted "immortal in his species, however perishable in his individuality"<sup>30</sup> appears to possess the beginning infinite attribute claimed only by the God of the Bible. Elizabeth S. Foster, who has made a detailed study of Melville's known interest in geology, summarizes the impression the subject made upon him and consequently upon his early readers:

In general we may conclude that, although his knowledge of geology was spotty and amounted by no means to mastery in any area, nevertheless, early in his career Melville had studied, with enough care and interest to reproduce at least a part of the data with extraordinary accuracy, precisely those discoveries of the new science which were proving most dangerous to religious faith in the nineteenth century: the vast antiquity of our planet; the gradual changes of the earth through the operation of natural causes; the

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<sup>28</sup>Ibid., pp. 493-94.

<sup>29</sup>Hugh W. Hetherington, Melville's Reviewers, British and American, 1846-1891 (Chapel Hill: The University of North Carolina Press, 1961), pp. 210-26.

<sup>30</sup>Moby Dick, p. 499.

rise and extinction of species in era after era; the appearance, in succeeding ages, of related forms and increasingly higher forms, which tended to discredit doctrines of special creation; and perhaps the theory that species were not fixed but were developed from common antecedent types.<sup>31</sup>

For Melville geology was only one facet of "the cold bath of scientific thought . . . which kept him on the search for a justification of his religious beliefs in the face of contradictory but incontrovertible facts."<sup>32</sup> He used what information he had gleaned through random research to enhance his factual presentation of the whale. Geology is only one phase of the oil industry, too. In company with the economic application of other sciences, it has merely improved, not made certain, the finding of oil. This fact is elaborated by the following quotation:

Much has been written about the use of the dowser's forked twig and the divining rod, but the fact is that many oilmen soon began to accumulate sound practical knowledge of the surface clues that often lead to the discovery of oil. They learned from experience. After many years of trial-and-error searching, they began to seek the help of scientists. First geologists were called upon, then geophysicists. Today the search for oil and its production utilize all the major sciences, including bacteriology and paleontology. And yet finding oil is still a game of chance; only the drill bit in the earth can say for sure that oil is there.<sup>33</sup>

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<sup>31</sup> "Melville and Geology," American Literature, XVII (March, 1945), 65.

<sup>32</sup> Tyrus Hillway, "Melville and the Spirit of Science," South Atlantic Quarterly, XLVIII (January, 1949), 82.

<sup>33</sup> "Oil Fields That Made History," The Lamp, XLI (Summer, 1959), 18.

According to Stewart Schackne and N. D'Arcy Drake, authors of the book, Oil for the World, "In the United States, only one wildcat, or exploratory, well in nine finds any oil at all, and only one in forty-four finds a field that is commercially profitable."<sup>34</sup> Compare the ratio of discovery per exploration attempt to the whale harpooner's chance of landing his prospect. When Melville wrote in Moby Dick, "No wonder, taking the whole fleet of whalers in a body, that out of fifty fair chances for a dart, not five are successful,"<sup>35</sup> he might have been prophetically predicting an average of the one-to-nine and one-to-forty-four rate of underground oil discovery.

An acquaintance with either the geology or genealogy of the whale does not contribute to success in the whale fishery. A study of anatomical features and biological habits given in the pages between Chapters 73-96 of Moby Dick is more immediately profitable to location and catch. While the geologic history of the ages is the primer of the economic oil geologist, his fossil education is directed exclusively to findings that will correlate with proven petroleum reserves.<sup>36</sup> If he should lose himself in the scholarly pursuit of investigating every

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<sup>34</sup>(New York: Harper & Brothers, 1960), p. 39

<sup>35</sup>p. 322.

<sup>36</sup>"Origin," Facts about Oil (New York: American Petroleum Institute, 1954), p. 1.

"No one is certain as to how oil was formed in the earth. One theory holds that millions of years ago, vast seas covered portions of what are now land masses. Rivers carried

fossiliferous detail of an area that has no scientific potential for oil, he would invite the disaster of unemployment. The example of such a purely theoretical geologist is given in the unpublished manuscript to which reference is made on page seven of this thesis:

I had a very good friend who had a good job with an oil company and was responsible for that company's success for a long time; however, he became interested in learning the very complex geology of a small hilly area in which there was no oil production. He soon found there was no chance of discovering oil in this area, but he had become deeply interested in all of the rocks in those hills; he studied them more and more until finally he knew just about all there was to know about this worthless area. He spent all of his time there and neglected to look for oil or to take care of his obligations to his company. He was fired!<sup>37</sup>

Occupationally, Ahab committed the same error. Although James E. Miller, Jr., maintains "that Ahab's monomania is not such as

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organic material to the seas, adding it to the plant and animal life already present. As clays, sands, and silts settled to the bottom, they carried with them fine particles of this animal and vegetable matter. Layer upon layer of sediments was deposited, and in the course of this process both the organic matter and the sediments in which it was buried were subjected to pressure, heat, and to chemical and bacterial action. It is believed that these forces brought about the formation of oil. It is also thought that they were responsible for creating shales, sandstones, limestones, dolomites, and other sedimentary rocks.

"Some of the rocks so formed were too dense to permit oil or gas to penetrate them. Others, however, contained voids or pore spaces which allowed oil and gas to pass through. Of course, when a porous formation became surrounded by a non-porous formation, any oil contained in the former could move no farther. This frequently occurred. The original, nearly horizontal sea floors were folded or broken from time to time by movements of the earth's crust. These movements often caused shifts or breaks between the porous and surrounding non-porous layers, and in some of these, gas, oil, and salt water collected. These traps, usually far underground, are the main source of our petroleum reserves."

<sup>37</sup>Hamner, p. 67.

to deflect him entirely from the main business of the Pequod--  
to harpoon whales and collect oil,"<sup>38</sup> the vengeful pursuit of  
Moby Dick eventually exacted the price of crew and cargo.

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<sup>38</sup>James E. Miller, Jr., A Reader's Guide to Herman  
Melville (New York: Farrar, Straus and Cudahy, 1962), p. 83.

## CHAPTER II

### PRODUCTION

#### Drilling

"There she blows! there! there! there! she blows! she blows!"<sup>1</sup> The Indian harpooner, Tashtego, uttered these cries at the first sight of a sperm whale. That same exultant sound echoed in the early days of the oil industry when a gusher spouted black gold over the top of the drilling derrick. Frequently drillers joyously christened new clothes in the drippings from the cable-tool rig sand bailer.<sup>2</sup> Since blow-outs signaling premature production occasionally meant tragedy in the ignition of escaping gas, elaborate precautions in the form of shutoff valves<sup>3</sup> have been taken to prevent modern gushers.

The line, a device employed to keep ejected harpoon and whaling boat crew connected, also played an important role in the cable-tool drilling of oil. This primitive method<sup>4</sup>

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<sup>1</sup>Moby Dick, p. 246.

<sup>2</sup>Edward Adolphe, "Heading for China," The Lamp, XXXVII (March, 1955), 16.

<sup>3</sup>"The Well Head," Primer of Oil and Gas Production (New York: American Petroleum Institute, 1954), pp. 17-20.

<sup>4</sup>Adolphe, p. 15. "At least two thousand years ago the Chinese devised a machine that pounded a hole in the ground. It consisted basically of a wooden tripod from which a long, chisel-nosed iron bit was suspended by manila line."



uses what is called a "string" of tools in which the bit and stem on the end of a cable are alternately raised and dropped.<sup>5</sup>

Melville considered "the magical, sometimes horrible whale-line"<sup>6</sup> of sufficient importance to devote an entire chapter (Chapter 60, pp. 312-16)<sup>7</sup> to its description. For example, the quality is discussed:

The line originally used in the fishery was of the best hemp, slightly vaped with tar, not impregnated with it, as in the case of ordinary ropes; for while tar, as ordinarily used, makes the hemp more pliable to the rope-maker, and also renders the rope itself more convenient to the sailor for common ship use; yet, not only would the ordinary quantity too much stiffen the whale-line for the close coiling to which it must be subjected; but as most seamen are beginning to learn, tar in general by no means adds to the rope's durability or strength, however much it may give it compactness and gloss.<sup>8</sup>

Melville omits no detail. Even the choice of rope receives attention. At the end of the following quoted paragraph, the author adds an aesthetic touch to an occupation which, like the petroleum industry, did not grow famous for functional beauty:

Of late years the Manilla rope has in the American fishery almost entirely superseded hemp as a material for whale-lines; for, though not so durable as hemp, it is stronger, and far more soft and elastic; and I will add (since there is an aesthetics in all things), is much more handsome and becoming to the boat, than hemp. Hemp

<sup>5</sup>"Drilling," Facts about Oil, p. 3.

<sup>6</sup>Moby Dick, p. 312.

<sup>7</sup>Vincent, p. 227. "Beale and Bennett furnished Melville with information for this chapter."

<sup>8</sup>Moby Dick, p. 313.



is a dusky, dark fellow, a sort of Indian; but Manilla is as a golden-haired Circassian to behold.<sup>9</sup>

The size and strength of the line are detailed, with emphasis placed upon its storage in the interest of the boat crew's safety:

The whale-line is only two thirds of an inch in thickness. At first sight, you would not think it so strong as it really is. By experiment its one and fifty yarns will each suspend a weight of one hundred and twenty pounds; so that the whole rope will bear a strain nearly equal to three tons. In length, the common sperm whale-line measures something over two hundred fathoms. Towards the stern of the boat it is spirally coiled away in the tub, not like the worm-pipe of a still though, but so as to form one round, cheese-shaped mass of densely bedded "sheaves," or layers of concentric spiralizations, without any hollow but the "heart," or minute vertical tube formed at the axis of the cheese. As the least tangle or kink in the coiling would, in running out, infallibly take somebody's arm, leg, or entire body off, the utmost precaution is used in stowing the line in its tub. Some harpooneers will consume almost an entire morning in this business, carrying the line high aloft and then reeving it downwards through a block towards the tub, so as in the act of coiling to free it from all possible wrinkles and twists.<sup>10</sup>

Safety is also stressed in the arrangement of the exposed lower end of the line. The lower end terminates "in an eye-splice or loop coming up from the bottom against the side of the tub"<sup>11</sup> and hangs over the edge of the tub completely disengaged. Of the two reasons given for this particular adjustment of the line, the second specifies safety:

This arrangement is indispensable for common safety's sake; for were the lower end of the line in any way attached to the boat, and were the whale then to run the line out to the end almost in a single, smoking minute as he sometimes does, he would not stop there, for the doomed boat would

<sup>9</sup>Ibid.

<sup>10</sup>Ibid.

<sup>11</sup>Ibid., p. 314.

infallibly be dragged down after him into the profundity of the sea; and in that case no town-crier would ever find her again.<sup>12</sup>

As for the ramifications of the upper end of the line, they are detailed down to the threading of the short-warp, the rope directly attached to the harpoon. At this point Melville either grows bored with his technical description or more probably exhausts his precise information. He says, "the short-warp goes through sundry mystifications too tedious to detail."<sup>13</sup> Immediately following this statement, he vividly pictures the mortal hazards involved in the operation of the line:

Thus the whale-line folds the whole boat in its complicated coils, twisting and writhing around it in almost every direction. All the oarsmen are involved in its perilous contortions; so that to the timid eye of the landsman they seem as Indian jugglers, with the deadliest snakes sportively festooning their limbs. Nor can any son of mortal woman, for the first time, seat himself amid those hempen intricacies, and while straining his utmost at the oar, bethink him that at any unknown instant the harpoon may be darted, and all these horrible contortions be put in play like ringed lightnings; he cannot be thus circumstanced without a shudder that makes the very marrow in his bones to quiver in him like a shaken jelly.<sup>14</sup>

Now reader, Melville suggests, after absorbing a thorough discussion of the line you are prepared to understand the whaling fatalities caused by that treacherous line lifting a man out of his boat to a watery death.<sup>15</sup> National Safety Council statistics were not available to Melville, but on an earlier page he graphically estimates the cost of whale oil in human

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<sup>12</sup>Ibid.

<sup>13</sup>Ibid., p. 315.

<sup>14</sup>Ibid.

<sup>15</sup>Ibid.

life with an economic injunction: "For God's sake, be economical with your lamps and candles! not a gallon you burn, but at least one drop of man's blood was spilled for it."<sup>16</sup>

In the concluding lines of the chapter, the occupational hazard is defined as no more, or no less, than the common mortality of man in that "All are born with halters round their necks."<sup>17</sup> And since death is the inevitable exit of man, the philosopher, Melville feels, is indifferent to the terror or the comfort of his final environment.<sup>18</sup> While I have no dispute with Vincent's opinion that the metaphor of the whale line as one of the dangers threatening all men gives the chapter on the line its importance,<sup>19</sup> I wish to be more specific. This point, universal as it is, was one which first attracted my attention to the similarity of men as well as occupation in the whaling and petroleum industries. To be seated in the whale-boat when the line is darting out, Melville said, was "like being seated in the midst of the manifold whizzings of a steam-engine in full play, when every flying beam, and shaft, and wheel, is grazing you."<sup>20</sup> Present day insurance rates testify that both whaling and oil field work are more hazardous to life and limb than, for instance, television announcing. The metaphorical halter around the neck is drawn

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<sup>16</sup>Ibid., p. 236.

<sup>17</sup>Ibid., p. 316.

<sup>18</sup>Ibid.

<sup>19</sup>Vincent, p. 230.

<sup>20</sup>Moby Dick, p. 315.

somewhat tighter for men who make their living in the former occupations.

Omnipresent danger notwithstanding, or perhaps because of it, a quality of bravado went along with the risks. "Gayer sallies, more merry mirth, better jokes, and brighter repartees, you never heard over your mahogany, than you will hear over the half-inch white cedar of the whale-boat, when thus hung in hangman's nooses."<sup>21</sup> Fifty-five pages earlier, Melville comments: "There is nothing like the perils of whaling to breed this free and easy sort of genial, desperado philosophy."<sup>22</sup>

The cable-tool driller who went "fishing"<sup>23</sup> in a very different sense also faced perilous decisions. There is a tale, not without a Texas element of tallness, of a driller whose tools broke loose from the cable and descended to the bottom of the hole. Unable to retrieve the lost bit, the driller grabbed his lanky assistant and, fastening chains to the lean young man's ankles, lowered him into the sixteen-inch hole head down. The human hook worked, and the bit was recovered.<sup>24</sup> The incident in Moby Dick in which Queequeg, the noble barbarian and first harpooner, rescues Tashtego from

<sup>21</sup>Ibid.

<sup>22</sup>Ibid., p. 259.

<sup>23</sup>If the bit breaks off from the drill stem and is lost in new hole, the damaged tool must be fished to the surface before further footage can be made.

<sup>24</sup>Adolphe, p. 16.

the slimy morass of the "Heidelburgh Tun"<sup>25</sup> possesses an element of the fishing sometimes imperative in the drilling aspect of the petroleum industry. When Tashtego, engaged in the bailing of oil from the head of a sperm whale, accidentally fell into the cistern of the carcass, his struggle to surface severed one of the massive hooks or tackles connecting the dead whale to the ship. The remaining hook strained to follow suit as the Negro harpooner Daggo threw a hoist bucket into the collapsed well to serve as a makeshift life line. In the meantime, the second tackle did tear loose, and the twice-submerged Tashtego left his ship inside the sinking whale's head. Queequeg heroically dived to the rescue. In addition, the successful man-fishing expedition includes an implied short course in obstetrics.<sup>26</sup>

After half a century the cable driller, with a sailor's feel for the line, let the manila rope slip from his grasp.<sup>27</sup> His boisterous, exciting figure was largely replaced<sup>28</sup> by the "round-and-round boys," or "longhorn swivel neckers," who presided over the rotary rig.<sup>29</sup> The first drillers of the

<sup>25</sup>Moby Dick, pp. 373-75.      <sup>26</sup>Ibid., pp. 376-79.

<sup>27</sup>Adolphe, pp. 16-17.

<sup>28</sup>Schackne and Drake, p. 49. "Today, . . . about 85 per cent of all wells are drilled by the rotary method."

<sup>29</sup>Henrietta M. Larson and Kenneth Wiggins Porter, History of Humble Oil & Refining Company (New York: Harper & Brothers, 1959), p. 120.

rotary method<sup>30</sup> were individualists fully as resourceful as the cable-tool driller. Proud veterans of the derrick platform, they had to be able to tell from the sound and speed of the drilling machinery what was going on at the bottom of the hole. Described by the writers of a History of Humble Oil & Refining Company, they were combination steamfitters, plumbers, blacksmiths, carpenters, and stationary engineers, who also possessed "organizing and executive abilities of a high order, as well as coolness, vigilance, and resourcefulness in an emergency."<sup>31</sup> From his position at the controls of the drawworks,<sup>32</sup> the rotary driller furnished instruction to a crew (four men), "who usually, by necessity and from long working

<sup>30</sup> "Drilling," Facts about Oil, p. 3.

"Most oil wells in this country are drilled by the rotary method, invented in the 1890's. An auger-like bit is rotated at the end of a string of steel pipe, called 'drill pipe.' The drill pipe is revolved by means of a turntable on the derrick floor. As it turns, the bit bores a hole in much the same manner as a carpenter's auger bores through wood. As the hole deepens, lengths of drill pipe are added.

"Meantime, a specially prepared 'mud'--composed of water, clay, and chemicals--is pumped down through the inside of the drill pipe. When it reaches the bottom, it is forced out through perforations in the bit, and returns to the surface. The mud flushes cuttings from the well, cools the bit, and forms a cake on the walls of the hole. This helps to keep the hole from caving in until it is lined with steel casing."

<sup>31</sup> Larson and Porter, p. 120.

<sup>32</sup> The drawworks, mechanically supervised by the driller, hoist the entire drilling string of pipe upward toward the derrickman's platform. This device also controls the functions for lowering extended lengths of pipe into the hole.

together, were imbued with a strong spirit of teamwork and co-ordination."<sup>33</sup> In the "tinkers-to-overs-to-chance" quality about work on a rotary drilling rig, teamwork was often valued as high as life itself. Modern technology and the safety engineer have not eliminated the necessity of close cooperation. And therefore the human element of personal pride in a particular team still holds psychological appeal. An article, "Teamwork Makes a Drilling Crew," emphasizes this factor in the following:

No wonder members of a drilling crew pride themselves on their ability to work as a team! To them, teamwork means much more than winning or losing a game, though there is naturally pride in working on an outstanding crew. But here, an even higher stake rests on teamwork. Without it, drilling costs can mount, the well can be lost, and even life itself might be endangered.<sup>34</sup>

Similarities in teamwork action are suggested by the operation of a whaling boat crew in pursuit of its prey. The first victory of Stubb, the second mate of the Pequod, presents adequate example in teamwork play. At the crucial moment just before the darting of the harpoon, the mate and harpooner exchange stem and stern positions. To the order of "Haul in--haul in," all hands begin pulling up to the whale and alternately steering clear of the captive's wallow as the mate skillfully plants his dart.<sup>35</sup>

<sup>33</sup>Larson and Porter, p. 121

<sup>34</sup>"Teamwork Makes a Drilling Crew," The Humble Way, VIII (March-April, 1953), 14.

<sup>35</sup>Moby Dick, p. 320.



A position of readiness is as essential when an oil well rotary drilling crew prepares to pull drill pipe out of the hole. The drilling team, from derrickman to fireman, who doubles as a rotary helper, take precise positions on and above the derrick floor to facilitate smooth emergence of the pipe.<sup>36</sup> Melville postscripts his account of teamwork with censure of the practice which exhausts the harpooner at the oar and then requires him to change positions in a precariously balanced boat.<sup>37</sup> To my knowledge, no such criticism is extant in the routine that requires the fireman, whose normal duties are to provide power for the drawworks, to join the rotary helpers. However, from personal experience in editing disabling injuries caused by oil well drilling accidents, I do see equivalent hazards in the harpoon connection of a running whale and the connections on the derrick floor when running pipe. "It very often happens," Melville analyzed, "that owing to the instantaneous, violent, convulsive running of the whale upon receiving the first iron, it becomes impossible for the harpooner, however lightning-like in his movements, to pitch the second iron into him."<sup>38</sup> Connected with the line, this second iron must be anticipated for the barbed havoc it could wreak if left in the pulled boat. But the critical act of tossing the second iron overboard, Melville reminds us,

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<sup>36</sup>The Humble Way, VIII (March-April, 1953), 11.

<sup>37</sup>Moby Dick, pp. 321-23.    <sup>38</sup>*Ibid.*, p. 324.



"is not always unattended with the saddest and most fatal casualties."<sup>39</sup> It is not always possible either for the rotary driller to anticipate outlaw behavior of pipe coming out of the hole. On one occasion, in an effort to loosen stuck drill pipe, the working tools, such as the gripping tongs, spun with the freed drill pipe until tossed into the air to land on a mortal target.<sup>40</sup>

Although "cutting in"<sup>41</sup> leads to almost certain production in whaling, operationally there are various activities and equipment involved in direct correspondence to rotary drilling. In fact, Vincent documents Melville's description of this process as adapted from Beale, who factually said, "the whale performs a rotary motion."<sup>42</sup>

First of all, resemblance is evident between the work of the enormous cutting tackles and the ponderous drilling drawworks. The cutting tackles, "comprising a cluster of blocks generally painted green, and which no single man can possibly lift," were rigged to the lower masthead, the strongest point above a ship's deck, in such a manner as to suspend the huge lower block of the tackles out over the dead whale lashed to the side of the ship.<sup>43</sup> The drilling drawworks hoist and

<sup>39</sup>Ibid.

<sup>40</sup>"Report of Disabling Injuries," Humble Safety Information (June, 1948), pp. 18-19.

<sup>41</sup>Moby Dick, pp. 337-39.

<sup>42</sup>Vincent, p. 238.

<sup>43</sup>Moby Dick, p. 337.

lower a string of pipe, weighing thousands of pounds, to the end of which is attached the drill bit or earth-cutting device. Estimated by Melville to weigh some one hundred pounds, the blubber hook, attached to the lower block of the tackles,<sup>44</sup> substitutes in this comparison for the drill bit. Several chapters later Melville lends credence to the drill-bit parallel when, in deliberately summarizing the fine points involved in the insertion of the blubber hook, he used the phrase, "breaking ground in the whale's back."<sup>45</sup> Breaking ground, of course, is synonymous with many beginnings, especially in the ceremony preceding the erection of a new building. With little formal attention, this beginning of an oil well is called "spudding in."

"But how did so clumsy and weighty a mass as that same hook get fixed in that hole?"<sup>46</sup> Melville asks this question to introduce the monkey-rope, an important piece of operational equipment with indispensable safety features. Before answering his question, it will be necessary to run back a few pages, as Melville does in Chapter 72, to pick up the step in which the mates, Starbuck and Stubb, armed with long spades, cut a hole in the whale's body for the insertion of the hook just above the nearest of the two side-fins.<sup>47</sup> A harpooner is elected to descend upon the whale's back for

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<sup>44</sup>Ibid.

<sup>45</sup>Ibid., p. 353.

<sup>46</sup>Ibid.

<sup>47</sup>Ibid., p. 338.

the final connection, the actual insertion of the hook. "But in very many cases," Melville records, "circumstances require that the harpooner shall remain on the whale till the whole flensing or stripping operation is concluded."<sup>48</sup> Since the whale lies almost entirely submerged, except the area under immediate operation, the poor harpooner is engaged in a slippery business. He is safeguarded "by what is technically called in the fishery a monkey-rope, attached to a strong strip of canvas belted round his waist."<sup>49</sup> Vincent imagines that technically Melville drew from Olmstead's account, as follows: "To point the hook into the orifice made for it, one of the boatsteerers, having upon his feet a pair of woollen stockings to prevent his slipping, jumps overboard, guarded by a rope passing under his arms, and tended by one of the men upon deck."<sup>50</sup> The verification of Olmstead as a technical source, Vincent maintains, is of less importance than Melville's original metaphorical use of the monkey-rope to symbolize human brotherhood.<sup>51</sup> By footnote Melville himself covers the innovation which leaves no room to doubt that concern for the welfare of our neighbor is irrevocably tied to our own personal safety. Because Ishmael is likewise tied to the rope in contrast to the usual procedure making the man on deck merely a rope-handler, the entire footnote deserves attention:

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<sup>48</sup>Ibid., p. 353.

<sup>49</sup>Ibid., pp. 353-54.

<sup>50</sup>Vincent, pp. 245-46.

<sup>51</sup>Ibid.

The monkey-rope is found in all whalers; but it was only in the Pequod that the monkey and his holder were ever tied together. This improvement upon the original usage was introduced by no less a man than Stubb, in order to afford to the imperilled harpooneer the strongest possible guarantee for the faithfulness and vigilance of his monkey-rope holder.<sup>52</sup>

Incidental to the larger meaning of the monkey-rope, Melville includes in the text the detail of "woollen stockings," calling this item of protective clothing "socks."<sup>53</sup> For the business at hand, the footwear was no less a safety precaution than the steel-toed safety shoes worn by oil well workers.

In petroleum industry nomenclature, the working platform between eighty to ninety feet above the derrick floor is called a monkey board. Obviously, the most valid comparison to this piece of equipment and the monkey-rope of the whale fishery lies in the term "monkey." Melville pictured an Italian organ grinder holding a dancing ape by a long cord.<sup>54</sup> Applied to a derrickman enclosed inside a safety belt secured to his perch, the analogy is not as picturesque. On the other hand, there is no question that the agility of the amusing mammal is convenient in the steadying of drill pipe as it is raised to be stacked on end inside the derrick. While he is not exposed to the vicious marauding of sharks or occasionally forced to dodge the dubious protection of the fending whale-spades,<sup>55</sup> the derrickman is not exempt from injury in the

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<sup>52</sup>Moby Dick, pp. 354-55.

<sup>53</sup>*Ibid.*, p. 353.

<sup>54</sup>*Ibid.*

<sup>55</sup>*Ibid.*, p. 355.

performance of his duty. In the normal whipping and slapping action of drilling lines drawn taut, he may be bodily attacked at the expense of broken bones.<sup>56</sup>

With some conception of the equipment involved in the processes of cutting into a whale and drilling into the earth for the common product of oil, it is possible to make the technical journey of a "round trip." A member of a rotary drilling crew instantly recognizes the words "round trip" for all the work entailed in changing a dull drilling bit for a sharp new one.

In this operation the entire drill stem, consisting of from several hundreds of feet of pipe to as much as several miles in some cases, must be stacked in the derrick in 90-foot lengths just to screw on a sharp bit which, in very hard formations, may drill only a few feet before it in turn becomes dull.<sup>57</sup>

Melville compared stripping the blubber from the whale's body to the peeling of an orange.<sup>58</sup> Undoubtedly, he borrowed from Bennet, who likened the separation of blubber from the carcass to the peeling of the rind from an apple.<sup>59</sup> I take a great deal more liberty with the imagination by invitation to compare certain aspects of the whale fleecing with pipe running in the drilling for oil. Nevertheless, there are several realistic parallels that stand inspection.

<sup>56</sup>Humble Safety Information (August, 1951), p. 15.

<sup>57</sup>Schackne and Drake, p. 50.

<sup>58</sup>Moby Dick, p. 338.

<sup>59</sup>Vincent, p. 238.

Substituting manpower for steam power, the majority of the Pequod's crew, heaving at the windlass, raise the tackles bringing up uniform strips of blubber. Aloft as high as the mainmast, the individual strip is sliced on the lower end to accommodate the end of the second alternating great tackle. Next the mass is divided to free the long upper strip, a blanket-piece, and keep the short lower part fast. "While the one tackle is peeling and hoisting a second strip from the whale, the other is slowly slackened away, and down goes the first strip through the main hatchway right beneath, into an unfurnished parlor called the blubber-room."<sup>60</sup>

In pulling oil well drilling pipe, first the floor men latch elevators around the top of the pipe as it juts above the rotary table. The drawworks, at a deft touch of the driller's lever, hoist the string (uniformly three joints) upward toward the monkey board for the derrickman's handling.<sup>61</sup> Just as the heavers at the windlass suspend action when the blubber mass reaches the maintop,<sup>62</sup> the driller cuts his power at the proper time and applies a brake that stops the pipe's first stand slightly above the derrickman's perch. It is disconnected by the rotary helpers at derrick floor level. As one man pulls the lower end of the unscrewed stand laterally

<sup>60</sup>Moby Dick, p. 339.

<sup>61</sup>The Humble Way, VIII (March-April, 1953), 11.

<sup>62</sup>Moby Dick, p. 338.

to racking position, another lubricates the threaded end of the next stand to be pulled. Simultaneously, the derrickman racks the upper end of the pipe as the driller gently lowers the base of the stand to the derrick floor.<sup>63</sup>

The basic technique in peeling and storing one strip of blubber explained, Melville generalizes the continuous operation as follows:

And thus the work proceeds; the two tackles hoisting and lowering simultaneously; both whale and windlass heaving, the heavers singing, the blubber-room gentlemen coiling, the mates scarfing, the ship straining, and all hands swearing occasionally, by way of assuaging the general friction.<sup>64</sup>

Less colorfully, the text on pulling pipe follows the same style:

And so on and on the work goes--latching, hoisting, unscrewing, racking--until the last stand of pipe comes up and the bit is changed. It is work which goes on continuously, with a smooth and efficient rhythm. It may take only a few times, if the hole is still shallow, or it may take up to 200 times on deep wells.

With all the pipe withdrawn and a new bit in place, . . . the whole thing must be done all over again--but this time in reverse, to put pipe back in the hole and start drilling again.<sup>65</sup>

### Offshore Drilling

When the oil well drilling derrick went to sea, as early as 1938 in the Gulf of Mexico Coast,<sup>66</sup> petroleum offshore

<sup>63</sup>The Humble Way, VIII (March-April, 1953), 14.

<sup>64</sup>Moby Dick, p. 339.

<sup>65</sup>The Humble Way, VIII (March-April, 1953), 14.

<sup>66</sup>"Offshore Drilling," Facts about Oil, p. 4.



operations assumed an authentic Moby Dick setting. New risks and obstacles attended the meeting of the oilman and the ocean. Veterans of the land rotary rigs endured seasickness to the point of disability; expensive drilling structures were subjected to the caprices of raging hurricane winds.<sup>67</sup> Storm evacuation facilities from stationary platforms proved inadequate, if not hazardous; frequently transfer of drilling personnel had to be made on a choppy sea.<sup>68</sup>

Exercising the same American daring and perseverance, which William Ellery Sedgwick says brought "the American whale fishery to its position of world preeminence,"<sup>69</sup> these problems were gradually resolved. Helicopters solved the water-commuting problem, and eventually a seaworthy, floating drilling unit was developed. The ingenious, mobile drilling unit, complete with all the equipment needed to drill and bring in a well, can be moved from one water drilling site to another.<sup>70</sup> It clearly represents "the inventive genius and practical sagacity of the American character" identified in whaling by Melville, who claimed harpooner kinship with Benjamin Franklin.<sup>71</sup>

<sup>67</sup> "Oil Fields That Made History," The Lamp, XLI (Summer, 1959), 22.

<sup>68</sup> "Grand Isle District," Humble Safety Information (October, 1950), p. 10.

<sup>69</sup> Herman Melville, The Tragedy of Mind (Cambridge, Massachusetts: Harvard University Press, 1944), p. 90.

<sup>70</sup> The Lamp, XLI (Summer, 1959), 22.

<sup>71</sup> Sedgwick, p. 90.



As meditative Ishmael coupled the mast-head standers of the land with those of the sea,<sup>72</sup> the oil industry has linked land operations to the language of the mariner:

"Marine engineers and helicopter pilots are on company pay-rolls. Meteorologists and oceanographers are consulted. Foghorns and navigational lights are standard equipment. Geologists have learned to skin dive. A tool pusher may be a ship's captain. Oilmen have become seafaring men."<sup>73</sup>

#### Directional Drilling

Historically, the technique of directional drilling is closely associated with offshore exploration for oil. Before the development of the marine drilling rig, wells were drilled directionally (as opposed to vertically) from shore to tap rich oil pools lying beneath the Pacific Ocean off the California coast.<sup>74</sup> Humble's million-dollar drilling platform off the coast of Louisiana was designed for the drilling of seven directional wells from one location.<sup>75</sup>

Provided leases have been acquired over the territory through which the slanted drill pipe works, directional drilling is an entirely legitimate operation. However, the term directional or slant-hole drilling has fallen into disrepute

<sup>72</sup>Moby Dick, pp. 183-84.

<sup>73</sup>The Lamp, XLI (Summer, 1959), 22.

<sup>74</sup>"Directional Drilling," Facts about Oil, p. 3.

<sup>75</sup>Larson and Porter, p. 659.

as a result of recent legal investigations which proved that certain operators were stealing oil by deviating their wells to bottom on neighboring leases. Total penalties sought in court in 1962 by the Attorney General of Texas for one East Texas field in a slant-well probe amounted to \$19,000,000.<sup>76</sup>

This issue was scarcely legal matter in the primitive oil boom days when the law of capture closely resembled Melville's definition of fast-fish and loose-fish:

- I. A Fast-Fish belongs to the party fast to it.
- II. A Loose-Fish is fair game for anybody who can soonest catch it.<sup>77</sup>

Compare the doctrine of capture for petroleum as interpreted by Joseph E. Pogue at a hearing before the Temporary National Economic Committee on September 25, 1939:

The key to an understanding of the oil industry is a clear perception of a factor unique to this business--the rule of capture. The single oil pool is the natural unit of property, but owing to the usual circumstance of sub-divided ownership, the lease is the common-law unit. Because of the fancied analogy of oil to wild game, our courts have recognized that whatever the landowner could withdraw from the common reservoir, he could take and keep, irrespective of its effect upon his neighbors; and that the only defense the neighbors had was to do likewise.<sup>78</sup>

Thrust into a whale, the waif-pole emblomed ownership, but the staked claim proved only a tenuous legal technicality. As Melville points out:

<sup>76</sup>"Texas Counts 33 Illegally Slanted Holes," The Oil and Gas Journal, LX (July 2, 1962), 59.

<sup>77</sup>Moby Dick, p. 432.

<sup>78</sup>Joseph E. Pogue, "Doctrine of Capture," Petroleum Industry Hearings Before the Temporary National Economic Committee (New York: American Petroleum Institute, 1942), pp. 214-15.

Alive or dead a fish is technically fast, when it is connected with an occupied ship or boat, by any medium at all controllable by the occupant or occupants,--a mast, an oar, a nine-inch cable, a telegraph wire, or a strand of cobweb, it is all the same. Likewise a fish is technically fast when it bears a waif, or any other recognized symbol of possession; so long as the party waiving it plainly evince their ability at any time to take it alongside, as well as their intention so to do.<sup>79</sup>

In the race to obtain the greatest quantity of oil per the smallest parcel of surface, crude wooden derricks rose like an armory of waif poles over boom sites. Five hundred derricks squatted on 144 acres in the famous Spindletop rush for riches. Companies, with only room for a derrick, had to rent boiler space. An uncontrolled gusher caught fire and destroyed twenty-six derricks on a single acre!<sup>80</sup>

Multiple ownership of oilpools eventually rendered untenable the early doctrine of capture applied to the petroleum industry. Pogue, in the hearing referred to above, held that the doctrine of capture, which existed as a rule of convenience, would have to be revised in the interest of better conservation and engineering practices. But since he did not want to see the capable big operator swallow the daring little one in an obliteration of multiple ownership, he recommended the following compromise:

The most expeditious way, therefore, to handle the rule of capture is to tame it by setting up operating rules under the police power of the states, whereby pools are

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<sup>79</sup>Moby Dick, p. 432.

<sup>80</sup>Boyce House, Oil Boom (Caldwell, Idaho: The Caxton Printers, Ltd., 1941), pp. 34-36.

permitted to be owned as now by a severalty of individuals but these individuals are not permitted to drain their properties at unequal rates because in so doing they commit waste. This, among other things, is what proration is aiming to do. It is a flank attack on the rule of capture.<sup>81</sup>

With typical enlargement of his theme, Melville extends whaling jurisprudence into world economics and politics. The exploration and development of petroleum by U. S. companies has become similarly involved. However, the recent trend in the nationalization of American owned oil installations would seem to reverse the ethics of "fast-fish" and "loose-fish" applied to the evils of colonialism. Harry Levin draws attention to Melville's contemporary concern with the strong devouring the weak in the following comment:

Fish are loose when they are independent, as men's minds and opinions should always be. However, in an epoch of spreading colonialism and imperialism, too many free-lances are made fast; the British Empire dominates India, and the United States is jeopardizing the independence of Mexico.<sup>82</sup>

#### Recovery

Whatever the focal point under microscopic study in the seminal work of Moby Dick, few scholars omit mention of Melville's comment to Dana upon the possibilities of transforming blubber into oil. And from a purely semantic standpoint, both blubber and oil could be relegated to the functions of figures of speech with abstract ambitions.

<sup>81</sup>Pogue, p. 215.

<sup>82</sup>Harry Levin, The Power of Blackness (New York: Knopf, 1958), p. 213.

Conversely, the factual concept which produces oil from blubber deals the author no injustice. The Melville who rejected the authorities of Scoresby and Bennett for Beale's deduction that blubber is the true skin of the whale<sup>83</sup> would have enjoyed a scientific investigation of the erroneous, but nonetheless working terms, "oil pools" and "oil sands." The authors of Oil for the World explain that underground petroleum is about as solid as blubber:

Underground deposits of petroleum are sometimes referred to as pools. This is perhaps an unfortunate term since it evokes a mental picture of a sort of subterranean lake. Also, oilmen often refer to oil-bearing strata as oil sands. Actually, oil usually occurs in rock that is just as solid as the limestone or sandstone used to face a building. The oil lies in the pores of these rocks in much the same way that water saturates the stone of a building's facade after a prolonged rain.<sup>84</sup>

Production of oil from the sperm whale's head is elaborately prefaced by Melville with a description of the dormant source in terms that favor the pool-collection-of-liquid theory. Using the metaphor of the Heidelburgh Tun, he estimates the state of the subsurface reservoir:

The lower subdivided part of the forehead called the junk, is one immense honeycomb of oil, formed by the crossing and recrossing, into ten thousand infiltrated cells, of tough elastic white fibres throughout its whole extent. The upper part, known as the Case, may be regarded as the great Heidelburgh Tun of the Sperm Whale. And as that famous great tierce is mystically carved in front, so the whale's vast plaited forehead forms innumerable strange devices for emblematical adornment of his

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<sup>83</sup>Vincent, p. 240.

<sup>84</sup>Schackne and Drake, p. 63.

wondrous tun. Moreover, as that of Heidelburgh was always replenished with the most excellent of the wines of the Rhenish valleys, so the tun of the whale contains by far the most precious of all his oily vintages; namely, the highly-prized spermaceti, in its absolutely pure, limpid, and odoriferous state. Nor is this precious substance found unalloyed in any other part of the creature.<sup>85</sup>

In the process of recovery, however, the behavior of whale oil compared to fossiliferous petroleum undergoes a solid to liquid inversion. Under pressure, the petroleum in solid formation becomes liquid; exposed to the air, the liquid whale oil crystallizes into a solid. Melville notes that latter conversion in the following statement: "Though in life it remains perfectly fluid, yet, upon exposure to the air, after death, it soon begins to concrete; sending forth beautiful crystalline shoots, as when the first thin delicate ice is just forming in water."<sup>86</sup>

An oil reservoir in the head of a whale or below the earth's surface was seldom productive of its total potential. Modern producing technology and reservoir engineering practices have cut the petroleum industry's losses in wasted or unrecovered oil. The control of flow through a choke valve at the wellhead disciplines the natural drives of gas and water to achieve their maximum propelling force of the inert oil.<sup>87</sup>

<sup>85</sup> Moby Dick, p. 374.

<sup>86</sup> Ibid.

<sup>87</sup> "Production . . . Key to Progress," The Humble Way, XIII (May-June, 1957), 18-27.

Before much was learned about how oil occurs or behaves in the reservoir, a well with a strong natural flow was allowed to gush freely until spent. Then a pump was installed.<sup>88</sup> Melville does not give any ratios of recovery from a large whale's case, which he said generally yields about five hundred gallons of sperm. He does mention in the same sentence from which the producing statistics were withdrawn that from "unavoidable circumstances, considerable of it is spilled, leaks, and dribbles away, or is otherwise irrevocably lost in the ticklish business of securing what you can."<sup>89</sup>

Abundant as he was in words, ideas, and factual details, Melville does not dismiss the subject of waste with the above comment. The importance of conservation, he explains, depends largely upon the operator's skill in bringing his instrument "close to the spot where an entrance is subsequently forced into the spermaceti magazine; he has, therefore, to be uncommonly heedful lest a careless, untimely stroke should invade the sanctuary and wastingly let out its invaluable contents."<sup>90</sup> One of the most common types of oil well completion methods consists of setting and cementing the oil string of casing through the producing formation. Perforations made by a gun or jet instrument allow passage of oil and gas into the well

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<sup>88</sup>Schackne and Drake, p. 63.

<sup>89</sup>Moby Dick, p. 374.

<sup>90</sup>Ibid., p. 375.



bore free of corrupting sands and solids.<sup>91</sup> If the perforations miss their mark and penetrate salt water instead of the pay zone, the well may be lost permanently as a source of reservoir recovery. Of course, in accuracy the oil well gun operator has an advantage over the harpooner dispatched to sound the best place for breaking into the Tun. For at least the past thirty years, the oilman has been assisted by such instruments as sub-surface pressure and temperature gauges<sup>92</sup> to proceed to his treasure scientifically, whereas the whaleman proceeded as if by instinct "like a treasure-hunter in some old house, sounding the walls to find where the gold is masoned in."<sup>93</sup>

Natural drives that push oil through underground rocks almost as a rule dissipate sooner than the object of recovery. The flow that filled in one night all the storage capacity and then started running down the cotton rows,<sup>94</sup> if not defunct forty-six years later, is most certainly resigned to a dribble on artificial lift.<sup>95</sup> A method of gas lift employs specially designed gas-lift valves installed on the tubing string<sup>96</sup> to

<sup>91</sup>Primer of Oil and Gas Production, p. 15.

<sup>92</sup>The Humble Way, XIII (May-June, 1957), 25.

<sup>93</sup>Moby Dick, p. 375.

<sup>94</sup>House, p. 42.

<sup>95</sup>Max W. Ball, This Fascinating Oil Business (Indianapolis and New York: The Bobbs-Merrill Company, 1940), p. 166. "A number of fields have passed their fiftieth birthdays and are still producing."

<sup>96</sup>Primer of Oil and Gas Production, p. 27.



resemble crudely the cistern and bucket brigade of producing oil directly from the Tun. At first the bucket returns "all bubbling like a dairy-maid's pail of new milk."<sup>97</sup> As the reservoir nears exhaustion, the probing pole must be rammed "harder and harder, and deeper and deeper into the Tun, until some twenty feet of the pole have gone down."<sup>98</sup>

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<sup>97</sup>Moby Dick, p. 376.

<sup>98</sup>Ibid.

### CHAPTER III

#### REFINING

From raw fish to lamp, the whale, once he is captured, makes a continuous journey of conversion. The business of refining his parts is conducted aboard ship. The try-works, which suitably suggested the title for Howard P. Vincent's book, The Trying-Out of Moby-Dick, outwardly distinguish an American whaler. "She presents the curious anomaly of the most solid masonry joining with oak and hemp in constituting the completed ship. It is as if from the open field a brick-kiln were transported to her planks."<sup>1</sup>

James E. Miller, Jr., who emphasizes the symbolic quality of Moby Dick in A Reader's Guide to Herman Melville, saw in the try-works "a veritable factory set in operation once the blubber and other treasures of the whale are brought on board." In Miller's mind the very bulk of the leviathan, "a goodly surplusage of whale," floated the allegorical aspect of the story. He felt strongly that a realistic setting of daily life, such as the manufacture of the whale reveals, was essential and not extraneous to Melville's message.<sup>2</sup>

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<sup>1</sup>Moby Dick, p. 457.

<sup>2</sup>pp. 96-100.

Counterpart to the shell still, "the grizzled veteran of oil refining,"<sup>3</sup> the try-works stewed unctuous slabs of minced blubber into oil. In a chapter (96) centered in the functional capacity of the whale refining equipment, the try-works are physically described:

The try-works are planted between the foremast and mainmast, the most roomy part of the deck. The timbers beneath are of a peculiar strength, fitted to sustain the weight of an almost solid mass of brick and mortar, some ten feet by eight square, and five in height. The foundation does not penetrate the deck, but the masonry is firmly secured to the surface by ponderous knees of iron bracing it on all sides, and screwing it down to the timbers. On the flanks it is cased with wood, and at top completely covered by a large, sloping, battened hatchway. Removing this hatch we expose the great try-pots, two in number, and each of several barrels' capacity.<sup>4</sup>

Riding on water above brick and mortar, the portable furnace was also insulated from the wooden planks of the deck by a chamber of water:

Removing the fire-board from the front of the try-works, the bare masonry of that side is exposed, penetrated by the two iron mouths of the furnaces, directly underneath the pots. These mouths are fitted with heavy doors of iron. The intense heat of the fire is prevented from communicating itself to the deck, by means of a shallow reservoir extending under the entire inclosed surface of the works. By a tunnel inserted at the rear, this reservoir is kept replenished with water as fast as it evaporates. There are no external chimneys; they open direct from the rear wall.<sup>5</sup>

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<sup>3</sup>Max W. Ball, This Fascinating Oil Business (Indianapolis and New York: The Bobbs-Merrill Company, 1940), p. 228.

<sup>4</sup>Moby Dick, p. 457.

<sup>5</sup>Ibid., p. 458.

On solid ground, the horizontal<sup>6</sup> shell still that distilled the world's petroleum for nearly sixty years was supported by its own fire box:

A present-day shell still is a horizontal steel cylinder, six to fourteen feet in diameter and twenty to forty feet long, held four to ten feet above the ground by solid rectangular brick or concrete walls. These walls are lined with fire brick and form the fire box or heating chamber.<sup>7</sup>

While the fuel consumed in a shell still might be coal or even wood, oil and gas (the very products refined) were more commonly used to stoke the furnace.<sup>8</sup> Likewise, the whale furnished the combustibility for his own refining:

Here be it said that in a whaling voyage the first fire in the try-works has to be fed for a time with wood. After that no wood is used, except as a means of quick ignition to the staple fuel. In a word, after being tried out, the crisp, shrivelled blubber, now called scraps of fritters, still contains considerable of its unctuous properties. These fritters feed the flames. Like a plethoric burning martyr, or a self-consuming misanthrope, once ignited, the whale supplies his own fuel and burns by his own body.<sup>9</sup>

There was nothing in the odor of the martyred whale to suggest saintliness. On the contrary his smoke fully justified the term "self-consuming misanthrope," for it smelled "like the left wing of the day of judgment."<sup>10</sup> Anyone who has visited an oil refinery requires no documentation to evoke comparison. But cosmetics manufactured

<sup>6</sup>A modern refinery has reversed the view to vertical. Huge pipe stills tower into the sky like giant, leafless trees.

<sup>7</sup>Ball, p. 229.

<sup>8</sup>Ibid., pp. 229-30.

<sup>9</sup>Moby Dick, p. 458.

<sup>10</sup>Ibid., p. 459.

directly from petroleum products present an olfactory antithesis in company with the untried sperm, once a favorite cosmetic in raw form.<sup>11</sup> The sweet task of manipulating the lumps out of the uncooked sperm exhilarated Ishmael to the point of purple similes. When he inhaled that "uncontaminated aroma," he was transported to a musky meadow of ripe grapes and spring violets.<sup>12</sup>

If a fragrant lotion chemically compounded from a base of sour crude in oil refining reverses Ishmael's aromatic experience, the order of manufacture from putrid to pleasant is consistent with the ambergris affair. Stubb, the second mate, in historical oil scout fashion, smells out the worth of a stinking whale moored alongside the French ship ironically emblazoned the *Rose-Bud*. Since the French captain was a conceited novice at the business of whaling, two dead whales that had suffered mortality without benefit of the harpooner's wound were attached to his ship. Both catches were as valueless in oil as repugnant in odor, but it was the second one "even more of a nosegay than the first"<sup>13</sup> in which Stubb recognized a product prized above oil. He knew the market value of ambergris, "worth a gold guinea an ounce to any

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<sup>11</sup>Ibid., p. 452. "No wonder that in old times sperm was such a favourite cosmetic. Such a clearer! such a sweetener! such a softener; such a delicious mollifier!"

<sup>12</sup>Ibid., p. 453.

<sup>13</sup>Ibid., p. 439.

druggist."<sup>14</sup> Whether cause or effect of dyspepsia in the whale, from physical indigestion came a chemical as rare as a pearl in an oyster. "The Turks use it in cooking, and also carry it to Mecca, for the same purpose that frankincense is carried to St. Peter's in Rome. Some wine merchants drop a few grains into claret, to flavor it."<sup>15</sup> The devious manner in which Stubb charitably relieved the Rose-Bud of its polluted atmosphere and enriched his own visit to that ship is more relevant to the occupation of oil scout<sup>16</sup> than to refinery operator.

In its simplest form petroleum refining merely involves splitting a barrel of oil into the fractions native

<sup>14</sup>Ibid., p. 445.

<sup>15</sup>Ibid.

<sup>16</sup>Ball, pp. 29-30. "He [the scout] is his company's field intelligence service.

"The scout is a versatile individual. . . . He must have a working knowledge of lease practice and a persuasive personality. He must be able to gain a driller's confidence, and then be able to check what the driller tells him. The drilling cable as it winds on the drum or the drill pipe as it runs into the hole tells him the depth of the well; a glance at the slush pond tells him the geologic formations being penetrated; and the look in a driller's eye usually tells him when he is being lied to.

"In most of the active districts scouting practice has been greatly improved by the substitution of co-operation for secrecy. Once scouts swapped information secretly, chiseled facts where they could, and guessed at the rest. Now they hold weekly meetings and exchange well logs and other data, but the agenda do not include geologic and leasing information, which the scouts must learn as best they can. Scouting continues to call for alertness."

to it.<sup>17</sup> This process is generally, but clearly defined by Shell's Souvenir Guide to Houston Refinery:

From the storage tanks, the crude oil is pumped through a pipeline to the distilling plant. Here it is heated until it is partially vaporized, and then is passed in a continuous stream into tall fractionating towers--often called "bubble" towers. The vapor, like crude oil, is a mixture of many hydrocarbons, each with a different boiling point. Those with the highest boiling point begin to condense near the lowest (and hottest) part of the tower; those with progressively lower boiling points condense at progressively higher (and cooler) points up the tower. Thus, gasoline stock, with the lowest boiling range, is removed from the top of the tower, kerosene distillate further down, then diesel fuel stock, fuel oils, and so on.

After the primary ingredients in crude oil are separated from each other, they are processed, treated, and blended in various ways to make the finished products.<sup>18</sup>

With no strain to comparison, the parts of the whale fed to the try-works may be equaled in variety and quality to the different properties in a barrel of crude petroleum. In addition to the blanket pieces drilled from the skin of the whale and the sperm bailed from the Tun, the catch yielded other substances worthy of refining. Evidently the author of Moby Dick thought the substances worthy of description, too. Following the introduction--"Now, while discoursing of sperm it behooves to speak of other things akin to it, in the business of preparing the sperm whale for the try-works"--he takes them up in the quoted order:

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<sup>17</sup>J. Stanley Clark, The Oil Century From the Drake Well to the Conservation Era (Norman: University of Oklahoma Press, 1958), p. 140.

<sup>18</sup>Souvenir Guide to Houston Refinery, 1950, p. 6.



First comes white-horse, so called, which is obtained from the tapering part of the fish, and also from the thicker portions of his flukes. It is tough with congealed tendons--a wad of muscle--but still contains some oil. After being severed from the whale, the white-horse is first cut into portable oblongs ere going to the mincer. They look much like blocks of Berkshire marble.

Plum-pudding is the term bestowed upon certain fragmentary parts of the whale's flesh, here and there adhering to the blanket of blubber, and often participating to a considerable degree in its unctuousness. It is a most refreshing, convivial, beautiful object to behold. As its name imports, it is of an exceedingly rich, mottled tint, with a bestreaked snowy and golden ground, dotted with spots of the deepest crimson and purple. It is plums of rubies, in pictures of citron. . . .

There is another substance, and a very singular one, which turns up in the course of this business, but which I feel it to be very puzzling adequately to describe. It is called slobgollion; an appellation original with the whalemén, and even so is the nature of the substance. It is an ineffably oozy, stringy affair, most frequently found in the tubs of sperm, after a prolonged squeezing and subsequent decanting. I hold it to be the wondrously thin, ruptured membranes of the case, coalescing.

Gurry, so called, is a term properly belonging to right whalemén, but sometimes incidentally used by the sperm fishermen. It designates the dark, glutinous substance which is scraped off the back of the Greenland or right whale, and much of which covers the decks of those inferior souls who hunt that ignoble Leviathan.<sup>19</sup>

Beyond the separation of the primary ingredients of petroleum crude, modern oil refining is scientifically complicated. Complex mazes of specialized cracking units draw from the molecular treasure chest in a barrel of crude products radically altered in the natural characteristics of oil.

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<sup>19</sup>Moby Dick, pp. 454-55.



"For instance, oil normally is inflammable. Yet a fireproofing agent can be derived from it."<sup>20</sup>

From soap to nylon, basic and synthetic products of petroleum clean and clothe the world. "Few industries there are that have not felt petroleum's influence, and in the articles we use in our homes, as well as in our factories, it is likely petroleum has played some sort of role, great or small."<sup>21</sup> In a fundamental and more provincial sense the whale supplied like products. The mincer, who cut up the horse-pieces of blubber for the pots, invested himself with a very personal part of the whale. Peeling the pelt from the granissimus, as the mariners called the penis, he turned the skin inside out "like a pantaloon leg." A good stretching doubled the diameter of the whale wardrobe article and exposure to the sun in the rigging cured the hide. Tailoring was a simple matter of removing three feet of the whole covering near the pointed end and puncturing armholes in the upper end of the severed piece. After slipping lengthwise into the garment, the mincer was robed for his role. Melville makes a ceremony of the fabric of his function. "The mincer now stands before you invested in the full canonicals of his calling. Immemorial to all his order, this investiture alone will adequately protect him, while employed in the peculiar functions of his office."<sup>22</sup>

<sup>20</sup>Schackne and Drake, p. 92.

<sup>21</sup>Leonard M. Fanning, The Rise of American Oil (New York and London: Harper & Brothers Publishers, 1936), p. 157.

<sup>22</sup>Moby Dick, pp. 456-57.

Production of chemicals from petroleum after World War II earned an industry division designation called petrochemicals. "As intermediate raw materials and as end products, these find increased use in synthetic fibers, rubber and detergents; . . . "23 The detergent cleaning agent is as widely familiar as automotive gasoline. However, only the whaleman appreciated the leviathan's direct contribution to a clean, disinfected deck. Nipper was a term coined for a magical mop fashioned from the tail of a whale. The description following completes the inventory of a tub of whale oil compared to a barrel of crude petroleum:

A whaleman's nipper is a short firm strip of tendinous stuff cut from the tapering part of Leviathan's tail; it averages an inch in thickness, and for the rest, is about the size of the iron part of a hoe. Edgewise moved along the oily deck, it operates like a leathern squilgee; and by nameless blandishments, as of magic, allures along with it all impurities.<sup>24</sup>

In an air-conditioned office the contemporary refinery operator, who checks his instruments by chart and observes the behavior of his furnace flame in a closed television circuit, would not trade for comfort or safety the occupational shoes of the blubber-room or try-works operator. In fact, the spade-man aboard an American whaler wore no shoes. He stood barefoot on the mobile carpet of blubber, which he chopped

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<sup>23</sup>"More Products for Progress," The Humble Way, XIII (May-June, 1957), 55.

<sup>24</sup>Moby Dick, p. 455.

into portable horse-pieces. Using a spade as sharp "as hone can make it," he was liable to the hazard of cutting off his own toes. The wry comment, "Toes are scarce among veteran blubber-room men," would fill a sheaf of disabling injury reports.<sup>25</sup> In scarcely better position were the harpooners who stoked the try-works furnace:

With huge pronged poles they pitched hissing masses of blubber into the scalding pots, or stirred up the fires beneath, till the snaky flames darted, curling, out of the doors to catch them by the feet. The smoke rolled away in sullen heaps. To every pitch of the ship there was a pitch of the boiling oil, which seemed all eagerness to leap into their faces.<sup>26</sup>

Operationally, only the rudimentary stages of petroleum refining can be related to the simplicity of the try-works. And even this simplicity of refining equipment did not make sperm oil competitive with the petroleum product soon after it was discovered in commercial quantity:

As an illuminator and lubricator it is but little more than half the price of sperm and whale oils, and its use is daily being extended in every department of mechanics. It is used largely in the manufacture of soaps and all the finer toilet articles, while some of the most beautiful shades of color ever known are being, by chemical process, extracted from it. And besides all this, the residuum is now being brought into use as a steam generator, to navigate the ocean, with most flattering promise of success. The cities of Moscow and St. Petersburg are lighted with petroleum exported from this country and it is destined, beyond question, to enter very largely into the manufacture of gas, thereby materially reducing the cost of that very necessary article.<sup>27</sup>

<sup>25</sup>Moby Dick, p. 455.

<sup>26</sup>Ibid., p. 459.

<sup>27</sup>Oil City Register, January 26, 1865, quoted in J. Stanley Clark, The Oil Century, pp. 84-85.

As a lubricant, too, whale oil was vastly less efficient:

Animal and vegetable greases--beef or mutton tallow, lard, whale oil, palm oil, olive oil--were used for lubrication. But they deteriorated rapidly and were limited in quantity. They were barely adequate for the job they had to do then and would be utterly inadequate for the requirements of modern machinery.<sup>28</sup>

Refining aboard a whaler was concluded with casking and storing the warm oil in the hold of the ship. Aboard the *Pequod*, under Melville's pen, the last rites in refining deserved singing prose. Leviathan's decanted remains were once more committed "to his native profundities, sliding along beneath the surface as before; but, alas! never more to rise and blow."<sup>29</sup>

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<sup>28</sup>Schackne and Drake, pp. 80-88.

<sup>29</sup>Moby Dick, p. 463.

## CHAPTER IV

### SOCIOLOGICAL IMPACT

#### The Role of Chance

Chance figured in the beginning of the American whaling industry and chance played an important share in the development of the American petroleum industry. A stranded whale in Nantucket harbor put the hardy seafaring inhabitants of that Atlantic Coast island into a business that was to make them masters of the Pacific whaling grounds. An element of chance in both equipment and drilling site helped to bring in the Drake well, which eventually promoted American petroleum products around the world.

For romantic reasons, Ishmael chose to sail on a whaler from Nantucket rather than New Bedford, which was rapidly becoming the Houston of the whaling industry. His preference was about as practical as the wish of a petroleum engineer, revering oil industry history, to begin his professional career in Titusville, Pennsylvania. In the following passage Ishmael explains his whim.

For my mind was made up to sail in no other than a Nantucket craft, because there was a fine, boisterous something about everything connected with that famous old island, which amazingly pleased me. Besides though New Bedford has of late been gradually monopolizing the business of whaling, and though in this matter poor old Nantucket is now much behind her, yet Nantucket was her great original--the Tyre

of this Carthage;--the place where the first dead American whale was stranded.<sup>1</sup>

As a pushing off point for the character who desired to drive off the spleen and regulate the circulation,<sup>2</sup> Nantucket was a natural choice. It was a place that Melville had never seen.<sup>3</sup> Vincent searches the author's decision to send Ishmael to sea from Nantucket; he attributed the selection of embarking port to the symbolic quality of Nantucket, patron of American whaling genius.

She represented and represents the antiquity and the aristocracy of one of America's most romantic industries. New Bedford was the intrusive, albeit successful, newcomer. But although New Bedford has developed a devotion to whaling almost that of her rival's, the fact still remained that the total energies of Nantucket had been engrossed in the pursuit of whales from the very days of her founding; she had known little else but blubber and oil; the energies, the interest, and the fortunes of every citizen, man, woman, and child were somehow tied up with spermaceti and whalebone. Nantucket prospered or drooped in exact ratio to the whale catch of the year and to the price of whale oil. So it had been for generations.<sup>4</sup>

In addition, Vincent backgrounds the chance beginning of Nantucket's pursuit of the blubber and oil enterprise:

<sup>1</sup>Moby Dick, p. 33.

<sup>2</sup>Ibid., p. 27.

<sup>3</sup>Vincent, p. 64. "Nantucket, which he knew from reading and hearsay, is described in general terms devoid of concrete, distinguishing detail. To cover his lack of sharp particularity Melville here resorted to rhetoric and to lyrical celebration. Knowing Melville's methods of composition, one is not rash in suggesting that had Melville sailed from Nantucket instead of from Fairhaven--just across the Acushnet River from New Bedford--or had he visited Nantucket at any time before writing Moby-Dick, he would have produced an incisive sketch of the gray, sandy island, a pen landscape graphically supporting his prose poem to Nantucket the symbol."

<sup>4</sup>Ibid., pp. 81-82.

Nantucket had begun her whaling early. In 1672 a Right Whale entered her harbor to spout there for several days. Accepting this open challenge, the Nantucketers shaped a harpoon and set out to capture the fish. . . . At first, the Nantucketers erected a tall pole with ladder cleats to serve as a lookout for whales. When a whale was sighted the boats would set out in pursuit. The first sperm whale captured by an American whaleship was that caught by Christopher Hussey, whose boat had blown out to sea, and who had become fast to a sperm whale. From this accident Nantucketers conceived the idea of going into the open ocean for their catch instead of waiting on shore for the whales to come to them.<sup>5</sup>

The account of success, reading parallel to developments in American petroleum that have far outdistanced those in any other country, continues:

Soon whaling sloops of thirty tons were built to venture beyond soundings. Rapidly the ships increased in size and the voyages grew longer, stretching out in time and into strange places: to the Davis Straits in 1732, then to the Bahamas, the Gulf of Mexico, the Azores, and to the Coast of Africa. Finally, in 1791 American whalers in one New Bedford and four Nantucket ships rounded Cape Horn to burst into that silent sea. Although they had followed by four years the epoch-making exploration of Samuel Enderby's Amelia, the Americans made up for lost time by the daring and vigor of their hunt so that it was not long before they were the masters of the Pacific whaling grounds. Such they remained throughout the next one hundred years.<sup>6</sup>

Although the Drake well was not projected for any other product but petroleum, "luck was present at the birth of the oil industry, and the role it has since played has been both factual and legendary."<sup>7</sup> In Lincoln's day lighting needs had already grown acute. "Whalers of New Bedford, Salem

<sup>5</sup>Ibid., p. 82.

<sup>6</sup>Ibid., pp. 82-83.

<sup>7</sup>Mody C. Boatright, Folklore of the Oil Industry (Dallas: Southern Methodist University Press, 1963), p. 58.



and Nantucket, seeking to meet the demand for sperm-oil," threatened the extinction of the whale, "and with it, one of man's chief sources of light."<sup>8</sup> George H. Bissell, as if by fortuitousness, conceived a way to drill instead of sail for the light that was flickering low in the supply of spermaceti.

Bissell, a graduate of Dartmouth, on a visit to his alma mater became intrigued by the reputed illuminating properties of a laboratory sample of "rock oil." Born of need as well as curiosity, he (an impoverished journalist and teacher) visited the region in Pennsylvania from which the surface sample rock oil had been taken, purchased a hundred-acre plot, and returned to New York to form the first American oil company, Pennsylvania Rock-Oil Company. As Bissell was strolling down Broadway--a chemical analysis in his pocket certifying the value of the product he was about to promote--he perceived a way to bring it out of the ground. The immediate object of his physical vision was an imitation greenback advertising a salt plant equipped with drilling derricks. But his mental vision saw more: the relationship between boring and pumping brine wells and oil wells.<sup>9</sup> Had Bissell's vision of the future been Tennysonian,<sup>10</sup> projected into the wooden arms of the brine drilling derrick,

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<sup>8</sup>Fanning, p. 12.

<sup>9</sup>Ibid., p. 14.

<sup>10</sup>Alfred Lord Tennyson, "Locksley Hall," ll. 119-124.



He would have seen the kerosene lamp and stove come into universal use, increasing safety, widening opportunity for education. He would have seen petroleum adding to people's comforts and to the essential articles of life as a source of heat in industrial and household furnaces. He would have seen petroleum as a source of power in engines on land, on rivers, on lakes, on the seven seas, and in the air--types of engines, modes of transportation, which could not have come into being without it. He would have seen man's ingenuity in making mechanical devices matched by man's ingenuity in converting mineral oil into products that would keep turning the wheels of industry and transportation.<sup>11</sup>

If the first well drilled for petroleum in the United States had proved a dry hole, the progress of civilization might have been plugged or postponed. Yet the crude contraption for drilling, set up a few feet off in any direction, would have missed the crevice and the oil.<sup>12</sup> Called "Drake's Folly," the outcome of the original venture was technically akin to beginner's luck. Bissell contracted the actual drilling of the well to an old friend, Edwin Laurencine Drake, by trade a railroad conductor. It took Drake a year to assemble a crew composed of salt-well driller William Smith, "Uncle Billy," and his two sons.<sup>13</sup> In June of 1859, a drill bit suspended by a hemp rope and motivated by a windlass had risen, fallen, and buried itself in the ground to a depth of thirty-six feet. Steam power generated in a curious old engine filled "the forest with its groans."<sup>14</sup> The drillers, with luck, averaged three feet a day through a hard rock formation. But all manner of difficulties upset their modest schedule of footage:

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<sup>11</sup>Fanning, p. 15.

<sup>12</sup>Boatright, p. 58.

<sup>13</sup>Fanning, p. 15.

<sup>14</sup>Ibid., pp. 15-16.

The drill breaks off in the bottom of the hole and has to be recovered. The steam-engine breaks down. On August 27, 1859, late on a sultry afternoon, "Uncle Billy" and his son Sam draw the iron bit from the well-hole, and start to measure the depth. The previous night they had reached 69½ feet. As they begin to lower a measuring rope, they encounter a black, oily fluid a few feet from the top of the hole. Using a tin pitcher pump, they raise a quantity of oil. At sunset, Smith, with a sample of the oil, climbs on a mule and sets out post-haste for Titusville to spread the news that "Drake's Folly" is a dream come true.<sup>15</sup>

In the space of ten years, despite the unsettling implications of oil boom towns grown all out of proportion to accommodations and the fluctuating price of crude, the United States became as famous abroad for its oil as for its cotton.<sup>16</sup> "American kerosene and the coal-oil lamp have penetrated into every corner of the civilized world. The New England Whaler has struck her flag, and the world has turned from the tallow candles and sperm-oil lamp to petroleum."<sup>17</sup>

#### History--Glory and Gore

The flag of the New England whaler was still flying at full mast when Melville launched the material of his experience synthesized with his reading and imagination. By his own boast, he intended to eulogize the sperm whale. "As yet, however, the sperm whale, scientific or poetic, lives not complete in any literature. Far above all other

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<sup>15</sup>Ibid., p. 16.

<sup>16</sup>Ibid., pp. 16-18.

<sup>17</sup>Ibid., p. 18.

hunted whales, his is an unwritten life."<sup>18</sup> That he did this, and so much more of a charismatic quality, scholars do not neglect to note. Charles Olson responds to the depth of the whale biographer's background: "He had the tradition in him, deep, in his brain, his words, the salt beat of his blood." For this reason Olson was willing to ride the image of the whale, in conjunction with the image of man and the ocean, to find "prophecies, lessons he himself [Melville] would not have spelled out."<sup>19</sup> To Richard Chase, "Moby-Dick remains intransigently a story of the whaling industry; a hymn to the technical skill of the heroes and the marvelous perfection of their machine and to the majesty of what they appropriate from the sea."<sup>20</sup>

In honor of his sperm whale and of the men who speared him, Melville reached into the annals of antiquity to name Perseus, the gallant son of Jupiter, the first whaleman:

Every one knows the fine story of Perseus and Andromeda; how the lovely Andromeda, the daughter of a king, was tied to a rock on the sea-coast, and as Leviathan was in the very act of carrying her off, Perseus, the prince of whalemens, intrepidly advancing, harpooned the monster, and delivered and married the maid.<sup>21</sup>

Meshing mythology and biblical history, Melville makes St. George's Dragon a whale, the Greek Hercules ("that antique Crockett and Kit Carson") a whaleman by virtue of having been swallowed and vomited by a whale. Even Vishnoo, one of the three persons in the godhead of the Hindoos, is

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<sup>18</sup>Moby Dick, p. 161.

<sup>19</sup>P. 13.

<sup>20</sup>Herman Melville, A Critical Study (New York: The Macmillan Company, 1949), p. 101.

<sup>21</sup>Moby Dick, p. 397.

admitted, or sacrificed, by the first of his earthly incarnations to the cult of the whalemén.<sup>22</sup> Paragraphs are dedicated to these heroes, saints, and demigods; the prophet Jonah merits a chapter. In the sceptical character of Sag-Harbor, Jonah's journey and gastric habitation in the belly of a whale are scientifically questioned and allegorically justified.<sup>23</sup>

Guiltless of any of Melville's subtle humor in establishing the foundation of his whale history, Fanning claims that petroleum, carefully distinguished from animal, fish, and vegetable products, also appears in myth and legend. "It seeped from the earth in certain localities near the habitation of peoples. Sometimes it was the kind of petroleum that is a thick asphalt; sometimes the kind that has the consistency of an ointment; sometimes the kind that is volatile and inflammable."<sup>24</sup> Greeks, Persians, Romans, and Egyptians identified petroleum "under a variety of names, including bitumen, maltha, asphaltum, naphtha, pitch, tar, earth oil, earth balsam, and brea."<sup>25</sup>

As if soberly debating with Melville, Fanning exhibits the Scriptural references which prove his product:

In the description of the building of the Tower of Babel (Genesis xi:3) appears the following, "Slime had they for mortar." Apparently this was a petroleum asphalt referred to as bitumen by Herodotus,

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<sup>22</sup>Ibid., pp. 397-99.

<sup>23</sup>Ibid., pp. 400-402.

<sup>24</sup>Fanning, p. 1.

<sup>25</sup>Ibid., pp. 1-2.

Greek historian (484-425 B.C.), as brought down by the Is, a tributary of the Euphrates, to be used as mortar in building the walls of Babylon.

In Job xxix:6 appears, "and the rock poured me out rivers of oil." Moses tells of the priests who had fire which they took from the altar and deep pit without water. Nehemiah pours upon the sacrifices, and upon the wood and the altar, and "a great fire was kindled."<sup>26</sup>

In the coronation of kings, biblical or secular, Melville wins the dialectic dialogue by supporting sperm oil, "in its unmanufactured, unpolluted state, the sweetest of all oils," as the crowning grease. He argues, "Certainly it cannot be olive oil, nor macassar oil, nor castor oil, nor bear's oil, nor train oil, nor cod-liver oil."<sup>27</sup> But the winner on this score risks the threat of being trapped by his own argument when he earlier introduces the metaphorical picture of "a salt-cellar of state" to anoint the head of a realm like salt seasons a salad.<sup>28</sup> Fanning might have opposed him here by presenting evidence gained from Herodotus, who described a Persian petroleum operation that produced salt together with asphalt and oil.<sup>29</sup> A contemporary petroleum engineer would have rested the point, for the appearance of salt water is almost inevitably a sign of doom when drilling for oil. Should this conversation spanning a century grow absurd, consider Melville's question about the relationship of the exterior oiling for the benefit

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<sup>26</sup>Ibid., p. 1.

<sup>27</sup>Moby Dick, p. 140.

<sup>28</sup>Ibid.

<sup>29</sup>Fanning, p. 2.

of the interior mechanization. "Can it be, though, that they anoint it [the king's head] with a view of making its interior run well, as they anoint machinery?"<sup>30</sup>

At this level of levity, a legendary figure in the petroleum industry vies for attention. Rig Builder Bunyan would have appealed to Melville, perhaps not as an ancient member of the whalemens club, but as a twentieth century mascot. Bunyan once built a rig that reached to heaven where the crew took up temporary quarters, but the really large feat he accomplished occurred five hundred miles out into the Pacific Ocean after he was blown from a derrick in Bakersfield, California. "He was attacked by a whale, but fortunately he still had his hatchet in his hand. He killed the whale, mounted it, and paddled home."<sup>31</sup>

During the peak years between 1840 and 1860, the business of whaling in the United States was economically impressive. Capitalized at \$120,000,000, it had opened up textile and exporting industries in what was chiefly an agrarian economy. Industrially, whaling took third position behind meat products and lumber<sup>32</sup> Professionally, as Melville complains, the level of labor did not rate compatibly with membership in military service. But he insists the soldier and the sailor have more gore on their hands than the whaleman who

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<sup>30</sup> Moby Dick, p. 140.

<sup>31</sup> Boatright, p. 166.

<sup>32</sup> Olson, p. 18.

is excluded from the ranks of the liberal professions. The difference in defilement is explained:

Doubtless one leading reason why the world declines honoring us whalemens, is this: they think that, at best, our vocation amounts to a butchering sort of business; and that when actively engaged therein, we are surrounded by all manner of defilements. Butchers we are, that is true. But butchers, also, and butchers of the bloodiest badge have been all Martial Commanders whom the world invariably delights to honor. . . . But even granting the charge in question to be true; what disordered slippery decks of a whale-ship are comparable to the unspeakable carrion of those battlefields from which so many soldiers return to drink in all ladies' plaudits?<sup>33</sup>

By the time of World War II, the petroleum industry had been professionalized to the extent that key personnel, often to their personal dismay,<sup>34</sup> were deferred from military draft to accelerate the production of oil vital to victory for the Allies. Early development, however, followed a pattern that affected the landscape unesthetically. The derrick

<sup>33</sup>Moby Dick, pp. 135-36.

<sup>34</sup>Ed J. Hamner, Petroleum Geologist (unpublished MS). "Why am I not there with other Americans (my relatives and friends), fighting by their sides, for the right to live again in freedom and in peace? . . . My two best friends are already beneath foreign sod and will never come home again. . . . The small daily sacrifices and hardships seem such trivial efforts when compared to the work of others.

"I wonder, yet I know why I remained behind, but still the reason has never been completely satisfactory. The lingering doubt of the wisdom of my decision remains constantly in my thoughts and will probably continue to assail and abuse my peace of mind if I live to be a hundred. The importance of my work, I realize and do not discount; yet why did I not choose to let someone else take over and join the boys in uniform? And such, no doubt, are the thoughts of many other average American men who, like me, are fighting the terrific battle on the home front."



floor, in comparison to the whaler's deck, was in Melville's words for his industry a scene of "careful disorderliness."<sup>35</sup> At times the disorderliness could not carry the adjective "careful." The Lucas gusher, which brought in the fabulous field of Spindletop on January 10, 1901, "gushed skyward for more than twice the height of the derrick, crested, and settled back to earth in a greasy shower."<sup>36</sup> Even plowing under the oil-soaked grass did not prevent the hazard of fire.<sup>37</sup>

In haste to grow rich overnight and recover all the resources available under the inequitable law of capture,<sup>38</sup> the disorderliness in the gory business of drilling for oil was frequently civically untidy. The North Texas Burkburnett boom of 1918 created the following chaotic domestic scene: "Derricks had replaced chicken coops and barns in the back yards; they had displaced flower beds in the front yards, and the eaves of houses were sawed away to make room for the derricks in between the buildings."<sup>39</sup>

A chamber of commerce sponsoring a rags to riches program during the Ranger oil boom might have advertised: "From Mud to Millions." Besides drilling mud, an integral

<sup>35</sup>Moby Dick, p. 396.

<sup>36</sup>Carl Coke Rister, Oil! Titan of the Southwest (Norman: University of Oklahoma Press, 1949), p. 57.

<sup>37</sup>Ibid., p. 59.

<sup>38</sup>supra, p. 33.

<sup>39</sup>House, p. 47.



part of the drilling process, Ranger wallowed in the mire of mud as the town suffered and enjoyed the wealth of a quality of crude oil second only to that of Pennsylvania.<sup>40</sup>

In rainy weather, Ranger, like other oil-field nerve centers, was plagued with mud. Main Street became a loblolly, with slush oozing on to sidewalks. Men and women wore boots. And at the foot of Main Street, teams were employed to draw heavily laden wagons from hub-deep mire. As the long trains of wagons, each loaded with heavy oil-field equipment, moved up and down the street, groaning with their burdens, the constant and frantic churning of the hooves of the horses, mules, and oxen pulling them threw mud on the store fronts, so that persons inside could not see out the windows. To bog across this quagmire at street intersections was hazardous. Not uncommonly, men in hip boots did a thriving business, charging five to twenty-five cents each to carry passengers "piggy-back" across the street or to transport them on sleds or in boats.<sup>41</sup>

The American who honors honest grime is as devoted to soap and water. Melville, no less than the entire petroleum industry, protested the public view which castigated dirty work as unclean. The author was not willing to wait three hundred pages to inform his readers that whaling did not involve a perpetual state of uncleanness. To leave no stain upon the deck temporarily turned butcher's block, Melville anticipates Chapter 98, "Stowing Down and Clearing Up":

And as for the matter of the alleged uncleanness of our business, ye shall soon be initiated into certain facts hitherto pretty generally unknown, and which, upon the whole, will triumphantly plant the sperm whale-ship at least among the cleanliest things of this tidy earth.<sup>42</sup>

<sup>40</sup>Rister, p. 150.

<sup>41</sup>Ibid., p. 152.

<sup>42</sup>Moby Dick, p. 136.

When the last pint of the manufactured sperm was casked and the hatches replaced, clearing up started. "One day the planks stream with freshets of blood and oil; . . . But a day or two after, . . . you would all but swear you trod some silent merchant vessel, with a most scrupulously neat commander."<sup>43</sup>

Unsightly blight brought upon the land by the scarring instruments of the petroleum developer has almost vanished. Today productive and unproductive leases alike bear little resemblance to the boomtown landscape dotted with ugly, leafless derrick forests. The portable workover rig has eliminated the permanent wooden derrick as a sign of a producing well. Instead a neat network of valves, called the Christmas tree,<sup>44</sup> poses above the underground casing and tubing. Even a pumping unit is no more offensive to the eye than a stationary horse grazing steadily in a straightened field of grass.

An abandoned site is often, within a few months, again producing pasture. The procedure Humble Oil & Refining Company carefully follows for abandoning a dry-hole location is not unique in the petroleum industry:

After the hole has been safely plugged, the drilling equipment and derrick are dismantled and removed from the site. Clean-up crews then pick up all the remaining debris. Mud pits, basement pit, and other holes are levelled, and the drilling site is restored to as nearly its original condition as possible.<sup>45</sup>

<sup>43</sup>Ibid., pp. 463-64.

<sup>44</sup>Primer of Oil and Gas Production, p. 19.

<sup>45</sup>"Abandon Site," The Humble Way, IX (November-December, 1953), 17.

But Humble's scenic protection for drilling a wildcat well in heavily populated Los Angeles County was unique. All the drilling equipment, materials, and supplies were kept out of sight behind an attractive fence painted a pleasant green. Although the drilling derrick on the enclosed one-acre site was visible above the fence, blankets of green sound-proofing material screened the noise and camouflaged any aspect objectionable to the view.<sup>46</sup>

Both industries, whaling and petroleum, involve operations that soil the hands and clutter the environs. Paradoxically, they both produce cleansing agents. Melville boasts that the decks of the *Pequod* were bleached spotless after "an affair of oil":

The unmanufactured sperm oil possesses a singularly cleansing virtue. This is the reason why the decks never look so white as just after what they call an affair of oil. Besides, from the ashes of the burned scraps of the whale, a potent lye is readily made; and whenever any adhesiveness from the back of the whale remains clinging to the side, that lye quickly exterminates it.<sup>47</sup>

The petroleum industry can boast: "The most important detergents, from the point of volume, are derived from petroleum. They are alkyl-aryl sulfonates, with some alkyl sulfates. The alkyl-aryl sulfonates claim about 65 per cent of the household-detergent market, with the alkyl sulfates claiming most of the remainder."<sup>48</sup>

<sup>46</sup> "Wildcat in a Metropolis," The Humble Way, XIV (November-December, 1958), 7.

<sup>47</sup> Moby Dick, p. 464.

<sup>48</sup> "Detergents," Facts about Oil, p. 28.

The task of clearing up a whaling job did not end with the decks any more than the task of cleaning up a drilling site ends with dismantling the derrick. In order to put the ship back in perfect shape,

Hands go diligently along the bulwarks, and with buckets of water and rags restore them to their full tidiness. The soot is brushed from the lower rigging. All the numerous implements which have been in use are likewise faithfully cleansed and put away. The great hatch is scrubbed and placed upon the try-works, completely hiding the pots; every cask is out of sight; all tackles are coiled in unseen nooks; and when by the combined and simultaneous industry of almost the entire ship's company, the whole of this conscientious duty is at last concluded, then the crew themselves proceed to their own ablutions; shift themselves from top to toe; and finally issue to the immaculate deck, fresh and all aglow, as bridegrooms new-leaped from out the daintiest Holland.<sup>49</sup>

Because an immaculate state of affairs in which the Pequod crew grew eloquent about drawing room comforts<sup>50</sup> was as temporary as capturing the next whale, Melville becomes philosophically pensive:

For hardly have we mortals by long toilings extracted from this world's vast bulk its small but valuable sperm; and then, with weary patience, cleansed ourselves from its defilements, and learned to live here in clean tabernacles of the soul; hardly is this done, when--There she blows!--the ghost is spouted up, and away we sail to fight some other world, and go through young life's old routine again.<sup>51</sup>

The endless routine of clearing up is also the chore of the oil man who must ever spud onto a new location if petroleum reserves are to be maintained.

<sup>49</sup>Moby Dick, p. 464.

<sup>50</sup>Ibid.

<sup>51</sup>Ibid., p. 465.

### Owners and Officers

Does the industry make the man, or the man the industry? These are basic questions for which absolute answers are still pending. But some interaction between man and the work he performs is obvious in any trade or profession, if by no other indication than a linguistic one. When John D. Rockefeller, founder of Standard Oil Company of New Jersey, taught a Sunday school class, he selected the subject, "Dividends of Righteousness." He said, "If you would take something out, you must put something in." A visitor to this class commented that he was on his own ground in speaking of dividends.<sup>52</sup>

Melville's fictional owners of the Pequod, Captains Peleg and Bildad, were Quakers. By association with the religious sect, they were pacifistic; by association with the whaling industry, they were pugilistic. Miller indicts them as fighting and materialistic Quakers:

The owners, Captains Peleg and Bildad, are Quakers, but they are fighting Quakers, and it is clear that they are materialistic Quakers from the hard bargains they strike with the sailors. Pious Captain Bildad spends much of his time engrossed in reading the Bible, but his piety does not prevent him from keeping a sharp eye out for a profit or from waiving his rules about hiring only converted savages when he discovers Queequeg's skill with a harpoon.<sup>53</sup>

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<sup>52</sup>Ida M. Tarbell, All in the Day's Work, An Autobiography (New York: The Macmillan Company, 1939), p. 236.

<sup>53</sup>Miller, p. 91.

Of the two captains, Peleg was the fighter. "Though refusing, from conscientious scruples, to bear arms against land invaders, yet himself had illimitably invaded the Atlantic and Pacific; and though a sworn foe to human bloodshed, yet had he in his straight-bodied coat, spilled tuns upon tuns of Leviathan gore."<sup>54</sup> Yet less contradiction is evident in the principles of fighting Peleg, "who cared not a rush for what are called serious things,"<sup>55</sup> than in pious Bildad, who cooperated with his partner for purely practical worldly gain. The latter rationalized: "This world pays dividends."<sup>56</sup>

In the folklore of the petroleum industry there are legendary figures that offer both contrast and comparison to Captain Bildad. Coal-Oil Johnny was as extravagant with his oil fortune as Bildad was parsimonious with his whaling revenue. John Washington Steele, the first Coal-Oil Johnny,<sup>57</sup> inherited from a childless aunt in 1864 "a farm upon which oil royalties were yielding between two and three thousand dollars a day." In less than a year he had squandered his fortune playing angel to a minstrel show, renting a hotel and

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<sup>54</sup>Moby Dick, p. 102.

<sup>55</sup>Ibid.

<sup>56</sup>Ibid., p. 103.

<sup>57</sup>Boatright, p. 145. "Steele was an exceptional man, but his pattern of behavior has been repeated with sufficient frequency to establish his nickname, Coal-Oil Johnny, as a common noun in the American language. A Coal-Oil Johnny is anyone who squanders an oil fortune, large or small."

entertaining all guests, giving away horses and carriages, and most spectacularly, walking down the city streets with ten-dollar bills stuck in the buttonholes of his coat for the pleasure of seeing them snatched.<sup>58</sup>

Bildad had the reputation in his sea-going days of being "a bitter, hard task-master." As the skipper of the Categut, it was rumored in Nantucket, he brought home an exhausted crew in need of hospitalization.<sup>59</sup> The name Hardboiled, given to an oil-field driller by his crew, suggests that a foreman in the petroleum industry treated his subordinates no better than Bildad. The means his drilling crew took to remove the driller outlive the causes which undoubtedly aggravated the stunt. Boatright tells the following story he tape-recorded in an interview with R. S. Kennedy on July 30, 1952:

He [Hardboiled] was one of the men who drilled in Pleasant Grove Cemetery. He set the first string of pipe and then knocked off for four or five days to wait for the cement to harden. While he was away some of the workers who were living in a tent nearby rigged up a string of two-inch pipe, leading underground from their tent to the cellar of the well. When Hardboiled returned and started drilling, they began hollering through the pipe, "Oh Lord! My God! Have mercy. Have mercy on us." Hardboiled became more and more nervous, and after about an hour of groans and pleas for mercy he said he was not going to drill another lick. He walked off the job and another driller brought in the well.<sup>60</sup>

Captain Ahab also became involved with the semblance of the supernatural in relationship to his officers and crew.

<sup>58</sup> Ibid., pp. 144-45.

<sup>59</sup> Moby Dick, p. 103.

<sup>60</sup> Pp. 8-9.



Celebrating a blasphemous communion, which M. O. Percival said had overtones of a Black Mass,<sup>61</sup> Ahab swore his men to a Satanic allegiance dedicated to revenge on Moby Dick. Only Starbuck, the first mate, was not completely mesmerized by the ceremony to hunt for one whale. Like a doubting geologist, who insists the oil is on the other side of the anticline from the site chosen to drill, he answers Ahab's jibe of being unwilling to join the game:

"I am game for his crooked jaw, and for the jaws of Death too, Captain Ahab, if it fairly comes in the way of the business we follow; but I came here to hunt whales, not my commander's vengeance. How many barrels will thy vengeance yield thee even if thou gettest it, Captain Ahab? it will not fetch thee much in our Nanucket market."<sup>62</sup>

In the capacity of a pipeliner (a petroleum company pipe layer, gauger, or pumper) Starbuck again opposed Ahab's authority to commandeer the *Pequod* for the sole purpose of hunting the hated whale. When an oil leak was discovered in the casks stored in the hold, the first mate approached his captain with the necessity to hoist burtons and stop the flow of ebbing profits. Nearing that area of the Pacific where Moby Dick had last been seen, Ahab refused to brook any delay.

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<sup>61</sup> A Reading of Moby-Dick (Chicago: The University of Chicago Press, 1950), p. 10. "Of this particular form of Satanism, the ritual is said to include black candles and black blood, the cross upside down, prayers and ceremonies backward, invocation of the devil, and ceremonies at night with poisonous brews and oaths of sin and hate. The drink that goes around is simply sailors' grog, but it seems to be transformed into something insidious."

<sup>62</sup> Moby Dick, p. 193.



Starbuck respectfully reminded him that if the ship sailed on, more oil would be wasted in one day than could be made good in a year. "What we come twenty thousand miles to get is worth saving, sir."<sup>63</sup>

Ahab's answer to this challenge is concentrated upon his own consuming interest which he madly prefers to that of the owners. The leak is symbolically transformed into his personal monomania:

"Let it leak! I'm all aleak myself. Ayel leaks in leaks! not only full of leaky casks, but those leaky casks are in a leaky ship; and that's a far worse plight than the Pequod's, man. Yet I don't stop to plug my leak; for who can find it in the deep-loaded hull; or how hope to plug it, even if found, in this life's howling gale?"<sup>64</sup>

The "miserly" owners, summarily dismissed as secondary authority to the demands of Ahab's conscience,<sup>65</sup> included in addition to the two principal shareholders (Peleg and Bildad) "a crowd of old annuitants; widows, fatherless children, and chancery wards; each owning about the value of a timber head, or a foot of plank, or a nail or two in the ship."<sup>66</sup> Proportionately, a random share of petroleum company stock purchased on the open market is equivalent to a valve on a wellhead connection or a ladder to a storage tank.

Although Ahab, through either "a flash of honesty . . . or mere prudential policy,"<sup>67</sup> finally ordered the leak repaired,

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<sup>63</sup> Ibid., p. 510.

<sup>64</sup> Ibid.

<sup>65</sup> Ibid.

<sup>66</sup> Ibid., p. 101

<sup>67</sup> Ibid., p. 512.

his determination to follow his own goal at the expense of the owners would have given credence to the legend of the plugged well in the petroleum industry. "For years wherever unsuccessful wildcats were drilled rumors would spread that oil had been found but that the hole had been plugged or the oil cased off by the driller, who had been bribed, usually by an agent of Standard Oil, but which of the operating companies he represented was never divulged."<sup>68</sup> The owner of the wildcat lease invariably believed that the major oil company bribing the driller would return five to twenty years later to buy additional acreage at a small rental and develop the field.<sup>69</sup> Ahab did, in fact, employ a bribe to divert his officers and crews from the main business of the Pequod, exhorting his men to hunt Moby Dick with the following promise:

"Whosoever of ye raises me a white-headed whale with a wrinkled brow and a crooked jaw; whosoever of ye raises me that white-headed whale, with three holes punctured in his starboard fluke--look ye, whosoever of ye raises me that same white whale, he shall have this gold ounce, my boys!"<sup>70</sup>

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<sup>68</sup> Boatright, p. 132.

<sup>69</sup> Ibid., p. 133.

<sup>70</sup> Moby Dick, p. 191.

## CHAPTER V

### EMPLOYEE AND INTERNATIONAL RELATIONS

#### Employee Relations

An Employee Relations Department in charge of personnel interests might have spared Melville's desertion from the Acushnet in July of 1842. Melville had shipped in the capacity of a foremasthand when, on a typical whaler of the time, life was as "nearly unendurable as working life can be and not prove fatal."<sup>1</sup> At sometime during his tenure as a sailor, the Acushnet lost two mates and thirteen members of her crew of twenty-three. Those who did not desert were put ashore "half dead" from disease.<sup>2</sup>

It is remarkable that the intolerable working conditions Melville experienced aboard a whaler did not pervade Moby Dick, a work in which he emptied so much of himself. But as intentional as any omission of bitterness appears, the dialogue of Ishmael's interview with the owners of the Pequod reveals the trifling rate of compensation for a tyro. Acquainted with the prevailing terms under which he could contract to sail, Ishmael speculated upon the

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<sup>1</sup> Newton Arvin, Herman Melville (New York: William Sloane Associates, Inc., 1950), p. 51.

<sup>2</sup> Ibid., pp. 50-51.

exact amount of his share in the profits. He makes this clear in the following passage:

I was already aware that in the whaling business they paid no wages; but all hands, including the captain, received certain shares of the profits called lays, and that these lays were proportioned to the degree of importance pertaining to the respective duties of the ship's company. I was also aware that being a green hand at whaling, my own lay would not be very large; but considering that I was used to the sea, could steer a ship, splice a rope, and all that, I made no doubt that from all I had heard I should be offered at least the 275th lay--that is, the 275th part of the clear nett [sic.] proceeds of the voyage, whatever that might eventually amount to.<sup>3</sup>

The policy of paying a lay, or commission, instead of a flat salary kept whalers alert to the catch. Without a course in industrial psychology, Ahab knew that he could not expect complete loyalty to his perverted purpose of hunting one whale while stripping his men of all hopes of cash in a general hunt for oil. "They may scorn cash now; but let some months go by, and no perspective promise of it to them, and then this same quiescent cash all at once mutinying in them, this same cash would soon cashier Ahab."<sup>4</sup>

By an opportunity through a payroll plan to purchase stock in their companies, petroleum organizations engender in an employee a feeling that he is in a sense working for himself. If his employer profits from his labors, the employee will, too, in increased dividends and

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<sup>3</sup>Moby Dick, p. 104.

<sup>4</sup>Ibid., p. 244.

capital investment. Such plans vary from company to company. Humble Oil & Refining Company has a "Thrift Plan"<sup>5</sup> in which the buying of stock is permissible but not compulsory. An employee may reserve from two to ten per cent of his salary toward the purchase of stock, United States Savings bonds, life insurance, or cash savings. Supplemented by company contributions, these funds accumulate in amounts controlled by individual wage scales. Similarly, Queequeg as a professional harpooner could demand a lower lay and a higher profit than Ishmael. The difference compares to a difference between the bonus paid a professional engineer and a gang laborer.

Ishmael conjectured that while a 275th lay was a "long" lay, a bottom share in the profits, he would nonetheless have the assurance of certain fringe benefits:

And though the 275th lay was what they call a rather long lay, yet it was better than nothing; and if we had a lucky voyage, might pretty nearly pay for the clothing I would wear out on it, not to speak of my three years' beef and board, for which I would not have to pay one stiver.<sup>6</sup>

Beef and board cost the owners of a whaler between fifteen and thirty cents a day for each crew member.<sup>7</sup> Even considering that the purchasing power of money in 1840 or

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<sup>5</sup>"Humble Annuity & Thrift Plan," Welcome to Humble (Houston: Humble Oil & Refining Company - undated), pp. 21-2.

<sup>6</sup>Moby Dick, pp. 104-105.

<sup>7</sup>Olson, p. 21.

1850 quadrupled the quantity of groceries it buys today, Ishmael's fringe benefits were not impressive. By comparison an oil company expense account is luxurious. Usually the limit consists of an instruction to go first class; and drawing funds in advance, the employee is at liberty to gormandize at his own discretion.

Believing that the 275th lay "would be about the fair thing," Ishmael estimated it might be improved when his employers sized his broad-shouldered build.<sup>8</sup> Altogether, there is very little mention in Moby Dick of the narrator's physical appearance, but this instance is mindful of the fact that petroleum companies have a tradition of appraising a man's brawn and physical stamina if he applies for field work.

With a background of hope in a 200th lay,<sup>9</sup> the irony is all the stronger in the bargaining interspersed by Bil-dad's reading of the Bible. "'Lay not up for yourselves treasures upon earth, where moth--'"<sup>10</sup> When the frugal owner absurdly suggested, "'the seven hundred and seventy-seventh wouldn't be too much,'"<sup>11</sup> partner Peleg exploded in protest. But before a compromise at the 300th lay<sup>12</sup> was effected, Ishmael had time to think:

<sup>8</sup>Moby Dick, p. 105.      <sup>9</sup>Ibid.

<sup>10</sup>Ibid.

<sup>11</sup>Ibid.

<sup>12</sup>Ibid., p. 107.

Lay, indeed, thought I, and such a lay! the seven hundred and seventy-seventh! Well, old Bildad, you are determined that I, for one, shall not lay up many lays here below, where moth and rust do corrupt. It was an exceedingly long lay that, indeed; and though from the magnitude of the figure it might at first deceive a landman, yet the slightest consideration will show that though seven hundred and seventy-seven is a pretty large number, yet, when you come to make a teenth of it, you will then see, I say, that the seven hundred and seventy-seventh part of a farthing is a good deal less than seven hundred and seventy-seven gold doubloons; and so I thought at the time.<sup>13</sup>

Queequeg, Ishmael's pagan friend, drove a much better bargain. Actually, he "darted" himself into a ninetieth lay, "'more than ever was given a harpooneer yet out of Nantucket.'"<sup>14</sup> In view of a fever he later contracted as a result of sweating in the hold of the ship while manhandling barrels of sperm, Queequeg should have inquired about medical benefits. Apparently these were as rare in the whaling industry as they are liberal in the petroleum industry. Sinecures were also unknown:

Be it said, that in this vocation of whaling, sinecures are unknown; dignity and danger go hand in hand; till you get to be Captain, the higher you rise the harder you toil. So with poor Queequeg, who, as harpooneer, must not only face all the rage of the living whale, but--as we have elsewhere seen--mount his dead back in a rolling sea; and finally descend into the gloom of the hold, and bitterly sweating all day in that subterranean confinement, resolutely manhandle the clumsiest casks and see to their stowage.<sup>15</sup>

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<sup>13</sup>Ibid., pp. 105-106.

<sup>14</sup>Ibid., p. 118.

<sup>15</sup>Ibid., p. 512-13.

### International Relations

When the first Nantucketer dared the waters of the open ocean to hunt for whales, he involved his country in international relations. Since he had hunted in the Caribbean years before he rounded Cape Horn in the last decade of the eighteenth century,<sup>16</sup> the whaler may have first represented an English colony instead of the United States. Whether in the name of colony or country, Melville has no words but praise for the conduct of the whaleman as explorer and diplomat. In tribute to the whaleman explorer, he writes:

For many years past the whale-ship has been the pioneer in ferreting out the remotest and least known parts of the earth. She has explored seas and archipelagoes which had no chart, where no Cooke or Vancouver had ever sailed. . . . They may celebrate as they will the heroes of Exploring Expeditions, your Cookes, your Krusensterns; but I say that scores of anonymous Captains have sailed out of Nantucket that were as great, and greater, than your Cooke and your Krusenstern. For in their succorless empty-handedness, they, in the heathenish sharked waters, and by the beaches of unrecorded, javelin islands, battled with virgin wonders and terrors that Cooke with all his marines and muskets would not have willingly dared. All that is made such a flourish of in the old South Sea Voyages, those things were but the life-time commonplaces of our heroic Nantucketers. Often, adventures which Vancouver dedicates three chapters to, these men accounted unworthy of being set down in the ship's common log.<sup>17</sup>

For tribute to the whaleman diplomat, Vincent assumes Melville consulted Beale, who implied that the whalers, seeking only refueling, were hailed as friendly visitors to foreign

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<sup>16</sup>Vincent, pp. 82-83.

<sup>17</sup>Moby Dick, p. 137.



shores.<sup>18</sup> Melville makes of their landings a peace-keeping mission: "If American and European men-of-war now peacefully ride in once savage harbors, let them fire salutes to the honor and glory of the whale-ship, which originally showed them the way, and first interpreted between them and the savages."<sup>19</sup> As documented in the "Advocate" (Chapter 24 of Moby Dick), the diplomatic acumen of whaling men was particularly effective in opening trade with South American Spanish colonies:

Until the whale fishery rounded Cape Horn, no commerce but colonial, scarcely any intercourse but colonial, was carried on between Europe and the long line of the opulent Spanish provinces on the Pacific coast. It was the whaleman who first broke through the jealous policy of the Spanish crown, touching those colonies; and, if space permitted, it might be distinctly shown how from those whalemens at last eventuated the liberation of Peru, Chili, and Bolivia from the yoke of Old Spain, and the establishment of the eternal democracy in those parts.<sup>20</sup>

Twentieth century history has proved that democracy has been less durable in South America than Melville predicted. However, a conclusion may be reasonably reached that the North American whaleman's diplomatic trading ties did not injure the participation of the United States in foreign oil development in Central and South America at the time American petroleum exploitation was first undertaken

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<sup>18</sup>Pp. 95-97.

<sup>19</sup>Moby Dick, p. 137.

<sup>20</sup>Ibid., 137-38.

abroad after World War I. "Before that time we had plenty of oil at home, not only for domestic needs but for export to the rest of the world."<sup>21</sup>

Notwithstanding the whaleman's pioneering good will, the petroleum wildcatter to Latin America in 1920 still encountered hostile hosts with primitive weapons. "Even after wells were drilled, crews more than once awoke in the dawn to find arrows near the derrick, shot by Indians against the steel monster."<sup>22</sup> Of course, the legal rights of the internal oil man were far more complicated than the law of the fishery. Compelled to deal first with the nation to whom mineral rights usually belonged rather than to the individual landowner, petroleum developers frequently discovered they were changing lessors with each change in unstable government. It was almost as confiscatory as Melville's farcical treatment of the "Laws of England," which provided "that of all whales captured by anybody on the coast of that land, the King, as Honorary Grand Harpooneer, must have the head, and the Queen be respectfully presented with the tail."<sup>23</sup> The division in Venezuela between foreign petroleum developer and national landowner was settled by the famous "fifty-fifty"

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<sup>21</sup>"New Horizons in Foreign Oil," The Lamp, XXXVIII (Summer, 1956), 2.

<sup>22</sup>Ibid.

<sup>23</sup>Moby Dick, p. 435.

principle.<sup>24</sup> Obviously, underground oil revenue is more satisfactorily divided than the body of a whale, whose division "is much like halving an apple; there is no intermediate remainder."<sup>25</sup>

The whaleman was, in fact and in Moby Dick fiction, esteemed as an explorer. Standing night watches in remote waters, he gazed at constellations never seen at home.<sup>26</sup> The petroleum geologist is an explorer, too, sometimes in ancient as well as on local lands. Nine years ago he followed the archaeologist and historian into Turkey to join the scraping, poking, and digging searchers after the buried past for the natural artifacts of his profession. Reported by one of his oil company's publications, he may vividly be pictured working and living in a historically hallowed land:

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<sup>24</sup>Leonard M. Fanning, Foreign Oil and the Free World (New York, Toronto, and London: McGraw-Hill Book Company, Inc., 1954), pp. 109-110.

The "fifty-fifty" principle, whereby the government and the foreign developer share equally in the revenues of oil, was first initiated in Venezuela in 1948. While the government's participation in profits does not mean participation in operation or management, the oil company assumes the largest financial burden of the original investment. Since the oil company does not draw any interest on its initial investment, an American oil concern cannot expect to realize more than thirty-five to forty-five per cent of the total profits extracted from foreign soil.

<sup>25</sup>Moby Dick, p. 435.

<sup>26</sup>Ibid., p. 102.

He may be seen standing on a high, windy plateau, peering across a landscape that includes, in the far distance, the towering cone of Mount Ararat, on top of which Noah's ark is said to have settled. Or in the hubbub of a village bazaar, where men in black pantaloons gather round him to nod encouragement and laugh good naturedly at his stumbling Turkish. Or making camp in a lemon grove cooled by Mediterranean breezes. Few visitors have the chance to know a land and its people more intimately than geologists do.<sup>27</sup>

Exploring beyond the map in all corners of the world, he travels by jungle canoe and jet. He endures the sands of the Libyan desert, the dysentery of India, and the cold of the Arctic with a flair for understatement in his monthly reports akin to the whaleman's disdain for putting down his geographical exploratory accomplishments in the ship's log.

Like his geologist heir, the whaleman shunned no clime or continent. Melville seems to be especially proud of the Australian exploratory trophy to which he staked claim for the whale-ship by reason of humanitarian service rendered the people "Down Under."

That great American on the other side of the sphere, Australia, was given to the enlightened world by whaleman. After its first blunder-born discovery by a Dutchman, all other ships long shunned these shores as pestiferously barbarous; but the whale-ship touched there. The whale-ship is the true mother of that now mighty colony. Moreover, in the infancy of the first Australian settlement the emigrants were several times saved from starvation by the benevolent biscuit of the whale-ship luckily dropping an anchor in their waters.<sup>28</sup>

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<sup>27</sup>"Exploring an Ancient Land," The Lamp, XXXVIII (Summer, 1956), 6.

<sup>28</sup>Moby Dick, p. 138.

As surely as "The uncounted isles of all Polynesia . . . do commercial homage to the whale-ship, that cleared the way for the missionary and the merchant,"<sup>29</sup> underdeveloped nations profit from the humanitarian programs carried out by American oilmen. Preliminary good works of stamping out fever and schooling native children in oil camps have expanded to polished personnel training programs that develop a more proficient people. M. J. Rathbone, President of Standard Oil Company of New Jersey claims: "In a sense, we and other businesses have had our own 'Peace Corps' for years."<sup>30</sup> And he is not unappreciative of the ambassadorial function that subsidiaries of his parent organization perform when he says:

These training programs develop more effective people. Employees take back to their communities new approaches and new knowledge that contribute significantly to the general welfare. If through training we raise a man above what he otherwise would attain, we believe the free enterprise system gains a new ambassador. The trainees are able to see at firsthand the values and the strength of free enterprise. Out of personal conviction they can often explain those values better and more convincingly than we can.<sup>31</sup>

What Melville predicted the whale-ship would do for "that double-bolted land, Japan,"<sup>32</sup> the American petroleum industry has achieved throughout the world. And the vision of the men who carried the exploration of oil to other continents does not end with this planet. Petroleum furnishes the blast and the lubricant by which space ships soar into new oceans.

<sup>29</sup> Ibid.

<sup>30</sup> "Development of Nations," The Lamp XLV (Spring, 1963), 17.

<sup>31</sup> Ibid.

<sup>32</sup> Moby Dick, p. 138.

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