EARLY PROMOTION AND DEVELOPMENT OF MISSOURI'S NATURAL RESOURCES

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by
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MISSOURI'S NATURAL RESOURCES

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DEDICATION

To the Missouri River, whose beauty has been a source of pleasure and inspiration and whose muddy, winding course, guided by the revetments of modern professionalism, provides a suitable metaphor for the materials presented herein.
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CHAPTER I

EARLY IMPRESSIONS: DESCRIPTIONS OF MISSOURI'S NATURAL RESOURCES IN THE EARLY NINETEENTH CENTURY

In the year 1799 a pamphlet fell into my father's hands which gave a glowing description of New Spain, or Upper Louisiana, now called Missouri. It set forth the great fertility of the soil, the rare beauty of the country, the abundance of game, and the vast extent of range for stock, besides the gift of six hundred and forty acres of land to every bona fide settler. All this was too much for my father, who, by this time, had contracted a great fondness for border life. Accordingly . . . he mounted his favorite horse, and, with rifle on his shoulder, faced the boundless wilderness.1

Writing the above lines years later, Samuel Rogers, who became a minister of the gospel in Missouri and the Ohio Valley, recalled the attractions which Missouri and the West held for his father.

The exact origin and wording of the pamphlet were not stated, but its "glowing description" helped entice Ezekiel Rogers to bring his family to Missouri, where they settled in the lower Missouri River Valley in 1801. Although his family would later return to Kentucky, they did develop a prosperous farm in Missouri; and according to Samuel Rogers' recollection, they were much pleased with their new home. He asserted that the fertile farm
lands produced fine crops of grain, as good as any grown in Missouri. He recalled his father claiming that the wild game and wild pastures would last a century; and Samuel himself "hardly dreamed that there was any civilization or refinement in store for the country for generations to come." In his autobiography, Samuel Rogers gave no indication that "fertility," "rare beauty," and "abundance" were inaccurate accounts. Accurate descriptions or not, Ezekiel Rogers reacted to these images, and, after his own investigations, moved west to Missouri. And like the Rogers family, many other Americans were lured to Missouri, in part by generalized descriptions of abundance, and by reports noting the availability of, and encouraging the use of, Missouri's natural resources. They came, as Rogers wrote, "with marvelous rapidity." By 1820 the population of Missouri had grown to approximately 66,000, more than six times the total for all of the territory of Upper Louisiana near the turn of the century.

In the early nineteenth century, the soils of Missouri, more than any other natural resource, attracted settlers such as the Rogers family. The first permanent white settlers, however, were lured by minerals rather than the agricultural potential. Seeking gold and silver, the French instead found lead and iron in the
northern part of the Ozark Plateau in southeast Missouri. The frequent association of silver and lead deposits had encouraged French efforts to find silver in the lead regions of Missouri, but by the 1720's they began to mine lead on a commercial basis.

The mining activities in this area continued into the period of Spanish control, while in the meantime the miners made no technological advances but did discover additional lead deposits in the same vicinity. In the late 1790's, Moses Austin received a grant from the Spanish to develop mines in the old French lead-mining region. He became the leading figure in Missouri mining for the first two decades of the nineteenth century, contributing in technology and in the expansion of operations. Lead remained the chief mineral product of Missouri; and new large deposits in southwest Missouri came under development by mid-century.

In addition, Missouri's iron deposits, undeveloped by the French, were first utilized extensively by the Americans, beginning with operations around Ironton in the second decade of the nineteenth century. By mid-century companies were mining the most productive of Missouri's iron deposits, at Iron Mountain and Pilot Knob, and, overall, the value of the state's iron production ranked fifth in the nation in 1860. Other
minerals obtained in early Missouri history included salt. The French began the mining of salt in Missouri, but its modest commercial importance in the area had declined considerably by the 1820's due to competition from Louisiana and the Ohio Valley. Coal mining developed near St. Louis by the early nineteenth century, but significant commercial development of coal did not take place until mid-century.  

Gradually during the first half of the nineteenth century, farming spread throughout much of Missouri. French agricultural activities had developed in enclaves, mostly along the Mississippi and in mining regions. In the late 1790's, Spain began to encourage American immigration to the Missouri area as a deterrent to British interests in the Louisiana Territory. To attract Americans, like Ezekiel Rogers and others who came before and after, the Spanish stressed the "fertility of the lands, [and] the prospect of mineral riches in Upper Louisiana."  

Agricultural settlements in the early nineteenth century developed along fertile river bottoms in the mining district, along the Mississippi River, and along the Missouri near St. Louis. After the initial movement into the Booneslick country around 1810, farming activities slowly extended up and down the Missouri River valley. By the 1820's farmers had begun to move into
southwest Missouri, along the White and James rivers, and into the Osage River valley by the 1830's. Lead mining developments in southwest Missouri in the 1840's and 1850's further stimulated settlement in this area by both miners and farmers. Development in the central Ozarks came slowly, and involved scattered farming and lumbering. Similarly, settlement of the boot-heel region of southeast Missouri evolved only gradually after the initial French settlement in the 1780's. The chief hindrance to agricultural activities in this region involved the problem of swamps and poor drainage. The agricultural development of north-central Missouri progressed slowly until the significant increases that followed construction of railroads in the area during the third quarter of the nineteenth century.7

Persons who came to Missouri hoping to use its natural resources had only a very limited knowledge of the area since detailed and specific information was difficult to obtain. Under these circumstances, the first emigrants often moved into an area on the basis of no more than a vague image of what Missouri was like. By necessity, imagination and very general concepts of the natural resources and the landscape provided the basis of an area's image and attractiveness. Writing from Missouri in the first quarter of the nineteenth
century, Timothy Flint, a New England-born preacher and writer, commented upon imagination and the impulse to migrate westward. He wrote that,

The notion of new and more beautiful woods and streams, of a milder climate, deer, fish, fowl, game, and all those delightful images of enjoyment, that so readily associate with the idea of the wild and boundless license of new regions; all that restless hope of finding in a new country, and in new views and combinations of things, something that we crave but have not,--I am ready to believe, from my own experience, and from what I have seen in the case of others, that this influence of imagination had no inconsiderable agency in producing emigration.

After American acquisition of Louisiana, and as an increasing number of Americans moved into the area soon to become the state of Missouri, numerous reports appeared, giving descriptions of the area and its natural resources. Descriptions of the resources and a general portrayal of the landscape--the "face of the country"--were subjects of utmost concern when individuals attempted to describe areas generally unsettled and unknown to many Americans, such as Louisiana in the early nineteenth century. Backcountry farm life, Indians, and the activities in scattered frontier communities also received attention; and with the coming of more population and the development of cities, the cultural affairs and business enterprises became more important in descriptive reports. Yet natural resources remained the most important subject.
The majority of the reports were, as Samuel Rogers indicated, "glowing" descriptions; and the writers fore­saw and encouraged use and development of the resources. They also wrote in terms which doubtlessly caught the pioneers' imagination. On or near the frontier the wildness and newness of the country often produced awe and enthusiasm, resulting in rapturous accounts of the scenery and resources. And the virgin richness and variety of Missouri's resources and landscape naturally encouraged the writing of glowing descriptions.

Many of the early depictions of Missouri were written by individuals who had only a brief contact with the area, either as short-term residents or as travelers. Their descriptions usually involved the areas most heavily traveled and settled, especially the Mississippi and Missouri river valleys. Both casual travelers and persons specifically motivated by scientific interests came through these areas and recorded their observations.

The casual observers tended to be much more effu­sive and excitable over the state's potential. After a short residence in Missouri, and travel mostly along the two large rivers, Timothy Flint, a confirmed nature romantic, wrote of the Country near the confluence of the Missouri and Mississippi rivers:

I have not seen, before or since, a landscape which united in an equal degree, the grand, the beautiful,
and fertile. It is not necessary in seeing it to be very young or very romantic, in order to have dreams steal over the mind, of spending an arcadian life in these remote plains...in the midst of rustic plenty, and of this beautiful nature.

Such a description, just as romantic as others Flint wrote of newly developed and fertile areas to the east, indicate that the Missouri landscape evoked images generally not strange or unpleasant to persons from the East. Rolling, tree-covered, well-watered, the Missouri landscape comprised some of the last familiar scenery as one went westward toward the Great Plains.

Flint also noted the exceptional depth of some of the rich soils, and commented at one point that "Here are a hundred thousand acres of land of this description, fit for the plough." Descriptive accounts of Missouri stressed such ideas of abundance and fertility, along with concern for utilizing the resources. Traveling up the Mississippi in the 1830's, and recording his impressions for the Louisville Journal, Edmund Flagg enthusiastically described the great variety of minerals around Ste. Genevieve as well as the beautiful springs to be found in the area. The bluffs along the Mississippi he found to be beautiful, especially when the early morning light bathed them "in a flood of golden effulgence."

And, where these bluffs were put to use in the making of lead shot, Flagg found them to be "distinguished for
their beauty and grandeur, not less than for the practical utility to which they have been made subservient."\textsuperscript{12} On his way up the Missouri in the late 1830's, an English tourist, Charles Augustus Murray, commented on the unparalleled beauty of the surrounding country, and claimed that the "depth and inexhaustible fertility of the soil are too well known to require comment; whatever terms may have been used in describing them can scarcely be exaggerations."\textsuperscript{13}

Early expeditions up the Missouri River were usually bound for distant places in the West; thus areas in Missouri often were not of primary interest and received only modest comment in diaries and journals. Frequently written by scientifically trained persons, many of these early diaries and journals have a more objective quality, with less of the expansive rhetoric regarding nature that is found in the accounts of casual travelers. More interested in cataloging the flora and fauna along the river, these observers generally made comments which tended away from romantic accounts of the landscape and the resources.

The records kept by Lewis and Clark, for example, contained little comment on the potential of the resources along the lower Missouri, nor were their descriptions exuberant and effusive. The explorers
concerned themselves more with the initial challenges of the lower Missouri River and the day-to-day events of their journey than with the natural resources. At times they noted such aspects as the attractiveness and fertility of the country, as above the mouth of the Grand River, where the area is "butiful [sic] on the river[,] rich and well timbered." Nearby they saw a prairie, "rich and interspersed [sic] with groves of timber . . . ."\textsuperscript{14} At another time they commented on land that they believed to be "about 2d rate."\textsuperscript{15} Headed toward distant and unknown areas, their primary concerns did not include the more familiar land forms of Missouri.

Soon after Lewis and Clark, however, nature in Missouri was described by other persons. For instance, Edwin James, chronicler for the Long Expedition to the Rocky Mountains in 1819 and 1820, and a trained botanist and geologist, wrote a commentary on the natural history of the lower Missouri. He made numerous notations on its plant life, cataloging numbers and variety with little awe or enthusiasm. Although he wrote of the "inexhaustible" soils, James usually made more reserved observations, such as near the mouth of the Grand River, where he saw the soil as being "of good quality," and the timber supply as being "adequate." Foreseeing use and development of the Grand River area, he believed the
natural resources would effect a rapid settlement of the region. Elsewhere, he claimed that a locally promoted notion of the Osage River being navigable for 600 miles was an exaggeration. In a rather restrained way, he wrote that the soils and climate of this region would result in the river valley's becoming "a seat of numerous population."

Another naturalist, John K. Townsend, on his way toward Oregon in 1834, and making only a brief record of his journey between St. Louis and Independence, recorded little about the resources. Maximillian, Prince of Wied, a German-trained naturalist on his way up the Mississippi and Missouri rivers in 1833, made many notations on plants and wildlife. Only occasionally, though, did he express enthusiasm over their numbers and variety; and he generally avoided the romantic, rhetorical mode of description. Reuben Gold Thwaites has noted that Maximillian's style of description was "simple, natural and unforced, rather the expression of the scientific than the literary type of mind."

These early scientists who visited Missouri and recorded their observations helped provide a basis for an accumulation of knowledge of the area through their cataloging of flora and fauna, as well as their remarks on the geology and geography. Generally, however,
accumulation of reliable information about Missouri and its natural resources evolved very slowly and erratically. Published descriptions of the area's resources remained generalized during the early nineteenth century, available specific information being rare and involving only special areas. The primary examples of the general sort of public knowledge about Missouri to be found in the first decades of the nineteenth century were the gazetteers of the period. Having few accumulated facts from which to draw upon, and much of this coming from the expeditionary literature, writers of the gazetteers naturally included quite general descriptions of the natural resources. Such specific information as they contained was often interspersed with exaggerated rhetoric about the resources. Thus the gazetteers combined elements of both the objective, restrained scientific approaches and the generalized literary portrayals.

The sheer size of the territory, whether the West in general or only Missouri, made it hard for writers to produce detailed descriptions in the early gazetteers. Both before and after statehood, descriptions of the area comprising the state of Missouri were at times included with information about much larger areas. Thus, unlike the literature of scientific expeditions, which usually involved only the immediate, observed
terrain along the routes, the gazetteers gave general information about very large areas. Published in 1814, Henry Marie Brackenridge's *Views of Louisiana* included information about much of the Louisiana Territory, while in 1812, Amos Stoddard had undertaken to describe the same areas in addition to the Florida territories in his *Sketches, Historical and Descriptive, of Louisiana*. Later, in 1823, Lewis Beck's gazetteer provided information on the states of Missouri and Illinois; and in 1834, Robert Baird produced *View of the Valley of the Mississippi*, including one chapter on the state of Missouri.

Compilers of gazetteers at times recognized that breadth of coverage contributed to a shallowness of detail. Amos Stoddard indicated his awareness of this when he wrote of his book on Louisiana, that "The reader will find here little else than geographical outlines, descriptions of the surface of the country, the navigation of rivers, the nature or quality of soils . . . and whatever else would be likely to meet the eye of a transient passenger." Samuel R. Brown, in his *The Western Gazetteer*, a description of much of the Ohio and Mississippi valleys, remarked that, "The immense extent of country embraced in the plan of this work, has in many instances prevented minuteness of description, even where personal knowledge was most perfect."
Regardless of Brown's claim of "most perfect" personal knowledge in certain instances, most of the compilers of the gazetteers were limited by the lack of any special knowledge of the natural resources. And most particularly they were limited by the lack of any accumulation of reliable detail concerning Missouri's resources. Thus almost invariably an apologia appeared in the introduction of these early gazetteers, indicating problems involved in describing large territories, and the need, when writing such accounts, for both broad and deep knowledge of natural history. Regarding his description of Louisiana, Brackenridge noted that "To become a botanist, mineralogist, or geologist, requires long and undivided attention. I have therefore been compelled to content myself with admiring merely the face of nature, without attempting to analyze, or seek out her hidden character." 24

In compiling their gazetteers, the writers very often described areas which they had not seen personally. They supplemented whatever direct knowledge they had of Missouri or other areas with information from other published accounts, as well as correspondence or personal contact with "intelligent gentlemen" or "respectable men" who supposedly had first-hand information. 25 Later writers often relied upon earlier gazetteers for
information, and they drew from the slowly accumulating information of scientists who wrote about various expeditions.26

The gazetteers concentrated on the basic purpose of providing immediately useful information about the region being described. Such information usually had the more specific purpose of encouraging prospective emigrants living in areas to the east. Natural resources being of primary concern to emigrants, the gazetteers repeatedly urged that these resources be developed. To varying degrees all of the early gazetteers were promotional tracts, although their promotionalism was tempered somewhat by frequent negative comments indicating less attractive, or less usable, areas in Missouri. With regard to whatever information the compilers of the gazetteers had at hand, they exercised a moderate degree of objectivity. They were not wholly uncritical and did not always present a picture of lush fertility and easily accessible abundance throughout the state. Nevertheless, whenever minerals or fertile soils existed, the writers strongly approved transforming the areas involved from a wilderness condition of unused lands into areas of towns, cities, and prosperous farms.

Following American acquisition of Louisiana, two of the earliest efforts to provide a generalized account
of the territory were the works of Amos Stoddard and Henry Marie Brackenridge. In these writings, which covered much of central North America, the area comprising present-day Missouri received considerable attention. This resulted largely from the importance of the Missouri River as a route West, from the presence of towns along the rivers, especially St. Louis, and from the potential of the mineral deposits in the northern Ozarks.

Amos Stoddard's book on the Louisiana Territory appeared in 1812. Trained in law, Stoddard had served briefly as the first civil and military commandant of Upper Louisiana, and had also been active in the administration of the lower part of the territory. His Sketches, Historical and Descriptive, of Louisiana included information on subjects such as society, politics, and religion, as well as the natural resources. Having traveled in much of Lower Louisiana, he was able to base part of his work on personal observations. But Stoddard also relied on earlier writings and maps, and, especially regarding the natural resources, he relied on information from "Indian traders and other transient persons." He acknowledged the frequent unreliability of his own sources, stating that the "transient persons" provided an "exuberant mass of materials, but extremely
crude, confused and contradictory . . . ." He also noted the lack of accurate reports of the interior areas of Louisiana, and the inadequacies of maps of the territory. He felt a need to accumulate detailed, accurate information, believing the advantages of Louisiana to be so great that once the area became well known all opposition to the recent purchase would cease.27

Being aware that knowledge of the resources was deficient and defective, Stoddard anticipated that development of them would reveal an ample abundance. Regarding mining, he noted the limited existing knowledge of the subject, especially considering the "probable plenitude" of the minerals to be found in the new territory.28 And concerning the many undeveloped farming regions, Stoddard wrote that "Until greater industry and enterprise be excited, we shall hardly know what the soil is calculated to produce."29 Areas such as that along the lower Meramec River, Stoddard believed, would soon become of much importance because of their rich soil, mineral deposits, and facilities for navigation.30 And other lands already well under way in the process of development, such as areas along the Mississippi, he observed to be producing an abundance of all the basic necessities of life.31 In his descriptions, Stoddard anticipated future development, and urged the transformation of the new
territory into areas useful and productive for man.

Henry Marie Brackenridge's *Views of Louisiana* provided another general portrayal of Missouri, including chapters on history, politics, towns, and Indians, but with greatest emphasis on geography and natural resources. Schooled in law, Brackenridge came to New Madrid in 1810 to establish a practice; but, unable to do so, he began writing essays on aspects of the Louisiana Territory. He published them in the St. Louis press in 1811, and later that year, set out to accompany Manuel Lisa up the Missouri River. The journal of his experiences on the river trip, together with the essays, appeared in book form as *Views of Louisiana* in 1814.32

Concerned with the lack of information on the Louisiana Territory, Brackenridge believed that, with the numerous expeditions and activities in the area, geographers would soon know Louisiana as accurately as other parts of the United States. Like Stoddard, Brackenridge relied on his own observations, in addition to some written reports, mostly expeditionary literature and hearsay. He claimed that "the observations of travellers, if made with any tolerable degree of accuracy, should rank amongst the most useful productions, and ... be entitled to great indulgence."33

Brackenridge's work included general descriptions
of Missouri's landscape and resources. His reports of several Ozark Rivers, for instance, were brief, impressionistic descriptions, based largely on reports of hunters, and included comments on the navigability of the streams and the nature of the lands drained by them. Typical of the general nature of his descriptions, was his comment on the Gasconade River which consisted mostly of his claim that it "can be ascended in small boats nearly one hundred miles, but the navigation is not good on account of shoals and rapids. It passes through a hilly country, in which there probably exist mines."34 Brackenridge's description of the mining areas west of Ste. Genevieve included an account of their discovery, the mining methods used, and brief comments on several mines.35

Brackenridge also discussed the "face of the country" from New Madrid north along the Mississippi and then up the lower Missouri River. He described areas of rich soil and fine timber, as well as swamps and rough, hilly areas, the latter being at times "exceedingly wild and romantic," with their "rocks, woods, [and] distant hills."36 Regarding the lowlands near Cape Girardeau and New Madrid, Brackenridge foresaw benefits which this area might provide for large numbers of people, commenting that the country probably could be drained fairly easily,
and thereby become remarkably productive. Later, in describing the view from a promontory near St. Charles, Brackenridge excitedly noted the potential of the surrounding country: "Fifty thousand acres of the finest land, are under the eye at once, and yet on all this space, there is but one little cultivated spot to be seen." Foreseeing the development and future use of the area, he wrote that "creative fancy, adorns it, with happy dwellings and richly cultivated fields," providing "nourishment to a multitude of beings." And as to lands farther up the Missouri, Brackenridge wrote of their unsurpassable fertility and beauty, conditions which provided "charming situations for seats and farms." Thus he eagerly anticipated dense occupation of the land—the arrival of a substantial population into these wilderness areas, and the development and use of the resources.

In 1817, three years after Brackenridge's work, John Bradbury's *Travels in the Interior of America* appeared. A British botanist with considerable experience and training, Bradbury traveled under the patronage of the Liverpool Botanical Garden, with the object of collecting plants and shipping them live to England. His *Travels* included the journal of his trip up the Missouri River in 1810 and 1811, in addition to a description of
Upper Louisiana and much of the country drained by the upper Mississippi and the Ohio River.

Bradbury devoted a chapter to an account of the Missouri Territory, including some very general remarks on the resources found within the area soon to become the state of Missouri. He noted the probability of coal being found in large quantities to the west of St. Louis, and he briefly described lead mining operations west of Ste. Genevieve. 40 To this he added a list of some of the more common trees found in the area, along with remarks about the "wild productions"--the fruit, nuts, and berries to be found in Missouri. He found the soils in the vicinity of St. Louis, presumably along the rivers, to be "generally excellent, being for the most part black loam, and . . . tilled without much trouble." 41 An appendix included a catalog of about one hundred "rare or valuable" plants which Bradbury found near St. Louis during his stay in that vicinity. 42 Although the work of a trained scientist, Bradbury's description of Missouri was brief, and less important than the reports penned by one of his contemporaries who soon toured the territory.

The closest inspection of Missouri's natural resources and land forms during the early decades of American control was that done in the Ozark region by
Henry Rowe Schoolcraft in 1818 and 1819. While a young man living in upstate New York, Schoolcraft had developed an interest in science, especially geology. During his first trip West he visited the lead-shot works at Herculanum, Missouri. There he met Moses Austin, whose discussion of Missouri's lead industry prompted Schoolcraft to make a close study of the geology and mining operations around Potosi, Missouri. With its mining potential, the Ozark Plateau had already generated interest among those writing descriptions of Missouri's resources.

Schoolcraft made his investigation of the mining area during the summer of 1818, and the following fall he decided to explore further the mountain regions of Missouri and Arkansas. In early November he and a companion, Levi Pettibone, left Potosi and headed in a southwesterly direction, through the northern half of the Ozark Plateau, traveling as far as the James and White rivers, and returning to Potosi on February 4, 1819. From these experiences and observations Schoolcraft produced two books, *A View of the Lead Mines of Missouri* and *Journal of a Tour into the Interior of Missouri and Arkansaw*.43 These works constituted the most thorough descriptions of any large portion of Missouri to appear in print by the time of Missouri's admission to statehood, and became an
important source for subsequently written descriptions of the state.

As a trained scientist, Schoolcraft strongly felt that much too often the earlier descriptions of Missouri had been inaccurate and unreliable. In his most pointed remarks about such descriptions, Schoolcraft commented that those who had merely passed through an area could not make reliable assessments, and that quick observations would never rival close detail and statistical fact. He stated pointedly that,

knowing how deep first impressions, however erroneous, sink, . . . I have been induced to hint at the superficial accounts of preceding tourists . . . . [and the] labors of mercenary pamphleteers, and catch-penny printers, where we are served up with surmises instead of facts, with bloated descriptions instead of simple accounts; and the authors of which know not the country they describe.

Schoolcraft concluded that, regarding mining, Brackenridge's work, although at times interesting in its detail, lacked uniformity and was often "vague and hypothetical." He saw Stoddard's Sketches, Historical and Descriptive, of Louisiana as being weakened through lack of personal acquaintance with the country and by too many general assumptions. Interested in attaining a more exact knowledge of Missouri, Schoolcraft wrote that "a wide field is still left for observation and research . . . and an increased desire is manifested for further
information. The period has in fact already arrived [when] scientific and elementary information on the various subjects [are needed]."46

Schoolcraft's books provided a systematic study of the mining activities in the region around Potosi, and an impressionistic view of the large area extending from Potosi to the White River area to the southwest. His writings combined elements of scientific observation and objectivity, mixed with occasional expansive rhetoric. In his lengthy description of the mining area, Schoolcraft discussed the general geography of the country, the history of its mining operations, the mining and smelting processes being used, and the geology of the region, stressing especially mineralogy.

Although at times enthusiastic in their assessment of Missouri's natural resources, Schoolcraft's writings surpassed the more common, biased, promotional treatises. He wrote enthusiastically of the abundance and potential of the area, frequently commenting on both the quantity and the rich quality of the ores of the mineral region. For example, at one time he remarked that "in richness and extent the mines of Missouri are paralleled by no other mineral district in the world."47 And, anticipating success in future development, he wrote that the mines of Missouri could "supply all lead for domestic
consumption, but also, if the purposes of trade require it, are capable of supplying large quantities for exportation."48

The failure to employ efficient and systematic mining technology gave Schoolcraft his greatest concerns about future success in developing the mineral region. The "manifest want of skill, system, and economy in the raising of ores, and the smelting of lead" resulted in poor returns, falling far below the mines' potential productivity. Schoolcraft believed that application of more systematic operations in the mining area would benefit large numbers of people and be highly conducive to the public welfare.49 He suggested that a systematic survey of the mineral region be conducted, and furthermore that a mining school be established in a "country so rich in minerals and fossils, and whose wealth will always so much depend upon a proper development of these resources . . . ."50

In the journal of his trip to the south and west of Potosi, Schoolcraft's geological observations became much more random, affording very impressionistic glimpses. In both of his works on Missouri, however, Schoolcraft gave impressionistic accounts regarding agricultural possibilities. The terms, "sterile," "barren," and "flinty" appeared throughout his descriptions of the
Ozark region of Missouri, indicating the natural beauty of a virgin area did not blind him to its possible limitations for agricultural purposes. Yet he did recognize some promising agricultural possibilities in the Ozark region. The soil of the mining region, he wrote, was generally poor, yet less so than that found in many other mining areas. Some parts of the Ozarks had very fine farming lands; however, they were separated by rocky ridges and areas of poor soils. The land, he wrote, "is either very rich or very poor; it is either bottom land, or cliff, prairie or barren . . . ." 

In a most significant observation about the possibilities of agricultural development in the Ozarks, Schoolcraft wrote of the benefits possible by adapting to specific advantages of the Ozark environment. The heavily timbered poorer tracts of land, he noted, had good grass cover, affording a sufficient range for livestock, an advantage which Schoolcraft believed would be permanent. Suggesting better agricultural possibilities through limited use of the lands according to the diverse nature of the terrain, Schoolcraft wrote that "the country will never admit of a dense population . . . here and there will be an excellent plantation, and the intermediate lands being too barren for cultivation, will never be taken up, but still afford a range for hogs and
cattle.” Schoolcraft thus suggested that at best a division of land utilization in large units might develop, adapting to the nature of the country and its resources, specifically the alternating tracts of fertile and stony land. In this manner abundance could be sustained through limited use and mixed farming on a large scale, avoiding the more intensive small farming operations.

The events of Schoolcraft's later career eliminated any personal influence he might have had in promoting technical schools or better land utilization in Missouri. His interest in Missouri had stemmed from scientific curiosity and the hope that he might receive valuable recognition through his efforts to describe the Ozark mineral region. At one time Schoolcraft had the idea that the mining areas of Missouri needed a resident government manager, and that he might persuade Washington officials to appoint him to such a position. Upon publication of *A View of the Lead Mines of Missouri*, in the fall of 1819, he went to Washington, D.C. personally to distribute copies of the book and to promote the idea of his managing the Missouri mineral region. This effort led to conversations with John C. Calhoun, who instead encouraged Schoolcraft's appointment to a survey of the upper Great Lakes. Schoolcraft's appointment to the
Great Lakes area removed him from the Missouri scene and focused his attention on other regions and concerns.

Subsequent to Schoolcraft's publications, other writers produced descriptions of Missouri, the most important being Lewis C. Beck's *Gazetteer of the States of Illinois and Missouri* (1823), and Alphonso Wetmore's *Gazetteer of the State of Missouri* (1837). These two gazetteers were more comprehensive than their predecessors, such as those of Stoddard or Brackenridge, and Beck's gazetteer was probably the most objective and restrained, and the most reliable general description of Missouri's resources to appear in the first half of the nineteenth century. Works of broader coverage which included short sections on Missouri continued to appear, such as Timothy Flint's *The History and Geography of the Mississippi Valley* and Robert Baird's *View of the Valley of the Mississippi*. These writings were similar in approach and scope to the earlier works of Stoddard and Brackenridge.

In 1823, feeling that a more detailed description of the developing Western states was needed, Lewis C. Beck published his *Gazetteer of the States of Illinois and Missouri*. Concentrating on only two states, and having traveled over a considerable portion of both of them, Beck succeeded in providing a creditable portrayal
of Missouri. He placed by far his heaviest stress on the natural resources, although he did include subjects such as history, government, and education. In addition to his own observations, he noted that he had talked with "intelligent gentlemen" and had used the works of "modern authors," including the writings of Stoddard, Brackenridge, and Lewis and Clark. As to mines and minerals, he freely recognized his obligations to Schoolcraft's View of the Lead Mines of Missouri.  

Trained in medicine, and well on his way toward developing a broad knowledge of the physical sciences, Beck's own observations were valuable and reliable. Shortly after his visit to Missouri and Illinois, Beck began a long career of teaching in northeastern colleges. During his career he published forty-one books and articles, in addition to leaving eleven unpublished manuscripts, on such subjects as chemistry, botany, medicine, and mineralogy. He received wide recognition for his knowledge and abilities in science and medicine.

Like John Bradbury's work, Beck's Gazetteer included a long list of plants found in Missouri and Illinois. Beck hoped that such a list would reveal the botanical variety of the area and provide data for comparative studies involving other parts of the United States. In addition, Beck provided a lengthy
description of mining activity in Missouri and listed many of the rocks and minerals found in the state. By drawing on his own observations and on the works of Henry Schoolcraft, Beck provided more geological information than could be found in any of the early gazetteers of Missouri.59

Using his generally objective and frank approach, Beck also described the individual counties of Missouri, their soils, and many of the local rivers, towns, and villages. For instance, he believed most of Gasconade County to be poor farming country, its terrain being rough and stony. He concluded that local enthusiasts had overstated the potential of the area's future development.60 The interior and southern portions of Missouri, Beck remarked, had large areas "totally unfit for cultivation." Yet some areas did have rich soils, watered by springs and creeks; and other regions possessed an abundance of minerals, enough to "render [Missouri] prosperous and wealthy."61

In considerable contrast to Beck's work, Alphonso Wetmore's Gazetteer of Missouri reflected both local enthusiasm and Wetmore's different background and personal interests. From 1819 until his death in 1849, Wetmore lived in Missouri; and, as the tenor of his book indicated, he had a great interest in the state's
development and future. Wetmore had little training in science and natural history, rather his chief interests were literary. During his years in Missouri he produced much writing—journalistic, historical, and imaginative. His short stories and sketches revealed a strong interest in the life and color of the backwoods, as well as a very romantic attitude toward nature, an attitude reflected throughout Wetmore's gazetteer.

The first full-length gazetteer devoted entirely to the state of Missouri, Wetmore's book was also a thoroughly promotional treatise, with effusions on the richness, variety, and abundance of Missouri's natural resources. Writing almost exclusively in positive terms, and often circumscribing the idea of barren, flinty, or useless areas, Wetmore portrayed Missouri as a virtual paradise. Using pastoral imagery, he described Missouri's prairies as "meadows of the Great Spirit, in which herds of buffalo, and elk, and antelope graze." And in the Missouri countryside the traveler could expect to find "the poetic guardian of flocks, with pipe in hand, reclining on the grassy hill-side, or leaning contemplatively against the trunk of some lone tree, in the simplicity and dignity of human happiness and contentment."
Instead of describing the areas of fertile soils being intermixed with poorer lands, often timbered ridges and hills, he saw Cooper County, for instance, as coming "from the hand of the Great Architect happily apportioned into prairie and timbered land." Regarding an area where the importance of mineral production looked doubtful, Wetmore proclaimed "It would be unreasonable to look for valuable minerals in a country where the soil is so rich and productive . . . ."66

Wetmore wrote his book in the 1830's, a transitional period for Missouri, when the reduction of wilderness areas within the state was occurring at a steady pace. Farmers and other pioneers transformed wild areas into farms and villages, in the process developing and spreading pastoral landscapes throughout the state. These transformations helped inspire Wetmore's own romanticism, and represented to many Americans the ideal circumstances—a garden setting or a pastoral middle-ground between wilderness and civilization.67

It is significant, though, that Wetmore used his book as a promotional treatise, aimed at encouraging the growth of Missouri. At a time when settlement of the state was just getting well under way and when numerous wilderness areas still remained to be subdued, such a desire for growth could be intended as a desire primarily
to see the further spreading of pastoralism throughout Missouri. However, Wetmore hoped to see Missouri develop a mixed economy of farming, mining, professional work, mechanical arts, and industry. Such a varied economy would naturally result in development far beyond pastoralism, toward the growth of urban centers. Wetmore was truly ambitious for the state. He wrote that "The territory of Missouri has capacity and resources to sustain a population of at least FIVE MILLIONS: and this number of inhabitants will find occupation in the various pursuits that now engage the attention of Missourians . . . ."68 Furthermore, Missouri could have great development and at the same time retain much of the pastoralism which Wetmore so much appreciated. Wetmore added that under favorable circumstances the population of Missouri could reach six million, "without being inconveniently dense."69

Following publication of Wetmore's gazetteer in 1837, no other similar attempt to provide an extensive general description of Missouri appeared until the decades immediately following the Civil War, when a number of gazetteers were published, partly in connection with the state-sponsored movement to attract immigrants. Although written on the impulse of a single person, Wetmore's gazetteer, as the first book fully
devoted to describing all of Missouri, symbolized an increasing state identity, and a concern for state-wide promotionalism with heavy stress on development of the natural resources, such as evidenced by Missouri's internal improvements drive, which was just getting under way in the late 1830's. State promotionalism would find greater and more organized expression in later years.

Lacking accumulated scientific data, public knowledge of Missouri remained necessarily vague and generalized. The early descriptions of the state had recognized the true abundance in Missouri, yet commented with some restraint, giving consideration to unattractive as well as attractive aspects. As state boosterism increased, however, a garden imagery and expansive rhetoric similar to that of Wetmore's became the mainstay of promoters who sought to capture the imagination of prospective immigrants or investors.

Missouri continued to be depicted in exaggerated rhetoric, while the state slowly developed talent and facilities for more accurate knowledge and description of the resources. By the 1840's, scientific inquiry and the desire for scientific knowledge of Missouri's natural resources had increased. During and soon after the time when Wetmore published his gazetteer, scientists made several expeditions through parts of Missouri and
presented reports on the land forms and resources. To date, however, there had been no systematic effort to investigate, analyze, and fully understand the nature and extent of Missouri's resources. A thorough knowledge of the resources remained in the distant future.
CHAPTER II

ABUNDANCE, PROGRESS, AND PROVIDENCE: PROMOTION AND JUSTIFICATION FOR EXPLOITATION OF MISSOURI'S NATURAL RESOURCES

In early November of 1818, Henry Rowe Schoolcraft, having completed an investigation of the mining area in the vicinity of Potosi, started a journey southwest to the James and White rivers. As he began the trip Schoolcraft and his companion climbed to the crest of the hills surrounding Potosi, and turned for a parting look at the familiar scenes of civilization. Their view encompassed the entire valley, a "beautiful prospect, . . . the valley of Potosi, with its village and streams, the cultivated fields on its borders, the calcareous hills covered with oaks beyond, with the distant [mining] furnaces smoking through the trees, and the widespread ruins [of mining operations] at our feet." Traveling only three miles that day, the two men camped the first night near an abandoned Indian hut. Schoolcraft wrote that he and his companion had begun their journey where other travelers had completed theirs, "on the confines" of the wilderness.
In these few lines, Schoolcraft depicted a setting involving considerable contrast: a wooded valley containing a pastoral scene, a small village bordered by cultivated lands, and smoking furnaces of industry nearby—all of this encircled by the wilderness of the northeastern Ozarks. Elements of civilization, including both pastoralism and industry, were thus seen as an enclave in the wilderness, close by the deserted hut of Indians who had removed themselves farther away.

The juxtaposition involving wilderness and the furnaces of industry was somewhat unique in terms of the historical development of the valley. The village, the cultivated fields, and the smoking furnaces represented forms of "progress" encroaching on the wilderness; and yet this had been a particularly static type of progress. The valley of Potosi and other similar mining-farming centers in the vicinity had comprised the cumulative effort of the French and Spanish in the northern Ozark Plateau for nearly a hundred years prior to the time of Schoolcraft's visit. Although it had been settled and mined since the 1720's, the area's development remained close to minimal. Only very inefficient surface mining had been done by the French and Spanish; and mining-farming communities, such as Potosi, remained quite small and isolated. Their proximity and relationship to the
wilderness had thus remained virtually unchanged for approximately a century.

To Anglo-Americans, such slow "progress" seemed an anathema, proof that the resident population had retarded real progress and neglected opportunities for full development of the natural resources. Schoolcraft's visit to this settled valley encircled by wilderness foreshadowed future changes. He was in the vanguard of Anglo-Americans eager to see the fullest possible development of the area's resources; and, in fact, his journey into the wilds of southern Missouri stemmed from hopes of substantiating rumors of mineral deposits farther to the southwest which might also be developed.

While in the valley, Schoolcraft had found the diggings and slag heaps so numerous as to be annoying and even dangerous, but his overall response to the valley, including the smoking furnaces, was one of delight and enthusiasm. Both his trip southwest and his response to the valley of Potosi and the activities within it related to his view of history as progress, and his association of the development of natural resources with the idea of progress.

In much of his first book on Missouri, A View of the Lead Mines of Missouri, Schoolcraft discussed the potential development of the northern Ozark Plateau. He
also reflected on national history and past developments, noting population growth and the spread of settlements. In one of his most explicit statements, he wrote that factors such as the rapid growth and expansion of the national population, and the concomitant development of natural resources, made it difficult to conceive that within only two centuries America had advanced so far beyond its original condition of an "unmolested seat of barbarity and intellectual night." Just as national growth and development of natural resources had demonstrated progress by the United States, an "unmolested" area, that is, an unused or wilderness region, represented stagnation and lack of progress. Through his scientific activities in Missouri, Schoolcraft sought to further the progress of history by advancing the development of local resources.

Earlier, in 1814, Henry Marie Brackenridge had expressed similarly enthusiastic anticipation of growth, development, and progress after a visit to the lower Missouri River Valley; and he eagerly looked forward to the development of tilled lands, happy homes, and the establishment of towns. Writing from near the same areas that Brackenridge wished to see developed, Frederick Muench, a German immigrant, in the 1820's enthusiastically responded to the development that was by then
taking place. In a letter to his homeland, Muench wrote, "Melodious seemed to me the constant cracking of roots, for it was a song of victory, it meant the end of the primitive state of nature, which had to give away before the higher purpose of man." Muench's remarks, as well as Brackenridge's enthusiasm, doubtlessly represented the feelings of many Missourians when the state entered a period of population growth and resource development. Such "melodious" sounds of progress spread along the lower Missouri and through other areas of the state, with farms, towns, and, in places, smoking furnaces marking the emergence of the "higher purpose," the coming of American civilization and the conquest of primitive nature. In the early decades of American ownership of Missouri, the relatively static relationship of wilderness and civilization, such as had existed at Potosi, began to change more and more rapidly. The Anglo-Americans opened a new period of much more vigorous settlement, and of development and use of Missouri's natural resources than had any of their predecessors.

In order to accelerate this process, there occurred many broad-based attempts to promote Missouri, and to aid the state's progress. Whether of a public, semi-public, or private nature, these efforts frequently involved a virtual celebration of the natural resources
and the abundance upon which progress and development were to be achieved.

Early promotion of the state and its resources found expression in numerous projects. Hoping to aid Missouri's growth, the state leaders, in writing Missouri's constitution in 1820, called for an internal-improvements program. Very broadly conceived, this program eventually included such plans as river surveys and navigational improvements, canals, a geological survey, swamp drainage, and railroads. Such activities hopefully would open new areas and new resources to use, move greater amounts of produce to market, expand production of areas already being worked, and increase the state's industry as a whole.

Aware of the potential abundance and richness of the state's resources, the program's supporters naturally stressed in their rhetoric the wealth obtainable through resource development and expansion. Governor Lilburn Boggs, during whose administration in the late 1830's the first major movement for internal improvements began, urged a vigorous effort to develop quickly "those resources which nature has so bountifully lavished upon us." In the discussion concerning internal improvements, Boggs and other proponents of the program argued that resource development would quadruple the value of public
lands and improve the health, wealth, and morals of Missourians. Promoters of the internal improvements program also justified it by stressing the demands and needs of the state's present population, and also claimed that it would increase the population by opening new areas for settlement and development.

Almost as soon as the internal-improvements drive started, railroads, more than canals or rivers, became the favored means by which promoters hoped to reach both developed and undeveloped parts of the state. River valleys, often providing ready routes of transportation, had been more rapidly settled and developed, while many other areas remained unused. Therefore, when railroads reach undeveloped areas, Governor Austin A. King proclaimed, "new elements of wealth spring up, new life is infused into the country . . . [astonishing everyone with the new-found resources.]."

Early recommendations for railroads in Missouri particularly stressed routes from St. Louis to the mineral regions, and from St. Louis through the agricultural areas of the Missouri Valley, the latter way being a part of Missouri's proposed route to the Pacific. St. Louis entrepreneurs pushed especially hard for railroad development in Missouri and beyond to the Pacific, fearing economic domination by Chicago if Missouri lagged
behind in railroad building. With proper railroad development, St. Louis hoped to become the hub of Midwestern railroad activity. The city's leaders and promoters believed Missouri's iron deposits could provide an all-important basis for the railroad industry in St. Louis.

A shortage of funds, the Panic of 1837, and political bickering within the state delayed the construction of the first railroads in Missouri until the early 1850's, when lines were begun from St. Louis west toward Jefferson City, along the proposed Pacific route, and southwest from St. Louis toward the state's mineral regions. However, the Hannibal and St. Joseph Railroad, since its land grants included largely undeveloped, yet desirable and marketable farming areas of northern Missouri, became, in 1859, the first railroad to be completed across the state.

Inaugurated in 1853, and supported by funds voted by the General Assembly, the State Geological Survey represented another effort to develop Missouri's natural resources and expand production. Although some thought the Geological Survey should concentrate primarily on a search for metals, especially iron and lead, it was promoted on a very broad basis to gain greater support across the state. Seen to be "intimately connected" with
the internal-improvements program, the Survey could be, its promoters claimed, the basis for "full development of the vast natural resources of Missouri." The benefits would include added knowledge of general natural history, of the soil and the agricultural possibilities, of timber resources, of the existence of springs, of water resources and navigational possibilities of rivers, and of facilities for commerce and manufacturing. Such a survey, it was declared, would also encourage immigration, and thus increase the population resources of the state.

The internal-improvements program in Missouri, like those in other states, chiefly involved projects which acted directly on the resources and immediately transformed the face of the country through such activities as the construction of railroads, opening of new farming areas, and the building of roads and bridges. Although a part of this overall program, the Geological Survey involved a different concern for the natural resources. As the geologists combed through Missouri's woods and hills they began a long-range, systematic attempt to accumulate knowledge of the state's natural resources. In doing so, they themselves were not actually working and processing the resources, but rather were compiling data and statistics and making observations designed to facilitate future development
of them. Desires for such a systematic study had appeared in the early literature about Missouri, such as in the works of Amos Stoddard or Henry Marie Brackenridge. And many of the early descriptions had included brief "geological surveys," or commentaries on the rocks and minerals found in the state.

With several trained geologists working on the state survey, George C. Swallow, the state geologist, reported in December, 1854, completion of such work in five counties, near completion in eight, and a beginning in fifty more. The General Assembly provided for the publication of the surveys; and, along with materials from later surveys, they comprised part of the scientific data included in immigration materials published later by state and private authorities. The Civil War, state financial problems, and general lack of support caused interruption and delays of the Survey's activities until 1889, when the General Assembly created the Bureau of Geology and Mines as a permanent organization to finish the survey in detail.

Another state-sponsored effort directly reflecting the urge to develop Missouri's resources came with the movement to attract immigrants during the years after the Civil War. Proposing, in part, to help Missouri rebuild after the war, the General Assembly established the
Missouri State Board of Immigration, in February, 1865. The initiative for a state-sponsored immigration program came from Governor Thomas C. Fletcher, who wanted Missouri to develop direct contacts with prospective immigrants in the eastern United States and in Europe. In passing the act of establishment, the General Assembly specified that the duties of the Board would include the publication of descriptive reports of Missouri, including summaries of the potential of the state's developed and undeveloped mineral and agricultural areas.23

The secretary of the newly created bureau, Isidor Bush, anticipated that a successful immigration program would have a tremendous impact on resource development.24 An early report of the Board, in May, 1865, after stressing in spread-eagle fashion the state's many resources and other advantages, declared that these benefits should be "held up, exposed and illustrated to those contemplating the seeking of homes in Western America."25 In the early years of its existence, the State Board began to publish promotional volumes on Missouri, with much emphasis placed on the natural resources.

Under the sponsorship of the Board, Sylvester Waterhouse, professor at Washington University, published The Resources of Missouri, of which, by his claim, at least 20,000 copies appeared in print.26 Clearly a
promotional tract, Waterhouse's volume described in glowing terms virtually every aspect of the state, including manufacturing, railroads, and cities, in addition to its natural resources. Aspects such as the location of Missouri at the most advantageous latitude for a proper agricultural climate, and the enormous mineral wealth, which made "sober calculations of geology seem to be mere rhetoric," provided the major bases for Waterhouse's confidence and enthusiasm concerning the state's resources.  

Also, Nathan Parker, a professional promoter of western immigration, who had written works on Kansas, Nebraska, and Iowa, published descriptions of Missouri in 1865 and 1867, the latter book being longer, more comprehensive, and more detailed. The State Board endorsed and promoted the distribution of both of Parker's books. Other publications included a map of Missouri with locations of the major mineral areas noted, and a work titled "Physical Geography of Missouri." This latter work was compiled by George Swallow, and it included data he had gathered while acting as head of the State Geological Survey.

By the mid-1870's, when immigration into Missouri had begun to decline, along with immigration into the United States partly because of national financial
crises, the State Board began to realize more fully that exaggeration of the state's potential in resources, industry, and general opportunity had its pitfalls in that it sometimes brought disappointment, thus doing more harm than good. 30 Missouri needed most of all "New, fresh facts and figures, true and accurate information . . . a plain detailed report . . . of her developed resources and industrial interests; her progress already made . . . ." The Board believed such works as those of Parker and Waterhouse to be "antiquated." 31

Appearing in print the year before, in 1874, Robert Campbell's Campbell's Gazetteer of Missouri had provided a description of Missouri more in accord with the State Board's professed attitudes. Probably the most thorough gazetteer of Missouri to appear in the nineteenth century, Campbell's work was lengthy, thoroughly detailed, and more objective than usual in its descriptions, using few undue superlatives. 32 Contributing authors to Campbell's Gazetteer included well-trained and experienced men. George Engelmann, a German immigrant with a growing national reputation in biology; George Swallow, the first state geologist; G.C. Broadhead, a geologist for many years on the State Geological Survey; and Professor W.T. Harris, then president of the
St. Louis Academy of Science, were among leading contributors to the book.33

The State Board found *Campbell's Gazetteer* very worthwhile. Board secretary Isidor Bush called the work "rare and praiseworthy"; yet he noted that it showed some partiality and needed still more statistical facts.34 Stressing the need for reliable statistics, Bush stated that there was "as yet no system of collecting statistical data in this State, and they are therefore scarcely attainable."35 Although Bush's statement was generally accurate, such agencies as the Geological Survey were attempting to compile statistical data. And subsequently, in 1877, John J. O'Neill, Chairman of the House Committee on Immigration, published *Resources of the State of Missouri*, which, except for its introduction, was virtually devoid of rhetoric, its descriptive contents being heavily statistical and much less promotional than the works of either Parker or Waterhouse.36 By gathering most of his information from local authorities throughout the state, O'Neil did risk local promotionalism. But, instead of excessive rhetoric about fertility, beauty and progress, he stressed more concrete items, such as statistics on past productivity, approximate number of acres developed and undeveloped in each county, and the approximate cost of land in various counties.
O'Neill's work took on added significance because it had been both sponsored and compiled by the State Board itself, and it represented a more statistical, less rhetorical approach. However, it did not alter any trends, for the general immigration agencies of the state, both public and private, continued to prefer highly promotional rhetoric, generally providing an utopian imagery for prospective home seekers.37

The State Board of Immigration experienced an erratic, unstable, yet fairly long existence. Lack of funds and of continued widespread support for this state-sponsored organization because of fear that it might favor certain areas or interests hindered its operations and eventually threatened its existence. Many Missouri newspapers tended to support the Board only in proportion to the amount of immigration which entered their particular local area. The General Assembly first withdrew funds in 1878, then renewed aid sporadically until 1927, when the Board was terminated.38

In the meantime, while the State Board of Immigration faced serious financial problems, county and regional associations, and railroad companies actively advertised Missouri. These organizations and companies placed heavy emphasis on the natural resources, especially opportunities for establishing farms, even


though Missouri was becoming much more urbanized and thus provided greater numbers of urban jobs. Railroad promoters hoped that an increasing number of farms would generate a comparable increase in freight traffic. And by the late nineteenth century the railroads had become very active in promoting tourism to increase passenger service to and from various scenic areas of Missouri. Both emphases, on agriculture and on the natural scenery, continued to dominate railroad advertising in Missouri.

In 1878, after the State Board of Immigration began to decline and suffered its first failure to receive an annual appropriation, one local organization made an effort to continue the immigration program on a broad basis. The St. Louis Immigration Society, formed in November, 1879, called a convention the following April, and there enlarged itself into the Missouri Immigration Society, with representatives from various areas of the state. The Society published a descriptive tract, titled *Handbook of Missouri*, and also supported the plan for the General Assembly to continue aid to the State Board of Immigration.\(^4\)

The Society's resolutions passed during its April, 1880, convention reflected the desires of its members to promote immigration and the development of the state's resources. The convention resolved that all persons "who
can aid by their labor or capital in the development of Missouri's vast resources" were most welcome to come to the state. Furthermore, the resolutions stated that,

The peopling of the State of Missouri is necessary to the development of [the state's] vast and varied resources . . . . The development of these resources, so long neglected and delayed, has become of vital importance to our State, and in our belief it is only necessary to make these resources known to have them appreciated, and so turn the flood-tide of immigration to Missouri . . . .

For state and local immigration organization, the press comprised an important advertising medium. The State Board of Immigration bought classified-advertising space in dozens of newspapers and farm journals, mostly in the northern and eastern parts of the United States. Metropolitan and county newspapers in Missouri supported local immigration efforts, and often printed articles concerning Missouri's resource potential which the State Board had circulated.

Beginning in the late nineteenth century, histories of numerous Missouri counties appeared in print. These included a great amount of promotional rhetoric about each county's resources and potential for development. They were written either by local individuals, or by companies such as the Goodspeed Company, of Chicago and St. Louis, the Lewis Company, of Chicago, or the National Historical Company, of St. Joseph, all of which
specialized in writing county histories for local subscribers. 45

Whether written by local persons or by a publishing company's writers, the justification for exploitation of natural resources was similar to that found in more widely distributed promotional literature. With their glowing interpretations of politics, growth of the local society, potential of natural resources in the area, and of other concerns, these volumes provided examples of the use of history for local promotion and boosterism. For virtually every county written about, a local form of manifest destiny was described. Evolving from a wilderness of no benefit to the white man, and of neglected potential for the Indian, these various counties, each an area of abundance and promise, had achieved growth through the coming of Anglo-American civilization, and its accompaniment of progress and development. 46 For example, in Buchanan County, the history of the New World was seen to have fulfilled the prophecy of the westward march of empire, but not until within the last fifty years had this great march culminated in the settlement of northwest Missouri. 47 Abundance and progress seemed to have worked together for Missourians, according to these authors.
In promotional rhetoric concerning Missouri, the fountainhead of the state's greatness and the source of assurance of its bright future seemed most often to be identified as Providence. The same power which many Americans believed had provided bountiful blessings for the nation and had directed it toward greatness seemed to have especially blessed Missouri. Referred to specifically as God, as Providence, or, directly or by implication, as Nature, the force which had created Missouri appeared unusually purposeful, active, and benevolent toward the state, providing an abundance of resources, and thus laying the foundations for progress. The strong, active verbs used in describing the fortunate natural circumstances surrounding Missourians reflected the belief in the aggressive benevolence of the creative force as seen by various individuals. Phrases describing Missouri as having been "Blessed," and Nature as having "lavished upon us," or "dealt with us in a magnificently liberal manner," appeared frequently in the promotional rhetoric.48

In addition, "geography" as an active force sometimes substituted for Nature or Providence. Sylvester Waterhouse's book which the Board of Immigration had sponsored in 1867, declared that geography had determined Missouri's greatness, and had created for the state a
brilliant and inevitable destiny.49 A comparable article in De Bow's Review, in 1866, proclaimed Missouri's greatness as the "glorious necessity of physical geography."50 In the rhetoric, then, God, Nature, geography, or some desirable combination thereof, bestowed special blessings on Missourians.

These variations of egocentric determinism were perceived to stem partly from Missouri's relationship to the great river systems, and from the central location of the state. Encompassing portions of the Mississippi and Missouri river valleys, such a location contained large fertile areas and good transportation facilities, both of which features provided promoters with obvious material. Using the metaphor of geographical features as a type of parental figure, a writer in the Handbook of Missouri, a publication of the Missouri Immigration Society, described the state as reposing "like an infant in the giant arms of the largest rivers of the continent."51 In this association with the rivers, Nature had provided in Missouri a region of unequaled promise. Claiming that there were no exaggerations, elaborations, or untrue advertising in the Handbook, its compilers nevertheless proclaimed that in abundance, fertility, and productiveness, no area in the entire world had "received equal recognition at [Nature's] hands."52
Numerous writers commented enthusiastically on the potentially advantageous central location of Missouri; and promoters of St. Louis especially emphasized this aspect. Sylvester Waterhouse suggested the direct purposefulness of the creative forces toward St. Louis when he wrote that the city "is ordained by decrees of physical nature to become the great inland metropolis of this continent." In an article titled "Missouri, Its Progress and Resources," the State Board of Immigration in 1871 made a similar claim for St. Louis, while the Handbook of Missouri identified St. Joseph as having the finest possible geographical location in the United States. Such geographical locations supposedly would enable these cities to command regional trade and to serve as centers for processing and distributing Missouri's own resources.

In directing the destiny of Missouri, the vast forces involving God, Nature, and geography were continually depicted as having strong utilitarian values. Writing on central and southern Missouri in the 1860's, Edward Hall commented that the "Creator has made nothing in vain." For instance, the rocky areas, long deemed worthless by many persons, were, he thought, useful for the planting of vineyards. And Missouri's God-given wealth of resources, such as its pine forests, had waited
through time for "the hand of intelligent industry and enterprise" to take advantage of them and turn them to "practical account." 56

The vision of a utilitarian-minded God appeared very strongly in the county histories of Missouri. Echoing the ideas of Edward Hall, one writer later noted that in Benton and neighboring counties almost every area, regardless of its terrain, was useful for man's needs. In Buchanan County virtually all aspects of nature, including the air above, were "trained to do man's bidding." 57

The most blatant and often ruthless utilitarianism of God and Nature appeared in the depicting of the deity's treatment of the aborigines. In the pages of the Missouri county histories the Indians sometimes appeared as similar to the noble savage, with brief allusions to the sadness of their retreating before the white man's advance, like the other noble wild creatures who retreated westward. Yet the Indians had serious shortcomings. Perhaps the most dreadful sin next to their infidelity to Christianity was their lack of sophisticated technology and their resultant failure to use Missouri's resources fully or properly. Regarding the area near California, Missouri, one writer commented that it appeared to be set aside especially for those who
would take fullest advantage of its resources. The Indians, who farmed, mined, and harvested timber in a more sporadic and crude manner than did the whites, violated the tenets of utilitarianism prevalent among white Americans.

Local historians offered evidence that God endorsed utilitarian values. The perceived vengeance of such an utilitarian-minded God found particularly apt expression in the history of Holt County, which placed God squarely on the side of the inventive white man who knew best how to use physical resources. Holt County's historian wrote that the Indian did not make use of opportunities for development... His bent was toward demolition rather than construction. His indifference to the uses which could be made of those things which the God of Nature had placed within the grasp of His people was so at variance with the intent of the Creator that inevitably the aborigine was forced to give way to the industrious, enerprizing [sic] white man.

Assurance of the richness and variety of Missouri's resources, which its inhabitants should properly and fully use, provided the major evidence of God's beneficence toward Missourians. The supposed degree of abundance existing in the state suggested also the favor which the creative forces had bestowed upon Missouri. Among common adjectives in accounts of the state's resources were such words as "limitless," "inexhaustible," and "infinite," and synonymous words and phrases.
people coming in contact with virgin or only recently tapped resources of any significant extent, and of either a mineral or agricultural nature, such responses occurred frequently; but they appeared most especially in the promotional rhetoric. For instance, in responding to the activities of the State Geological Survey in the area around Jefferson City, the Jefferson Inquirer claimed that agriculturally the local resources could not be equaled on the face of the earth, and that the great "inexhaustible fertility" of the tops of the local bluffs meant that this soil could be used by immigrants from the eastern states, and perhaps still allow better crops of wheat around Jefferson City than the area had previously produced.61 This writer left little doubt that the people of his county and surrounding area intended to utilize and advertise their wealth of resources to the fullest extent.

Very closely associated with such celebrations and exaggerations of natural resources was a faith in progress; and just as abundance was associated with Providence, progress also involved the natural order of events as ordained by God. As with the Indians, white men faced challenging responsibilities when confronted with a wealth of resources. Added to their awareness of abundance, their belief in progress placed heavy demands
on the people of Missouri. They had responded to these challenges and opportunities by ferreting out and utilizing as many of Missouri's resources as possible, and by continually finding means and creating organizations to promote still further use and development.

This concern for Missouri's proper use and development of its many resources, and the expression of faith in the direct interest and guidance of Providence over such matters were brought together in a commentary made in 1866, during the holding of a fair in St. Louis. Such activities as fairs served to give evidence both to Providence and to Missourians that the people were reacting responsibly to abundance and the law of progress by displaying the results of their utilization of resources. Since this particular fair continued through the Sabbath Day, the State Board of Agriculture made a special effort to justify this continuance, and in doing so stressed the relationship between the Creator and the exhibits at the fair, and His concern for progress and abundance.

To the rhetorical question as to why the fair should continue through Sunday, the Board replied that the exhibits, including both the products of Missouri's soil and the tools with which the citizens worked the soil, were:
living and visible proofs of the existence and attributes of the Creator . . . . evidences of the degrees of perfection, of excellence, and of relative unity of the universe . . . . that gradual and almost imperceptible chain of existences, both animate and inanimate, which is the strongest argument in proof of the "unity of the Deity." What better place could have been offered to adore and worship the great and good Being, who . . . had here on these grounds disposed all around man so many evidences of the wisdom, the skill and benevolence of His great and overriding intelligence, to alleviate man's necessary and unavoidable evils?62

Aside from actually attending church itself, perhaps many Missourians would have agreed as to the proper place of worship. Providence, abundance, and progress were of acute concern to most Missourians, and were seen to be definitely interrelated. As the State Board of Agriculture noted, few people attended the fair that Sunday morning during church hours, but in the afternoon the crowds swelled to very large numbers.63
CHAPTER III
PICTURES OF ABUNDANCE: ASPECTS OF THE
PASTORAL SCENE IN MISSOURI

Expressing assurance as to the abundance of Missouri's natural resources, being lured by this potential wealth, and having faith in progress as the natural order of events, Missourians in the nineteenth century responded by promoting the development of their state. While thousands of people continually made individual efforts toward local development, the people of Missouri did at times cooperate in larger, often state-supported efforts to develop the resources and promote the state. The internal improvements program, state and local aid to railroads, the Geological Survey, and the State Immigration Board represented the larger organizational efforts.

In writings and speeches related to the development and use of Missouri's resources, an idyllic pastoral imagery recurred continuously. Such imagery was natural, as the effort to develop Missouri's resources involved the promoting, or effectively the "selling," of the state, and few derogatory remarks were likely to be found in the related literature. The more local literature, as
in newspapers or county histories, reflected similar and sometimes even more exaggerated utopian imagery.

Often the descriptions of the state's resources were close to the "truth," purposely toned down with matter-of-fact portrayals giving both the advantages and disadvantages of certain areas. But frequently a highly romanticized pastoral imagery emerged, reflecting an ideal state of affairs in Missouri, not so much how it actually might have been, but how Missourians, or prospective immigrants, might have wished it to be in the best of all possible circumstances.

For instance, the use of precious metals or gems as similes or adjectives provided a very frequent means of expressing the abundance, variety, and beauty of Missouri's agricultural resources. These comparisons heightened the romanticized, utopian imagery often found in promotional literature. For farm lands, such words and phrases as "Jasper fields of May," or "Emerald pasture lands," implied the richness of spring. During this season, the farmers took from flocks of sheep the "golden fleece for man's apparel"; while toward late summer and early autumn the land would produce "golden grain," or the "gold of harvest." The fields were pictures as being watered by "silvery" streams, which went along their courses "quench[ing] the thirst of herds . . . [and]
tickling the rootlets of herb and fern." At times the streams had rapids or waterfalls, splashing like "glittering crystals," or were associated with lakes and springs shimmering in the sun like sapphires. All common cliches, such words and phrases were employed in attempts to create an overall impression of the rich visual beauty of the rural scene, implying the existence of a pastoral utopia.

In the descriptions of Missouri, two themes occurred which differed considerably in implication, yet had a related purpose and utopian symbolism. These themes concerned death and good health. One involved what might be termed the "casket imagery," that is the relating of the very secure feeling of being "embraced" by nature, implying at times the grave, the final embrace of nature. The other theme involved the extravagant claims made about Missouri's healthful living conditions resulting from the natural advantages that it allegedly enjoyed over other states. Even the suggestions of death occurred in writings which had the intent of making the state appear attractive and inviting, as did, of course, the theme concerning good health. In these descriptions, Missouri's geography provided an utopian setting for this life, as well as a secure place for everlasting sleep.
In depicting the state's land forms, especially those in the undulating, rugged Ozark areas, writers sometimes commented on the protective aspects perceived in Missouri's geography. For instance, a writer for the Missouri Pacific Railroad described the Arcadia Valley in the spring of the year as being "just like a beautiful casket lined with emerald green." This description used the image of a beautiful container for precious gems to portray the embracing and protective aspects of the valley, and possibly to suggest that nature in the Ozarks provided a comforting abode even after death. The same writer also noted that the valley lay "in the very heart" of the great continent of North America, implying the security of the rock-ribbed mid-continent. Also commenting on the Arcadia Valley, which is located approximately one hundred miles south of St. Louis, the Jefferson City Daily Tribune used similarly suggestive imagery in picturing the valley and the country village as being nestled among the "everlasting hills" of such very substantial rocks and minerals as granite, porphyry, and iron. No ordinary tomb could offer greater security than such sturdy hills in the heart of the continent.

The literature describing Missouri more often portrayed the area as the healthiest state in the nation, virtually guaranteeing longevity, and the delaying of the
physical and mental infirmities associated with the processes of death, which people living in other areas must confront at an earlier age. The history of Buchanan County stressed the benefits of the local climate for both the physical and mental processes, and claimed that because of the near-perfect climate one should feel a sense of shame at dying before seventy-five years of age. In a promotional description of Perry County, written and distributed specifically to attract immigrants to the area, the authors claimed that contagious sicknesses, commonly found in other regions, had not had any effect in Perry County, and that the more ordinary, less debilitating types of illnesses occurred only in milder forms than found elsewhere.

And according to the experiences of one W. W. Hayward, Missouri seemed an ideal place for good health, because of the climate and the general cleanliness he found in the state. Hayward, who first migrated from Vermont to Iowa, failed to find any satisfactory differences between Iowa and his former home in the East, and thus moved south, arriving in central Missouri in the early spring. There he found the countryside and the villages to be clean, neat, and dressed in green. This area, with the "ordinary cleanliness" in the towns and on the farms, appeared to be "disease proof."
Often the healthfulness of the state was claimed to result from Missouri's supposedly being in the most advantageous latitude, thus having the best possible climate, a proper balance of cold and warm seasons, which produced good health and good crops. The Handbook of Missouri, published by the Missouri Immigration Society, attributed the healthful conditions to the climate, in addition to good drainage, inexpensive food, cheap rent, and plenty of room for everyone, which together comprised "all of the natural requisites of good health . . . .".

The Handbook also made an effort to show a significant remunerative value in the general healthfulness found in Missouri as compared with that found in other states. Noting that in 1870 the Massachusetts mortality rate was 1.77 per cent, or .14 per cent above that of Missouri for the same year, the Handbook claimed that living conditions in Missouri annually saved 2,474 lives. Furthermore, 4,948 cases of serious, time-consuming illnesses were avoided, and 69,272 cases of briefer sicknesses were prevented. This resulted in augmenting Missouri's population resources by an additional 1,806,020 days, or approximately 492 years of valuable labor per year, a considerable "profit in wealth produced and money earned . . . . no mean addition to the wealth of the State . . . [, and an indication of] the monetary
value . . . . of good health." The Handbook added that a comparison with a state in the South, such as Louisiana, where the climate was not conducive to good health, would show Missouri's advantages to be even more striking.  

Thus, the contrasting ideas of death and good health, and descriptions and concerns for both found in portrayals of Missouri had their common symbolism in the image of a protective mother, whose natural abundance provided a bountiful and long life, and whose soil provided a secure place for everlasting sleep after death. Missouri's terrain, its abundant vegetation, and its location near the center of the continental United States suggested to writers an image of the mother earth in the mid-continent. One writer, a native of Dade County, on the western edge of the Ozark Plateau, described his home area as an "asylum," suggesting the peace of mind which the natural surroundings gave him. Combining the satisfactions which the area's geography provided both during life and after death, he further commented on nature in Missouri, writing that,

I am a child of nature, I love my mother. She has fed me and clothed me all these years. She adorns the walls of her home with master paintings, she seeks to soothe sorrow and strengthen hope and faith. After awhile she will clasp me in her bosom and there I will sweetly sleep.  

Ideas of the physical and psychological aspects of good health, as well as a comforting embrace after death,
resulted from the suggestive imagery of Missouri's landscape.

Themes of health and climate remained for many years of considerable importance in writings involving Missouri and its potential as a place in which to live and work. In 1819, after his stay of ten months in the mining regions of Missouri, Henry Rowe Schoolcraft wrote that he had not seen or heard of any deaths in the area. This caused him to feel that the region was very healthful, and that diseases common in the East had not been carried to Missouri. He did, however, express concern over a peculiar "mine sickness," affecting numerous animals in the mining area. This generally fatal illness, which Schoolcraft believed resulted from the animal's frequent contact with contaminating mineral matter, affected only the domestic animals and not human beings. 11

In the mid-1820's, shortly after Schoolcraft's trip into Missouri, Gottfried Duden, a German immigrant into the state, sent to his home country a report on conditions in his newly chosen home area, the lower Missouri Valley, in present-day Warren County. While his report stimulated a considerable amount of the earlier German migration into Missouri, it naturally evoked in the longer run considerable criticism from those German immigrants who had chosen to accept Duden's more
enthusiastic passages in his report and to ignore his words of caution. One aspect of Duden's reports which drew much criticism was his description of the weather conditions in Missouri. For instance, his remarks on a particularly mild winter, when he claimed he had "... not noticed any winter," and that "The forests never did lose their green garb entirely . . . ." carried the implication of a mild, beneficial climate and generally healthful conditions. Partially as a result of Duden's description of Missouri, early German immigrants to the state sometimes came unprepared for harsh winters, and suffered through some extremely bad weather.

One early German immigrant to Missouri, George Engelmann, who arrived in 1832, began a closer and more critical inspection of the state than had Duden. Looking for regions to which Germans might immigrate, Engelmann headed generally south-southwest from St. Louis, through the eastern portions of the Ozarks, and well into Arkansas. He found scattered areas of fertility, as well as other places "remarkable for their coziness, but not infrequently also for their poverty." Engelmann himself fell sick, and remained in ill health for several months before returning to St. Louis. Later he made other, brief investigations of the Ozarks.
Intrigued by the climatological conditions of the state, of which no reliable records existed, Engelmann began a climatological record of the area around St. Louis. This he continued for approximately half a century, while he built his reputation as an outstanding scientist. As a result of his growing expertise in climatology, Engelmann's reports of Missouri's climatic conditions appeared in some of the gazetteers of Missouri published after the Civil War. His reports, supported by a considerable amount of statistics, were informative and non-rhetorical. Drawing on his own records from around St. Louis, and from other local records, some sponsored by the Smithsonian Institution, he described the general climatic conditions throughout the state. His interests included the health and comfort of humans, as well as a related interest for agricultural productivity.  

In their concern for settling Missouri and developing its natural resources, Missourians naturally expressed strongly utilitarian values. As mentioned above, they tended to perceive similar utilitarian values in God's concern for man. In addition, the literature describing the state's natural resources revealed a strong relationship between utilitarianism and beauty. When nature had been worked by the hand of man, this represented the cooperation of God and man in utilitarian
purposes, which resulted in the altering of the landscape and its visual images and beauty. Such transformations of the landscape from wilderness to pastoralism held wide appeal, and the related literature expressed a considerable appreciation for what might be termed the "esthetics of use."

The appreciation of pastoralism, or the "middle ground" in nature, which combined the works of God and man, and which was usually occupied by the yeoman-farmer type, formed a major part of the American concern for nature. It represented a balance, or equilibrium, between the forces of wilderness and of civilization operative in American thought especially during the long period of the frontier movement. Roderick Nash, in his book, Wilderness and the American Mind, has stated that "Enthusiasm for 'nature' in America during the pioneering period almost always had reference to the rural state."¹⁸

Descriptions of Missouri's resources frequently related the beautiful to the useful as found in the rural scenery. One early German traveler in Missouri commented rather bluntly that the Americans "call only that land pretty which is rich in fertility."¹⁹ Another German, Gottfried Duden, expressed more of his own feelings toward beauty and use when he wrote about living in an area where all nature was beautiful, and where such great
abundance existed that he felt it was beyond one's capacity to utilize "so quickly" the many advantages afforded by nature. 20 "Here," he commented, "the useful and agreeable are everywhere united." 21

Later descriptions of Missouri's resources also combined the agreeable and useful to a large extent. For instance, numerous references were made to Missouri's forests, exalting their beauty, and almost invariably following such praise with remarks about their great and increasing utilitarian value. A writer for the State Board of Immigration commented that the beauty and majesty of Missouri's forests had become widely recognized, while their usefulness had increased their value incomparably. 22 Such beautiful forests, the result of centuries of growth, were furnishing the materials which the hands of skillful artisans could fashion into "a thousand shapes and forms of usefulness and beauty." 23

The prairie regions, like the forested areas, were more slowly developed than fertile river bottoms or areas of rich mineral deposits. Still, early enthusiasts such as Alphonso Wetmore extolled the prairies for their beauty and praised their value as good farming lands. 24 A poem quoted in the history of Bates County suggested the changing attitudes toward the beauty and usefulness of the prairie, in that,
To the pioneer
It was but a barren hell
And a place to fear.
Then a prairie--and again
Rippling round my feet
Rise zones of dancing grain.
Fields of nodding wheat.25

Thus, the esthetic response to the prairie seemed to change along with the recognition of its usefulness and value.

During and after the settling of the prairie, the possibility of planting trees on such land seemed to promise ideal conditions. This would give homes full supplies of timber for fuel, and other uses, and increase the value of farms, in addition to increasing the beauty of the countryside.26

The effective bringing together of elements of the forests with those of the prairie related to still another rather frequently occurring image involving the esthetics of use. Promoters and sellers of farm lands, and local boosters who highly praised the beauty of farming country, often made reference to cultivated areas having a park-like appearance. This imagery provided some of the most romanticized associations for conveying the attractiveness of farming lands, the pleasing mixture of woodlands and neat, trim fields of grain providing the visual basis of the park-like beauty.27
Before any appreciable settlement had been made, Gottfried Duden commented on the combination of forests and fields sometimes having the appearance of parks. Since this observation came before the hand of man had joined nature and altered the appearance of the landscape, Duden's comment did not include man, but rather implied the workings of God, or nature, in that the land appeared as though "the hand of art" had designed a park.

After homes, fence rows, and pastures had been intermixed with the streams and the prairies or woodlands, impressions similar to Duden's were expressed, with reference to the beauty of God's creations combined with those of man. The history of Worth County stated specifically that many areas seemed to possess "... the semblance of a magnificent park, to whose native charms the hands of man have added a thousand graces of art in grain field, orchard, homestead, hedgerow and lawn." In describing areas in the Ozarks, a promoter for the Missouri Pacific Railroad commented that nature and art seemed to be vying with one another to create an ideal landscape. In speaking of "nature" and "art," he implied that two artistic forces, nature, or God, and man, were combining their efforts to create an ideally beautiful landscape.
Also related to park-like imagery, the beauty of formal designs in pastoral scenery appeared in literature designed to promote fruit growing in the Ozarks. A book titled, Among the Ozarks, The Land of the "Big Red Apples," appearing in the late nineteenth century, included the promotion of apple orchards as well as the growing of peaches, pears, plums, cherries, and other fruits which would aid the Ozark economy. The book included pictures of the Olden Fruit Farm, in Howell County, Missouri, showing pastoral settings of perfectly surveyed orchards with squared geometric planting patterns. And it also included a picture of the main road to the farm, the road itself having a very formal appearance, being divided as a boulevard, with a walkway down the middle, and with ornamental trees planted at regular intervals. The total fruit-planting acreage was said to be 700 acres; and more readily obvious than the geometric patterns of much farm country, the precision of the planting of the orchards suggested more formal parks or gardens. Ordinary pasture lands, grain fields, and wooded areas naturally possessed a greater irregularity, although even for these an orderly geometric pattern frequently did, and does, exist in crop rows, hedgerows, and fence lines.
Furthermore, as orchards and precise geometric patterns could form a part of the pastoral, park-like scenery, the lawns, shaded residential streets, and general greenery of small towns and villages could fit into the pastoral scene. Often this caused little, if any, disruption in the perception of pastoralism, as Henry Schoolcraft's appreciative view of the valley, the fields, and the village of Potosi suggested.\textsuperscript{32} A late nineteenth-century description of the town of Ironton, with its courthouse square "... shaded with pretty trees and green grass and shrubs all about; a pretty little country town..." seemed to fit very well into the natural surroundings.\textsuperscript{33} Many of the descriptive reports concerned with Missouri's agricultural resources depicted towns as a sort of culmination of the variety and abundance of local resources. One report, for example, described Neosho as "... a substantial, wealthy, and steadily growing city surrounded by a country that is full of natural resources."\textsuperscript{34} The same observer further saw Neosho as "... well-supplied with parks, drives and shady walks ... [and] on all sides are miles of orchards, vineyards and strawberry fields."\textsuperscript{35}

The most likely means for a large city to capitalize on the virtues associated with rural scenery came
through the creation of city parks. One promotional pamphlet described the "crowning glory" of Kansas City to be its great parks, where "... Nature in her wildest state [had been] adorned and beautified by the most cunning art of man."³⁶

The park-like landscapes of Missouri frequently were very suggestive of a "classic" American pastoral setting, a type that might be termed "yeoman-farmer scenery," involving small farms in rolling, hilly terrain, with mixed open fields and wooded areas. Thus, in describing Missouri, writers often could portray with minimal distortion of scenery, a very rustic setting suggestive to the American mind of a type of pastoral utopia.

The concept of the yeoman farmer in America had its beginnings in the East, with its many forested and generally undulating areas. The geography of the East helped substantiate the yeoman-farmer image, although this was not a matter of geographical "determinism," since, for instance, large tobacco or cotton plantations sometimes existed adjacent to small farms, and thus in similar geographical areas. However, regarding the yeoman farmer, in rolling, forested areas he might well have had a strong sense of independence, self-sufficiency, and of dominion over his lands, from one edge of the clearing
to the next, or within "his" valley, surrounded by various hills and ridges. A "closed-in" geographical perception and the related sense of dominion could stimulate a sense of independence and self-sufficiency.

For instance, Ralph Waldo Emerson's poem, "Hamatreya," written in 1846, when the concept of the yeoman farmer was quite pervasive in American nature-imagery, described this suggested relationship to geography very well. The poem involved small farmers who lived in an area having a terrain

'Shaggy with wood,
With its old valley,
Mound and flood.'

One of Emerson's concerns was precisely to portray how strongly these small farmers felt their sense of ownership, independence, and their relationship to the terrain and soil:

Each of these landlords walked amidst his farm,
Saying, "'Tis mine, my children's and my name's.
How sweet the west wind sounds in my own trees!
How graceful climb those shadows on my hill!
And, I affirm, my actions smack of the soil."37

Emerson concluded the poem by stressing how the earth had a final claim to the farmers, whose claim to the earth was only temporary. Significantly, the perception of the farmers was limited, bounded in part by the terrain of hills and forests; and Emerson's use of the rolling, forested terrain of the New England farming country gave
substantiation to the farmer's sense of independence, dominion, and self-sufficiency.

Basically, the "yeoman-farmer scenery" could rather easily be portrayed in reports concerning agriculture in Missouri. The climate as well as much of the terrain of the state lent itself to the yeoman-farmer scenery, such as Emerson had portrayed in his poem involving eastern landscapes. Farming areas of the Ozarks, the Missouri Valley, and parts of the northern and northeastern areas of the state being rolling and either heavily timbered or well interspersed with timber fitted this general type of scenery very well. And, either naturally or aided by the hand of man, these areas comprised much of the park-like scenery found in Missouri.

The prairie regions of Missouri presented a less familiar landscape, although much of the prairies of the northern and western parts of the state have a rolling terrain, and originally were more forested than they are today. They contained timbered areas along the creeks and rivers, and tracts of woodlands interspersed on the higher grounds. Efforts to plant trees on the Missouri prairie were designed, in part, to make the farms more self-sufficient by providing them with an abundance of timber. But, significantly, the State Board of Agriculture, in promoting the idea of tree cultivation on prairie
farms, did so because they also believed it "beautifies" the farms. The Board-member's esthetic appreciation of cultivated lands heightened their desire to see trees planted in prairie farming country. They had most likely derived their sense of the beauty of land from landscapes similar to those in the East, as in the heavily timbered areas of Missouri, and not from more open areas of fewer trees.

At another time the State Board of Agriculture more specifically expressed a sense of beauty as seen in the small farms in the eastern states. In a discussion of the benefits of having smaller but better cultivated farms, the Board stated that "... small farms are the secret beauty of the scenery of New York and other well cultivated states." Thus, in this instance, the State Board recognized its esthetic appreciation of landscapes as directly related to older areas to the east. It specifically mentioned the Genesee Valley, in western New York, with its rolling, often very hilly terrain, abundant timber, and climate and soils which enabled small farms to exist profitably.

Missouri's location near the transitional zone where markedly different geographical features began to dominate the geography provided some of the last yeoman-farmer scenery as one traveled west toward the plains.
Farther west in the plains area, increasingly arid conditions reduced the size and number of trees, and the richness of the soil. Attempts to lure the would-be yeoman farmer, and to extend yeoman imagery and the institutionalized 160-acre farm well into that geographical zone ended in failure. The promotionalism, the concept that rain follows the plow, and the planting of artificial groves of trees produced neither the climate, a lasting imagery, nor a lasting yeomanry in the central and western portions of the plains states, and from there to the Rocky Mountains.41

According to much of the literature regarding Missouri's resources, the combined efforts of God and man had created an idyllic pastoral setting, one which reached even into the cities. The depiction of a garden-type setting, with its beauty, richness, and peace, very strongly implied the idea of harmony in nature. Such an idea found easy association with the peace and security of the casket imagery, and with the peace, abundance, and variety depicted in pictures and written portrayals of rural scenery, small towns, and even city parks. All suggested a "balance" of nature, involving the combined workings of God and man. Using more recent terminology, this seemed "ecologically" fitting. The web of life, the interrelationship of life forms, appeared to exist as a
naturally harmonious part of the pastoral scenery as perceived in Missouri's landscape.

One idealized description of frontier life in Missouri began by commenting on the romance of pioneer life, and continued by portraying a scene of considerable peace and harmony. The great prairies, with their sweet-scented flowers and grasses, the giant oaks and pines of the woodlands, the pristine waters and sky, and the "hundreds of little friends in feather and fur," all combined to give comfort to the pioneers and to compensate for their hardships. In the natural environment of Missouri, all living creatures "reveled" in the healthfulness and luxury of the out-of-doors; and there flourished in "superabundance" all things that could be used in the movement of mankind toward progress and civilization. Cultivation seemed easy in some areas; and disrupting intruders into the garden, such as weeds, came as a result of mere chance. Weeds, improper in a garden setting, had come with occasional strong winds, or had been brought in by birds. Especially in the harvest season, the season of the culmination of nature's rhythmic balance and harmony, the husbandman among the peace and plenty should reap double pleasure, both from the crops gleaned from the soil, and from the "great truths" to be found in nature.
Nevertheless, there existed as a part of the pastoral scene and its seeming harmony the fact of conquest of the land, and a considerable change in the landscape, a rapid disruption and even destruction, considering that the landscape had remained virtually the same for centuries. Much of this conquest proceeded with little consideration of true "harmony" or "balance," but rather with quick opportunism and man's very narrow, self-interested attitude toward the processes of the land itself. Probably the farmers had little realization of, or sympathy with, what Aldo Leopold later called the element of "perception," that is the awareness of the "natural processes by which the land and the living things upon it have achieved their characteristic forms ... and by which they maintain their existence ... "44

Rather, as was evident in much of the literature extolling or describing the state, Missourians recognized with pride their conquest of the land and their rapid utilization of its resources. As one source described it, Missourians had utilized and transformed the great wilderness which had previously been of no value to white men, and of little use or benefit to Indians. The arrival of white men, and their conquest of the land, "Reclamation work it might be called," was seen to be an
epoch-making event. Confident, the whites had "quailed not" at the idea of building homes in the wilderness and taking the land which the Indians had failed to use properly.45

Despite the violence, rudeness, and abruptness, both implicit and explicit in the portrayal of the conquest of Missouri's soils and other resources, this conquest and transformation did constitute a kind of harmony, in that it blended with the idea of historical progress, where the proper use of nature consisted of making the land and its products "subservient to the uses of civilized man."46 If nature existed for the good of man, then the elements of nature were being brought together in an harmonious goal and destiny to serve man's purposes. Missouri's natural abundance aided the "... drama of life, whose aim is to arrive at the ultimate happiness of our race."47

In this sense of harmony, nature's purpose and goal provided a justification for exploitation of the resources. Means were depicted as justifying the ends, and, according to the rhetoric, out of the means were created ideal pastoral settings. In turn, the peace and harmony depicted in the pastoral scene provided evidence that the conquest and transformation had great validity and justification. In a manner of culminating the ideas
of an harmonious progress, the history of Buchanan County portrayed man and nature in the process of working together for a common cause. It stated that as the pioneer farmer and his successors had cultivated the land,

The elements themselves seem to have taken notice of the great change and have governed themselves accordingly . . . . and, although imperceptible and independent of man's will, they have nevertheless come under the same civilizing power which changed the wilderness into a fruitful land. 48

These words expressed a frequently held belief that increased rainfall would follow cultivation of the land, or, according to a popular sales slogan of the plains states, "Rain follows the plow." This slogan itself implied the perceived harmony of the workings of man and nature, all in the best interests of man. 49

In the depiction of the pastoral scenery of Missouri, the individual farmer comprised the central figure, or character. Pictured in a natural setting of apparent peace and harmony, the yeoman-farmer type, or perhaps his pioneer forebearers, had played the chief role in the conquest and transformation of the wilderness. In his utilitarian efforts to conquer and use the wilderness, and thereby create a beautiful pastoral landscape, the farmer had proven himself to be close to God and nature. The man close to God and nature supposedly had intuitive powers and knowledge, which helped justify his participation in democratic government, and reinforced the idea of
his individualism. John William Ward, in his book, *Andrew Jackson; Symbol for an Age*, has shown how, in the American mind of Jackson's time, the concepts of God, nature, and individual will interacted in substantiating an image of the common man, especially the yeoman farmer. Ward focused, of course, on Jackson as the central figure of this symbolism, but one of Ward's major theses was that the symbol provided by Jackson mirrored the self-image of many Americans of Jackson's period.50

Writings involving Missouri's rural life began early with imagery involving the yeoman farmer, and extended this concept, virtually unchanged, into the twentieth century. Appearing in *Niles' Register*, in 1816, a description of Missouri included a comment on the abundance of good soil, and predicted that those who worked these lands would prosper, and that their children, "active, vigorous, and enterprising, are destined to sustain and extend the respectability of their parentage."51 According to subsequent writings, the "respectability of their parentage" was well sustained and, in fact, generally improved. Agriculture seemed to have the potential of improving the lives of people who had only a partial contact with farming. While in Missouri, Henry Rowe Schoolcraft took notice of the reckless, "abandoned" character of the miners; but commented that, with the
improvements in agriculture taking place, similar improvements were developing in the morals and manners of the people. As both farmers and miners had direct contact with the soil, it would appear that those who tilled the soil had the moral advantage. The symbolic plow, in its imagined effect on American character, was never even remotely challenged by the miner's pick.

In a variety of ways, the image of the yeoman farmer continually exhibited high personal quality and potential. The yeoman was depicted as thrifty, honest, the hope of preserving virtue in Missouri, a means of creating and maintaining a better society, and as an important contributor to some of the best bloodlines in the state. Even in the late nineteenth century, the yeomanry remained in an ideal pastoral setting; and surrounded by abundant nature, they and their kin in the small towns and villages remained a happy and contented lot.

In descriptions involving the yeoman farmers of Missouri, there appeared themes of democracy and individualism, as well as expressions of the safety-valve factor. Letters written by some of the early German immigrants included enthusiastic and specific references to a Garden-of-Eden setting, and references to the independence and freedom experienced in their pioneer
circumstances in Missouri.\textsuperscript{55} In describing such virtues, they sometimes were related directly to the idea of the safety valve, as in comments on the abundance and open opportunity on the Missouri frontier. One immigrant wrote home to Germany that, "If you good people want to come and live off of the fat of the land then come. Whatever the good Lord has put on the dining table is free for all, for there are no prerogatives of birth here."\textsuperscript{56}

These feelings expressed by early German immigrants differed little in tone or attitude from accounts of frontier and post-frontier life in Missouri as related much later in the nineteenth and twentieth centuries. A county history written in the late 1880's expressed the belief that the pioneers had been good folk, who sought the new lands of Missouri little more for the value of the land than for its beauty. And in the remoteness and among the abundance--"a veritable Eden"--the pioneers' experiences on the prairies and in the forests had given them a sense of independence and freedom.\textsuperscript{57} Governor Thomas C. Fletcher, while encouraging immigration into Missouri after the Civil War, expressed similar views about opportunity and abundance having effects of endless freedom and independence for those who would settle in the state.\textsuperscript{58} Numerous other references were made
concerning the prospective bountiful life in Missouri for the less fortunate groups. With poverty overcome through abundance, one could also experience a moral uplifting, and physical improvement. An anonymously written article in *De Bow's Review*, commenting on Missouri's vast abundance of resources, noted that the "lock" which guards this wealth is the earth, and "any man" can pick it.59

Using poetry to convey similar ideas of potential success for "any man" willing to work to provide a home and security for himself and his family, Nathan Parker, in his gazetteer, *The Missouri Handbook*, quoted a poem signed "A.E." and titled "The Call From Missouri." The poem called to "the rich and the poor":

'Ho! ye that seek for a home and for fortune, Enter ye at my wide open door. Broad are my fields that but wait for your sowing Harvests to yield that will weary your hand . . . . Labor is noble[.] Aye, labor is glory! Mountains and valley ring out the glad song . . . . Wide rolling prairies, like waves of the ocean, Laughing with plenty for hands that will toil . . . . "60

According to popular rhetoric, the "glad song" of abundance offered opportunity for all who were willing to work, regardless of economic or class background.

As demonstrated in promotional literature of the twentieth century, the yeoman-farmer image continued quite strong. Concerning almost every aspect of the ideal pastoral life, an article in a booklet published by
the Kansas City Southern Railroad gave a detailed, imaginary description of farming life in the Ozarks during the early decades of the twentieth century. As a part of a promotional booklet, the description naturally portrayed a more desired type of life than could be found in the actualities of the sometimes hardscrabble existence on Ozark farms.61

In setting up a sharp contrast with life on the farm, the article began by describing supposedly typical city life, concentrating on working-class conditions. It described the city as a miserable place in which to live, where all people were strangers, and where the individual had to contend with harassing conditions at home and work.62 People on Ozark farms, however, lived in a healthful environment, enjoyed greater mental and physical fitness, and were rewarded with security and comfort.

A nearly perfect example of the successful yeoman farmer provided the central figure in the article. This imaginary farmer began an account of Ozark farm life by giving a blunt statement of his sense of independence:

Here on the farm I am it; no man tells me to come or go, or has the right to find fault with my coming or going, and if one should have the temerity to do so, I can look him in the eye and tell him to go to. I can hold my job indefinitely. There will always be enough to eat and a place to sleep for me and my family.63

The yeoman elaborated by saying that he had to buy very
little in town since he raised most of the food and supplies needed on the farm. His cellar was stocked with a vast variety of preserved foods, and there were always available some kinds of fresh foods, from poultry and dairy products to various meats and vegetables. He also had an abundant supply of timber for fuel, and for fences, corn cribs, feed bins, and other necessities. His self-sufficiency was further insured since every season brought some produce for home consumption or for a small profit. 64

The farmer continued, saying that, while he had some money in the bank, he did not need much, and neither did any "first-class, all around farmer." He acknowledged that developing a farm did require some initial capital, for land, the house, initial purchases of stock and seed, and for living expenses before the farm's first substantial production began. The other major ingredient to developing a farm, he claimed, was hard work, which gave one "a good appetite and good digestion, good health, longevity and a soul content." He cautioned the visitor, however, by saying that these benefits of farm life could be threatened by capitalistic attitudes such as the drive for quick profits. An overly ambitious attitude could also adversely affect the close relationship which the farmer felt with his land and his plants and animals,
which the host claimed he himself knew not as "objects," but as "personal acquaintances." 65

The farmer concluded by suggesting that such an ideal rural existence as his was available also to city dwellers. Presumably, the city dweller could take advantage of the cheap Ozark lands, and develop for himself an inexpensive, self-sustaining, and satisfying country life. 66 Significantly, this particular farmer achieved all of his great variety of work and production, and got all of his pleasures on only twenty acres of Ozark land. Only very indirectly did he bother the reader with the possibilities of crop failure, blight, misuse of the land, foreclosure, and related problems. The Kansas City Southern Railroad, of course, was seeking to portray an idyllic pastoral situation: a yeoman farmer, independent, happy, secure, and content in the bosom of beautiful, productive nature—an ideal safety valve for the harried city dweller of the early twentieth century.
CHAPTER IV
MINING IN MISSOURI: ITS IMAGERY AND ITS RELATIONSHIP TO PASTORALISM AND PROGRESS

Prior to American acquisition of Missouri, the French and Spanish had concerned themselves there for nearly a century with the mineral potential of the northern Ozarks. Changing the pace of development, the Americans began an increasingly active exploration of the mineral resources, involving lead as well as iron and coal, and later other minerals, especially zinc. These efforts by the Americans involved a considerable amount of promotion by individuals, companies, local boosters, and state officials. Just as with farming there were attempts to attract people and capital, to develop the state, and put the mineral resources to use.

In the reports of Missouri's mining potential, the chief differences between mining imagery and that which involved farming activities lay in the nearly complete absence of any romantic aspects in mining as practiced in Missouri. The pastoral, garden imagery, easily brought into association with farming, was largely missing in reports of mining, as was any related sense of esthetics.
In addition, while mining and the potential wealth to be found in nature were often associated in descriptions and promotional rhetoric, there was seldom any perceived association with God, either through contact with nature or by direct reference. Thus, virtually devoid of romantic association, and lacking a sense of esthetics, or a vital concern for the presence of God, the mining imagery as applied in Missouri differed greatly from that which concerned the agrarian scene.

In the northern Ozarks, the French and Spanish often mined lead and farmed at the same time, as did some early Anglo-American immigrants. The initial attraction to the mineral region had been the potential profits from mining, however, and not ideas of self-sufficient farming. These miner-farmers, showing a degree of agricultural self-sufficiency mixed with an open desire for profits from the mines, could perform mining operations on an individualistic basis as long as easily-obtained surface deposits of lead remained available. As with mining precious metals, larger, more complex mining efforts became necessary in the mining of base metals as soon as the surface windfalls had been depleted. After deeper mining became necessary, and as Anglo-American technology made it possible, even those miners who might continue some farming lost much of the
individualism or self-sufficiency they might have retained because now they had a closer association with large mining concerns. And those persons who remained, or became, full-time farmers were given a chance to develop a local market economy by supplying the miners.

For the individual, the surface windfalls of base metals could not at all compare with those of gold. In Missouri, the mining imagery included almost no aspects of the picturesque, wandering, prospectors, which helped give prospecting in the Far West some of its romance. The journey which Henry Rowe Schoolcraft and his companion, Levi Pettibone, made through the Ozarks to southwest Missouri in search of rumored lead deposits in itself provided evidence that some prospecting did take place. However, aspects of their trip suggested clues as to the lack of romantic imagery concerning Missouri's mining prospectors. First, there were apparently few prospectors on the Missouri frontier by the time of American acquisition. The people encountered by Schoolcraft on his journey were not prospectors, but farmers and hunters, some having families and cabins, others wandering about in small hunting parties. These persons had far more interest in the abundant wild game and in farming prospects than in finding the heavy base metals whose cost of transportation from the remote areas of
the Ozarks would surely have exceeded any profits.²

Also, the purpose of Schoolcraft's trip through the Ozarks in 1818 and 1819 was to try to confirm rumors of lead deposits along the James and White Rivers.³ Had these rumors involved precious metals such as gold or silver, surely a rush to the area would have developed, and national interest would have been created as it was with the opening of the Santa Fe Trail only a few years later. Prospecting in Missouri lacked the glamor and excitement associated in the American mind with the search for gold or silver. Drama and stories similar to those involving the bonanza strikes in the western United States were largely missing from Missouri's mining history.

Very important finds of lead and zinc in southwest Missouri and adjacent areas created, during the late nineteenth century, perhaps the biggest rush in the state's history. Yet by comparison, in creating contemporary excitement and subsequent legend, this rush did not at all rival the Klondike gold strike of the late 1890's, within the time period covered by the peak of lead and zinc mining activities near Joplin. Regarding imagery, it is significant that the Klondike rush, like many western gold or silver strikes, had the advantage of occurring on a frontier, which, like gold and silver, was
both alluring and elusive. Partly because they involved the frontier and the search for precious metals, such events as the Klondike strike proved more exciting to the public mind, and provided natural opportunities for the development of romance and legend.

The hope of finding gold or silver in Missouri probably reached its peak with the efforts of the French in the eighteenth century, especially with their unsuccessful search for commercially valuable deposits of silver in association with the large deposits of lead. Virtually all of the prospecting done by Anglo-Americans in Missouri seems to have involved non-precious minerals or metals, particularly lead and iron. The discovery of surface deposits of lead, which were relatively easy for individuals to exploit, did not bring fabulous profits to those engaged in local mining. The remoteness of the lead region and the related problems of transportation for the heavy, cumbersome metals, which were low in value per unit-weight as compared to gold or silver, reduced any bonanza effect. By the time Anglo-Americans, such as Moses Austin, began working the lead deposits with advanced technology, the known lead regions of Missouri had become cluttered with surface-mining pits, but the production of lead from them had not made local miners wealthy, colorful, or legendary. And in the iron
industry, which developed mostly in the nineteenth cen-
tury, the immediate need for capital and technology
virtually eliminated any operations by individual
miners.5

By the 1850's, when the rush for gold in Cali-
ifornia was reaching its peak, Missouri achieved more
prominence in the American mind as a jumping-off place
along the route to the "golden" West than for its own
mining productivity, which was by then rather sizeable in
lead and iron. In fact, through much of the nineteenth
century, probably until about the late 1860's, when the
transcontinental railroad was completed, Missouri was
more noted as an important part of the route West than as
a goal in itself, whether involving mining or farming.
The celebration of the Lewis and Clark expedition from
St. Louis up the Missouri River, continued use of por-
tions of the river as a route to the trapping, mining,
and farming areas of the Far West, and activities on the
Santa Fe trail helped establish the image of St. Louis
as a gateway city.

The opening lines of Francis Parkman's The Oregon
Trail superbly caught the imagery of mid-century St.
Louis as the exciting, bustling depot for the Far West.
Parkman began his story by writing:
Last spring, 1846, was a busy season in the city of St. Louis. Not only were emigrants from every part of the country preparing for the journey to Oregon and California, but an unusual number of traders were making ready their wagons and outfits for Santa Fe. The hotels were crowded, and the gunsmiths and saddlers were kept constantly at work in providing arms and equipments for the different parties of travellers. Steamboats were leaving the levee and passing up the Missouri, crowded with passengers on their way to the frontier.

The subsequent rush for gold in California, and the growing importance of Independence and St. Joseph as sites of departure for the West heightened the suggestion of Missouri as a jumping-off place for the golden West. Also, Missouri's landscape provided some of the last familiar yeoman-farmer scenery along the major western migratory route, and thus was a last remnant and reminder of the East. This aspect further heightened the sense of departure and change regarding Missouri and the route West.

Even though the Missouri miner, like the farmer, worked the land, the miner's relationship to the soil differed greatly from that of the farmer. This resulted in major differences in the imagery involving the two economies. Both miners and farmers sought to extract wealth and economic security from the earth. However, in mining imagery, no means, and apparently no desire, existed for hiding the capitalistic urge. The individual miners or the mining companies naturally sought to get
their products to market and take any possible profits. At all times, but especially when large corporations were involved, this factor countered any pretense of non-capitalistic self-sufficiency, such as the yeoman-farmer imagery often invoked.\(^8\)

Aside from having no pretense of non-capitalistic motives, the miner's work with the soil involved little, if any, sense of communion with the land. In mining, no seasonal rhythms were involved as in farming, where planting and harvesting depended on giant seasonal rhythms of nature. The absence of the act of planting—the sense of giving to as well as taking from the soil, the sowing and the harvesting—probably weakened the miner's sense of communion with the land, and his sense of integration and fitness in relation to the soil.

Also, the miners sought inorganic substances, such as lead and iron, and did not work with living plants and animals. This, too, probably lessened the possibilities of having any sense of communion with the land. Nor was the miner likely to derive intuitive powers of knowledge and wisdom from working with cold metal. The cold, inorganic metals perhaps suggested death itself. This suggestion, although different in many respects, could be compared to the inhospitable, threatening nature of deserts. Their huge areas of exposed rock and sand, and
sparse vegetation provided the casual viewer very little sense of living matter. What chiefly met the eye was rock and sand, inorganic materials that did not sustain life. Similarly, high, barren mountain peaks provided a formidable appearance, god-like, remote from humans, and implying a sense of the lack of any intimacy. Commenting on this aspect of the most inaccessible western terrain, Wilson Clough, in his book, The Necessary Earth; Nature and Solitude in American Literature, has spoken of high mountainous areas, "where nature must long linger in austere remoteness."  

Comparatively, though, a sense of communion with nature could be felt with the rocks and hills of the Ozarks. The thick cover of vegetation there gave the viewer an exceptionally strong sense of the abundance of life. Thus the pastoral scenery associated with the yeoman farmer could blend with the rocks and hills of the Ozarks, and provide a strong sense of communion with the land. By the late nineteenth and early twentieth centuries, when the tourist industry had become important to Missourians, promoters of tourism in the Ozarks took advantage of these aspects and emphasized the inviting hospitality of the Ozark scenery, directly contrasting it with the forbidding deserts and formidably high mountains of the West.
The suggestion of death and the lack of a sense of "the living" in the working of cold, inorganic matter related also to the general absence of God and the lack of esthetics in mining imagery. While some tilled fields and tended crops, the early miners also dug pits in the earth. At first such pits were shallow, down only to the point where the water level interfered, or as deep as the rude technology of the early miners would allow them to penetrate. Later, Anglo-American technology enabled miners to extend their workings deeper into the earth's crust. The shallow pits were described as rude and dangerous, not at all suggestive of the comforting pastoralism often associated with Ozark scenery.

At all times the smelting process involved furnaces, fires and smoke. In fact, the whole mining process involved suggestions and imagery of hell. The suggestion of greed in the taking, but not returning, of materials from the earth; the shallow pits; the deeper, darker probing into the "bowels" of the earth; and the fiery, smoking furnaces all carried implications of Hades. This made it exceedingly difficult to depict any sort of Edenic setting of peace, innocence, and communion with nature, or to imply the presence of God, such as found in agrarian imagery.
These ideas also indicate why there was little appreciation of the miner's character, as, by contrast, there was with the yeoman-farmer's. The imagery relating to miners lacked the complimentary tone applied to agrarians and it also proved less useful to promoters than did the agrarian imagery. While in the mineral region of Missouri, Henry Schoolcraft noted the reckless and irresponsible character of the local miners, and he suggested the different concepts of the character of miners and of farmers when he commented that "With the advances in agriculture, a corresponding improvement had been effected in the manners and morals of the people."¹²

Following his journey into the Ozarks, Schoolcraft composed a poem which very well depicted the hellish imagery of mining. The poem, titled "Transallegania," or "The Groans of Missouri," told of gold, an imaginary king of metals, who, while residing in Mexico, became disturbed by the bustling activity and noise of civilization moving westward in the United States.¹³ One of the most unique aspects of Schoolcraft's poem was his portrayal of metals as wild spirits, a part of the wilderness, fleeing from civilization.

Fearful that his subjects were being rudely dragged from the earth and painfully melted and pounded, the king of metals rushed north and called a meeting of the metals
in a vast and dreary cave. The metals appeared at this subterranean meeting with their visages revealing various degrees of suffering and pain. Except for tin and manganese, whose usefulness or whereabouts Americans had not determined, the metals described such horrors as having been "... plunged in a furnace and tortured with art ... [and having felt] all the torments of roasting in hell." Iron, whose appearance showed signs of his having been tortured by fire, complained that:

All men are our foes, and unceasingly strive,
To catch us, and bruise us, and burn us alive. . . .
Thus sought, and thus plighted, in misery high,
We hope not, we cannot—we droop and we die;
For our very entrails they are gnawed and picked out . . . .

Far from the Adamic image of innocence and peaceful communion with nature, the miners in Schoolcraft's poem played a Satanic role, using the furnaces of hell to torture the metals.

As more and more metals gathered and expressed their pains or their fears for the future, a clamorous uproar of bellowing and groans arose from the depths. Shaking the earth from New Madrid throughout central North America, the uproar halted, but only temporarily, the onrush of civilization. Realizing that all was in vain, and that the peace and repose which the metals had formerly experienced could never be fully regained, the
king of metals dismissed the meeting, abandoning his sub-
jects to their fated destinies.16

Schoolcraft's poem depicted a temporary interrup-
tion of man-made advancement of civilization; but in
actuality such progress continued uninterrupted. More-
over, as a part of this progress, mining in Missouri also
continued, with Schoolcraft himself making an early
effort to promote its development in the state. Instead
of an interruption of mining, there occurred a disruption
of pastoralism by mining activities. But this took
place in rather sharply defined local areas within a
rather large state in which most of the pastoral scene
remained largely unaffected. However limited, the
intrusion of mining activities into Missouri's pastoral
scene paralleled the disruption of pastoralism in America
by railroads as portrayed in Leo Marx's The Machine in
the Garden. Marx correctly saw the railroad as the chief
symbol of the industrial development of nineteenth-
century America.17 Yet the "iron horse," with noise,
engines, and fiery furnaces belching smoke, carried much
the same symbolism as mining and smelting.

That the early, isolated mining regions could at
times blend into the romantic, pastoral scene was evi-
denced by Schoolcraft's remarks when he and his companion
visited the valley of Potosi late in 1818. While the
view from the surrounding hills, which Schoolcraft described as beautiful, included a quiet pastoral scene of village, farms, and fields, it also contained smoking furnaces in the background and considerable evidence of crude surface-mining activities. Another observer, Father John Canon O'Hanlon, a priest traveling out of St. Louis in the mid-nineteenth century, expressed similar responses to the beauty of the mining area. And yet, Father O'Hanlon remarked on several significant aspects that suggested changes since Schoolcraft's visit. He noticed that signs of busy, industrious labor pervaded the mining area. By mid-century, iron mining in the area southwest of St. Louis had developed considerably, as had lead mining. In addition, American mining technology had developed far beyond the surface-mining techniques of the French and Spanish. Thus, other than the crude, shallow pits, remnants of earlier mining efforts, "large yawning chasms [had] eaten" into Iron Mountain, a major source of ore just south of Potosi.

Furthermore, mostly dwarfish trees remained on Iron Mountain, and portions of the forests on nearby hills had been cut away. Need for charcoal as fuel for furnaces of the expanded lead and iron mining had begun to show effects on the surrounding countryside. In some mining areas, this need for fuel, and the resulting
wholesale cutting of timber, severely damaged local forests, exhausted timber resources near mines, and forced owners of smelters to cease operations. In the thinking of most Missourians, railroads and mines received full approval as a necessary part of progress. In their opinion, mines would form an important basis for industrial development in the state, and railroads would provide improved transportation for resulting products. James Neal Primm's study of Missouri's state economy during the years 1820 to 1860 noted several factors which delayed the construction of railroads during the internal-improvements drive, but these factors did not involve any widespread opposition to railroads or to progress in general. Rather, factors such as economic depression, political party rivalries, party differences over the amount of debt the state could undertake, lengthy efforts to obtain support from the national government, and local rivalry over railroad routes were primary causes for delays in the beginning of railroad construction in the state. Once state financial backing of railroads began in 1851, both state and local aid to railroads increased enormously during the following decade, indicating widespread support for railroads and for state progress and development.
In the early 1850's, the first railroad lines actually to begin construction in Missouri were directed toward the agricultural areas along the Missouri River, and toward the iron and lead mining region southwest of St. Louis. In the latter half of the same decade, the Hannibal and St. Joseph Railroad traversed potentially good farming land, and facilitated development of farming in northern Missouri by providing farmers with a direct connection to, and interest in, the market centers. An emphasis on railroads and on farming for market ran directly counter to the concept of the independent, self-sufficient yeoman farmer. As the railroads helped develop mining and industry, and aided in disrupting the local pastoral scenery, they also countered the yeoman-farmer image by helping to take the farmer beyond the pre-capitalistic yeoman concept.

The growth of mining in Missouri altered the pastoral scene in several ways. By bringing many of the early miner-farmers in to closer contact with corporate mining, it further weakened any concept of the self-sufficient yeoman farmer. Similarly, many of the people who moved into mining areas specifically to farm did so in hopes of a ready local market, and not to live as self-sufficient farmers. And many of the mining areas, with the pits, chasms, and smoking furnaces giving
evidence of industry in rural settings, helped attract railroads, thus bringing the ultimate symbol of industry through some of the more remote parts of the Ozarks.

Lacking the benefits of the garden concept or a ready association with God in the mining imagery, promoters of Missouri's mining potential generally made no attempt to evoke such symbols but instead concentrated directly on the object of mining--specifically to obtain wealth. In mining rhetoric the imagery shifted more to a picture of nature as a bank vault, or a sepulcher, wherein was found security, not in the form of embracing hills or everlasting sleep within nature's bosom, as depicted in the yeoman-farmer imagery, but in the form of a buried treasure house of valuable minerals, material security for this life. In place of the pastoral beauty, Missouri's metals could be worked and molded by technology into objects and forms of beauty. 25

Of course, development of mineral resources was seen as a mark of progress as was the transformation of wilderness into farms. Yet, to progress merely to a kind of self-sufficient, yeoman-farmer situation, or even to a modestly developed agrarian market economy seemed less challenging and less rewarding in material terms than did development of the potential mineral wealth of Missouri. In an overly enthusiastic address given at
Jefferson City in February, 1870, Professor C.D. Wilber, Inspector of Mining Lands, related true progress directly to increasing mineral production, and the discovery of new uses and deposits of metals. Mankind's development from barbarism to civilization had, he claimed, resulted from progress made in the finding and using of metals. In the general absence of God in the mining imagery, Professor Wilber added a new kind of deity, one which bound together nature, metals and materialistic attitudes. He remarked that,

...we worship the precious metal itself, not atheistic or idolatrous, but unqualified trinitarians--devotees acceptable and orthodox, of the American trinity--the golden eagle, the silver dollar, and the copper cent.26

By relying on the state's central location, and its varied resources, including its mineral wealth, many Missourians hoped to progress far beyond pastoralism, and to become an important industrial region. In the development of Missouri's public imagery, promoters emphasized the mining and industrial potential, and combined these aspects with the idea of a highly productive pastoral garden. Being a large state with varied resources, Missouri was able to contain both the pastoral image and industrial development. Above all, Missouri was portrayed as having an exceptionally varied and well-rounded economy, founded on a vast, inexhaustible
abundance of organic and inorganic resources.

Assertions that Missouri's minerals were "limitless," and that its coal deposits would permit production of 100,000,000 tons per year for at least 1,300 years, and still have coal deposits available for another few generations were examples of extreme claims of potential subsurface wealth.\(^{27}\) However, a more moderate estimate of Missouri's mineral wealth was expressed by Henry King, a trained scientist, and one of the chief promoters of the State Geological Survey. Although he used inflamed rhetoric many times, in 1849 King gave a sober calculation of the extent of Missouri's mineral deposits. In his estimation Missouri contained very little gold, only small amounts of copper and nickel, and any presence at all of tin still seemed in doubt. He felt only moderately optimistic about possibilities of finding commercially valuable deposits of silver in the state; and he acknowledged the large amounts of lead and iron already known to exist in Missouri.\(^{28}\)

By the 1870's the chances of finding significant deposits of gold or silver in Missouri seemed remote indeed. For example, George C. Swallow, first head of the State Geological Survey, while writing for Campbell's Gazetteer of Missouri, acknowledged the scarcity of gold and silver in Missouri.\(^{29}\) Significantly though, as
compensation for the lack of large quantities of precious metals in Missouri, Swallow claimed that agriculture and base metals were more important factors than gold or silver in sustaining population and wealth in a state.

Swallow compared Missouri to California, and claimed that it was not necessarily desirable that there should be silver and gold in Missouri. He argued that while the presence of gold and silver would rapidly attract people to an area, it would not keep them there, nor would it make an area permanently more prosperous or continue to induce immigration in the future. And he made the assertion that while gold had helped to develop California very quickly, and to bring prosperity to the area, the real reasons for California's continued prosperity lay in her beneficial climate and her agricultural potential. The intended message for Missourians was that their state could build a great future without gold and silver, and that with its own kinds of minerals and related industries, and its farming potential, Missouri would achieve a well-rounded and lasting economy.

Changing from his comparison with California to a comparison with England, a country having many of the same resources as Missouri, Swallow wrote:

If Missouri will work up her iron and coal, she may become as powerful and rich as England. She has more territory and better soil, more and better iron, and quite as much coal.
By the 1870's, when Swallow wrote these comments for *Campbell's Gazetteer*, new discoveries of metallic ores seemed to justify the confidence and optimism expressed by him and his contemporaries. Although begun in southwest Missouri before the Civil War, lead mining in that area became most productive during the later decades of the nineteenth century. Large numbers of mining camps developed in the area, and the mining activities spread into Kansas and Oklahoma. Benefiting from these developments, the town of Joplin became the major center for mining and processing in southwest Missouri and surrounding areas.32

Also, by the 1870's, scientists had better determined the uses of zinc, and thus the value of this mineral increased considerably.33 Often found in occurrence with lead, deposits of zinc were already known to exist in southwest Missouri, and further exploration began to uncover unusually large quantities of the ore. By the late nineteenth century the mineral region in the vicinity of Joplin had a greater combined production of lead and zinc than any other area in the nation.34

The rhetoric stressing an interest in moving beyond pastoralism toward greater progress through the development of mining and industry also involved rather frequently expressed ideas of Missouri as an economically
**self-sufficient state.** Missourians boasted of the importance of the state's resources to the national economy, as was true of much of its agricultural produce, and especially of its deposits of iron, lead, and zinc. Through the use of its rivers, along with the development of the national railroad system, Missouri eagerly sought strong national trade connections; and St. Louis city leaders hoped to establish their city as the economic capital of mid-America. Nevertheless, with a strong element of state pride, and an awareness of the variety and abundance of resources in the state, Missourians often viewed themselves as capable of economic self-sufficiency. It did not seem Missouri must or should be economically self-sufficient, but rather that persons frequently liked to claim that the state at least had such potential.

Missourians expressed this concept often through implication, yet at times in the promotional rhetoric they made ingenious shifts, giving direct claims by lauding the state's supposed ability to be self-sufficient by its citizens exchanging their produce with one another. Thus, repeated concerns for mineral development and industrial expansion expressed in the reports of the State Board of Agriculture indicated an interest in having a ready market for Missouri's farm produce. The
Board emphasized that Missouri's "permanent prosperity and wealth must depend primarily on the farmer, the mechanic and the miner." Without a balanced economy, Missouri could never fully develop or sustain her potential wealth.35

In an article titled "Facilities and Necessity for Manufacturing Establishments, and Their Relation to the Agriculture and Commerce of the State," the State Board of Agriculture argued the need and the possibilities for a well-rounded state economy. While not excluding inter-state trade as a means of developing Missouri's economy, the Board commented that the climate and the variety of resources seemed unusually favorable for broadly based development of the state's economy through reliance on its own resources. The advantages found within the state itself could provide Missourians all the necessities of life. According to the Board,

We hold that no nation can or ought to be absolutely self-dependent . . . . but it is at the same time obvious that agriculture, commerce and manufacture can flourish together better than separate, if the conditions be at all favorable. And what better conditions can there be than those in and around Missouri?36

In 1838, Governor Lilburn W. Boggs, speaking in behalf of the proposed geological survey, claimed that it would help develop industry, build a "home market" for the farmers, and greatly increase Missouri's "domestic
exports. These phrases sounded almost as if they came from the leader of a nation rather than the governor of a state. In fact, comparisons and allusions regarding other states, and fully developed nations, as well as empires, most strongly revealed this confidence in Missouri's self-sufficiency. While promoting the geological survey, Henry King claimed that Missouri could "sustain a denser population from the produce of its own resources" than any other state east of the Rocky Mountains. And, in 1880, the Missouri Immigration Society claimed that the state's resources could provide for a population ten times larger than it then had. Furthermore, these resources provided all the potential for a "great empire" of commerce and agriculture. Other references were made to the concept of Missouri as empire; and favorable comparisons with nations, especially England, appeared in promotional rhetoric regarding minerals, since, like Missouri, England's wealth of base metals and minerals formed a vital part of her economy.

Within the confines of the state of Missouri supposedly could be found all of the resources and talents necessary to sustain a nation-state. Ideas of such variety and abundance prompted Governor Joseph W. McClurg to complain of having to import goods, and to question why Missouri should not be self-sufficient, using its own
manufactures, and its own raw materials, thus keeping the cities and towns busy, and, of course, creating a market for Missouri's farmers. He argued that Missouri should keep its own wealth and not let it go to "other States and Countries."42

This concern for natural resources as a basis for state self-sufficiency, provided an analogy with the concept of the self-sufficient yeoman farmer. Similar to the image of the yeoman farmer, who consumed primarily the products of his own soil, promoters sometimes claimed the same capabilities for the state of Missouri, of course on a larger and more complex basis. However, a major factor in this analogy lay in the use of such phrases as "home market," "domestic exports," and "great empire." The concept of self-sufficiency was expressed in literature and speeches designed to promote state development and industrialization, and assumption of an important position in the national economy. Missourians might have enjoyed the belief in a potentially self-sufficient state, but they did not seek to achieve this condition. The use of exaggeration was a means of promoting the state's progress and its resource development. Boasting about potential for a self-sustaining economy provided another means of proclaiming both the variety and abundance of the state's resources, and thus making
Missouri appear more attractive to prospective immigrants, investors, and developers. Through their rhetoric, Missourians could entertain the idea of the state's potential self-sufficiency at the same time that they sought to progress far beyond any sort of self-sustaining economy.
"He lived in a hollow sycamore tree, and there read Shakespeare by the light of a sycamore ball floating in a saucer of coon grease." In such a manner, according to an atlas of Livingston County, Missouri, Thomas Stanley, one of that county's first white citizens, often spent his nights. This colorful account described an early Missouri hunter using his woodcraft to provide light for reading Shakespeare in the wilderness, and to provide the necessities for his isolated life in the woods. In the descriptions of American settlement of Missouri, the hunter, or hunter-farmer, appeared very early on the scene. Popular accounts imputed to these pioneers highly romanticized character traits, although not always as unique as the combined interests in Shakespeare and wilderness living. As woodsmen and hunters, men like Thomas Stanley supposedly possessed outstanding abilities. According to the sentimental historical descriptions, the pioneers, despising luxury and having the physical prowess to cope with their
environment, had a virtually intuitive understanding of nature, and knew the signs of the skies as well as those of the forest. Able to read the trails of the forest and plain, they took from the land all of their food, clothing, and shelter.²

Such romantic portrayals of the pioneers occurred frequently in literature concerning the early frontier. A description of Jack Withington, an early pioneer in the Meramec Valley, typified the romanticized portrayal of the pioneer woodsman. Tall, hardy, and possessing a perfect physique, Withington tracked through the woods along the Meramec attired in the skins and furs befitting his character and role as a forest hunter. Subsisting off of the "product[s] of his own sporting prowess," he returned from hunts with large supplies of game for himself, his family, and friends.³ Having an open and friendly personality, Withington was also very generous and kind. Both his physique and character seemed to complement his fabulous woodsmanship. Written in the 1890's, this romanticized vignette of earlier times along the Meramec portrayed Withington as being a type similar to Leatherstocking, Daniel Boone, and a large number of other pioneer heroes. As a hunter and woodsman, he was a master of his craft, thoroughly competent and at ease in his frontier environment.
Certainly the isolated early settlers needed to be well-versed in woodsmanship for purposes of survival. However, contemporary accounts of Missouri's pioneers did not always raise their abilities or character to such heroic proportions as those of Jack Withington. On-the-scene accounts of the early hunter-farmers sometimes portrayed them as anywhere from quite ordinary, down to poor, shiftless, and untrustworthy types. Their situation or character did not necessarily substantiate or complement their supposed woodcraft as the more romanticized descriptions suggested.

Also, the many reports of the sightings of large numbers of birds and mammals testified to the abundance of game in Missouri, and thus suggested that under ordinary circumstances superb woodsmanship was not altogether necessary amid such plenty. Generally one could find many opportunities for shooting at various game species in any given area. On his trip through the Ozarks, Henry Rowe Schoolcraft often commented on the abundance of game and on the amount of furs and skins on display at various hunter's cabins. He noted at one time that "wild turkey, duck, and grey squirrel have been almost constantly in sight." And for celebrating Christmas, 1818, in the wilds of the Ozarks, two companions of Schoolcraft's killed fourteen wild turkeys in
approximately two hours. Robert Baird, in his *View of the Valley of the Mississippi*, described the abundance and variety of game in Missouri, which gave both sustenance and employment to the pioneers. One Missouri hunter he encountered claimed to have killed 1,600 deer, 300 bears, 100 buffaloes, and smaller game in vast numbers. In addition, Baird commented that wolves, deer, panthers, and various game birds were abundant and common.

For pioneers, hunting was both a necessity and a sport. Hunters who killed game in such numbers as Baird mentioned generally did so for purposes of the fur-and-skin trade. But settlers also shot game for "ordinary amusement"; and some of them, according to one writer, became so involved in hunting that it became a "peculiar and rapturous passion."

People in rural Missouri often killed certain animals in order to protect domestic food supplies. Wolves, a particular hazard to domesticated animals of the pioneers, were continually hunted by farmers. One early settler along the lower Missouri River estimated that wolves accounted for the loss of approximately one-tenth of the local sheep. He commented, however, that the abundance provided by nature helped lessen the severity of such losses. Attempting to get rid of wolves often amounted to sport, in the stalking and
shooting of them. In a more grizzly form of sport, some farmers, after trapping wolves, would cut the tendons of their hind legs and then let dogs attack the wounded animals. They apparently took pleasure watching the ensuing struggle.¹⁰

In order to protect crops at times when squirrels were unusually numerous in certain areas, the hunting of them became an absolute necessity. In 1839, a virtual siege of squirrels so threatened the season's corn crop that a group of farmers along the lower Missouri River planned a general attack on the animals. Two weeks of hunting produced 2,000 scalps, and another two-week attempt brought the total killed to twice that number. Having had little apparent effect on the squirrel population, the farmers quit counting scalps, but continued to hunt in order to protect their crops.¹¹ Accounts of such hunts testified to the abundance of certain species and the ease with which they were taken.

Throughout most of the nineteenth century, tourists took advantage of the abundance of game in Missouri and hunted for sport. Often gentleman-hunters, of fairly well-to-do classes, made extended tours through western regions and hunted while passing through Missouri. With the coming of the railroads, greater numbers of tourists from a wider range of classes went hunting or
In Missouri, the railroad building that had begun in the 1850's began anew in the years after the Civil War, making recreation and scenic areas more accessible to the masses. Railroad construction penetrated scattered parts of the state; and the railroads began to attract more hunters and vacationers from the enlarging urban centers in Missouri, as well as from out-of-state areas. Also, wild game, always plentiful in Missouri, probably increased in number in Missouri during the Civil War due to a decline in hunting.

As a result of these factors, opportunities arose to make hunting, fishing, and vacationing an important source of income for many Missourians. Along with hunting and fishing areas, such scenic attractions as mountains, forests, and springs, which before had been described by explorers, early travelers, or by local promoters, were made the subject of railroad literature in a large-scale effort to attract tourists. In 1889, a booklet published by the Missouri Pacific Railroad commented on the development of the area around El Dorado Springs, in southwestern Missouri, between Joplin and Kansas City. Commenting on the beauty of the area, which contained several springs, and noting the construction of a railway to connect the town with the mainline, the booklet suggested new emphases on the natural resources.
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when it stated that "There is capital behind the springs and vicinity which will push it for all there is in it as soon as the railroad is completed." Scenery was becoming important in Missouri, not only useful for describing farm lands for sale, but something of increasing commercial value in itself. Hunting, fishing, and vacationing provided new opportunities for promoters and developers.

Since from the frontier period on, people had toured and hunted in Missouri for pleasure and sport, the post-Civil War developments did not represent something altogether new, but rather the intensification of these earlier activities and an increase in number of participants. Involved in a nation-wide increase in tourism, railroads sometimes included along with their promotion of Missouri advertisements for other states and areas with which such lines as the Missouri Pacific or the Kansas City Southern had connections. Pamphlets that noted the scenery or the fish and game of Missouri would comment on connections with scenic and recreational areas in adjacent states, on the Gulf Coast, or in the West. Also in promoting the attractiveness of an area, railroads often combined tourism and immigration, attempting to attract the casual as well as the permanent visitor. The railroads developed special excursion, or "exploita-
tion," tours into choice scenic and recreational areas of Missouri, and in doing so promoted tourism along with other types of development. One commentator in the 1890's indicated the variety of interests in a tour from St. Louis into the northern Ozarks when he wrote that,

> Excursion parties by train are now all the rage in St. Louis . . . . Whether attracted by commercial, industrial, or scientific motives, impelled by curiosity or love of picturesque scenery, for the sake of health or recreation, few visitors regard this tour in any other light, than as conferring a sensation of truly pleasurable emotion, and of leaving delightful impressions on the mind, so as fully to satisfy both the intellect and the imagination.16

For hunting and fishing excursions, people from Missouri's towns and cities were encouraged to use the railroads as a means to get near to areas of sufficient game. Often the railroad promotion appealed directly to businessmen who could afford extensive hunting and fishing expeditions. Railroads also sought to attract people living in the East who had hopes of finding relatively abundant supplies of game compared to their home areas, and they extended passes and courtesies to Europeans in hopes of advertising hunting in Missouri.17 Railroad companies felt that a successful hunt would create enthusiasm and possibly result in greater use of the company's facilities as more and more hunters returned to good hunting grounds. At the courtesy of the Nashville, Chattanooga and St. Louis Railroad, a group of
Nashville businessmen received a free ride to southeast Missouri for a "deadly raid" on game in the mid 1880's. By this method the railroad could advertise Missouri's game potential and attract hunters from the Nashville area. When, as in this case, an account of a successful hunting trip appeared in a national sports magazine, field sports in Missouri received more wide-spread publicity.18

According to the published information, hunters could best get to game in Missouri by taking the railroad as far as possible, then hiring a driver and team and going either to more remote villages and staying at hotels, in homes, or on nearby farms, or taking along camping equipment and making an extended stay in the woods. Many railroad employees had ready information on local hunting which they would share with the company's customers. James D. Brown, a Sedalia representative of the Missouri Kansas Texas Railroad, noted that most of the MKT employees were sportsmen, and could accommodate the visiting hunters by giving advice on hunting and caring for dogs in the baggage cars.19

Such comments as Brown's frequently appeared in Forest and Stream, one of the most important national sports magazines of the late nineteenth century. Founded in 1873 and edited by Charles Hallock, a prominent
eastern sportsman, editor, and writer, the magazine carried comments and articles—sometimes thinly disguised advertisements—in which activities in Missouri received a fair amount of notice. Accounts of hunting and fishing in Missouri appeared in other national sports publications such as Chicago Field and its successor, American Field. In 1883, Hallock published a book titled The Sportsmen's Gazetteer and General Guide, which carried summaries of hunting and fishing prospects in various parts of the country, including remarks about several Missouri counties. Descriptions of game and fish resorts, the towns to go to for local information and for access to the game areas, and the types of game to be found in various areas constituted the kind of information Hallock published on Missouri.

As field sports increased in Missouri and greater numbers of city people participated, the advantages of belonging to a hunting and fishing club became very apparent. By the late nineteenth century, hunting and fishing clubs had formed throughout the state, the members having bought or leased land on which they constructed their private lodges and cabins. Many businessmen from Kansas City and St. Louis helped form these clubs, since, not living in small communities, they often did not know various game areas, the land owners, and the
hunting and fishing conditions. The clubs provided access to game areas, as well as a means of week-end socializing and escape from the city.

Seeking to project an image of being associations of gentlemen-hunters, some of the clubs limited their membership to only a few dozen persons, who they claimed to be of high social and economic importance in Missouri. Such clubs as the King's Lake Fishing and Hunting Club, in Lincoln County, and the Log Cabin Hunting and Fishing Club, of Dunklin County, boasted that their membership included prominent business and professional leaders from St. Louis and other cities in the state. While not all clubs claimed elite membership, and many of them had few restrictions on size, overall these organizations did include governors, ex-governors, and other important political and business leaders. And along with their social and economic prominence, the members were said to be true sportsmen and the finest of shots. Enhancing the image of gentlemen-hunters, several clubs identified themselves as hunting, fishing, and literary organizations, thereby including intellectual refinement as part of their identity. Like the description of Thomas Stanley reading Shakespeare in his hollow sycamore, these latter-day huntsmen portrayed themselves as having similar interests in the combination of woodcraft and
literary pursuits. As sportsmen-hunters, and as gentlemen with literary interests, the club members identified with some of the most desired aspects of city and country life.

Whether with field sports or ordinary sight-seeing, increasing interest in the out-of-doors involved an image of nature as a sort of playground. The emphasis on resources such as game, fish, springs, rivers, and natural scenery invited Missourians to play and relax rather than work; and the literature regarding vacationing in Missouri stressed the hospitality of the landscape, with bright skies and inviting mountains and woodlands promising pleasures for the traveler. And, while the pastoral beauty of farm lands and the appealing idea of fertility and abundance continued to be important, ruggedness—many times associated with pristine wilderness—frequently constituted the heart of landscape descriptions for resort areas. Places could be used and enjoyed partly for the same reasons they had been considered wasteland—because of their rocky, precipitous terrain, which provided attractive scenery.

In addition to wilderness associations in the state's more rugged and mountainous areas, places of quaint, picturesque beauty awaited the visitor. To develop this type of imagery, promoters described
enchanted woodlands, bewitching grottoes rather than mere caves, and pastoral scenery reminiscent of that found in rural Europe. Identifications were made with legends and tales, such as the story of Evangeline, in the Arcadia Valley, and Harold Bell Wright's *The Shepherd of the Hills*. And given the benefit of a century or more of age, some of the abandoned mines acquired a romantic and picturesque imagery, involving time and mystery, and thereby became tourist attractions.

Appearing in a railroad brochure, a highly romanticized description of a springtime rainstorm depicted the hospitable and friendly aspects of nature, images that promoters hoped to encourage people to associate with Missouri. To the Ozarks, a country that sometimes experienced violent, destructive storms, the imaginary rainstorm gave instead a sense of nature's playfulness. The thunder and lightning accompanying this storm were described as a kind of "merry warfare" among the mountain goblins. And in the imagery of warfare, with the musketry of rain, and the defenseless vegetation surrendering to the conquest of the rainfall, the storm succeeded in a victory without damage to animals or vegetation. During the storm, the farmer's children sought protection within the family cottage, and their mother closed the shutters even though she sensed that nature
was not as angry as would appear. Like the casket imagery involving pastoral nature in Missouri, the protection of the cottage, and the assurance of the adults added security while all were in the embrace of nature's "peaceful conquest." The vacationer would supposedly experience nature in a similarly inviting and comforting mood.

The friendly, hospitable aspects of nature in Missouri's chief vacation area, the Ozarks, were complemented by the topographical features as depicted in vacation literature. Convenience, accessibility, and a certain moderation of landscape between monotonous flat country and extremely high mountain scenery as found in the West comprised part of the appeal found in the promotion of tourism in Missouri. The state had no high, inaccessible mountain ranges; rather the Ozarks compared favorably with the Appalachians, both areas consisting of tree-covered and relatively low mountains. Some resort areas in Missouri were said to be easily accessible to cities and towns via short railroad trips, and convenient as well to one another, allowing, in some instances, the vacationer to take easy walks between neighboring resorts.

For scenery and recreational pleasure, the moderate Ozark terrain supposedly provided maximum potential.
The vacationer could enjoy a variety of mountain scenery and rugged terrain, enhanced by the accessibility of gentle slopes and moderate altitudes. By contrast, the Rocky Mountains had high, barren peaks, which gave the viewer the sense of remoteness and hostility, and of being "hemmed in." According to one description, the Ozarks have all of the true characteristics of true mountains, but are devoid of those stern, bleak and desolate prospects that may move the beholder to feelings of wonder and awe, but scarcely can be said to inspire sensations of pleasureable enjoyment... the scenery of the Ozarks is of a friendly sort that invites intimacy and direct contact. It is the kind of scenery that welcomes you right into its family circle and envelopes you in a cordial embrace. It is Nature wearing a serene and genial smile, rather than a gloomy and forbidding scowl.

By the late nineteenth century, when vacationing, hunting, and fishing were becoming commercially important in Missouri, the state could look back on a past including nearly a century of American ownership, a period in which Missouri had evolved from a largely wilderness area into a well-developed and settled region. Published statements about out-of-door activities often appealed to Missourians by relating to the heroic, romanticized past, when contact with nature was more widely experienced. Hunting and fishing, more than just sight-seeing, had special associations with the past since they constituted a re-enactment of a chief means by which early settlers
in Missouri had provisioned themselves with necessities such as food and clothing. Enthusiastic promotion of camping, hunting, and fishing in Missouri admonished readers to go to the woods and fields as had "your forefathers before ye." In camping and the quest for game, a person could follow the ancient instincts of man to hunt and fish, and could "add realism to the imitation of camp life" of the early years of Missouri's history.

Reliving early camp life and going into nature as had the pioneer ancestors involved the idea of a wilderness experience. However, comments on recreation and field sports in Missouri in the late nineteenth and early twentieth centuries associated wilderness with natural settings sometimes well removed from any close approximation of natural wilderness conditions. These references to wilderness in Missouri indicated the term was rather loosely used. For instance, a park in Kansas City and areas within a few miles of St. Louis were described as comparable to nature in its wildest condition, suggesting an accessible, useful wilderness. People living in St. Louis or Kansas City would find these areas very convenient to city life.

Other references to wilderness concerned sparsely settled and remote areas. On a trip into southeast Missouri in 1886, a hunter from Nashville, Tennessee,
described his adventure as a "sojourn . . . in the wilderness," and related the experience of nearly getting lost in the expanse of swamps existent in the area. Similarly, in the early twentieth century a member of the State Game and Fish Commission referred to game areas in south-central Missouri along the Arkansas border as being a wilderness. In these latter instances involving southern Missouri, the areas described as wilderness compared more favorably with natural wilderness conditions of pre-frontier times than did places in or near Kansas City and St. Louis.

Very close approximations of original wilderness areas surely existed in Missouri in the late nineteenth century, even though many remote regions had been encroached upon to some extent by settlers, surveyors, hunters, and trappers. Yet, with a broad interpretation of what constituted wilderness, associations could be maintained in areas where original wilderness conditions had disappeared. Places referred to as wilderness in Missouri were those which suggested a sense of the wild, regardless of how near or far removed from their virgin state of wilderness prior to any settlement. Background and imagination of individuals doubtlessly affected their views and definitions of wilderness; and to the city dweller, for instance, ideas of what constituted or
suggested wilderness might have had a very broad range of possibilities, from heavily wooded city parks to the remotest areas of Missouri. 33

Regarding hunting in Missouri, the aspects of an area which suggested wilderness could include the presence of wild game which the sportsmen sought. If migration of pioneers into remote frontier regions involved the idea of carrying civilization into the wilderness, wild animals living in or near civilized areas naturally represented the reverse, that is aspects of the wilderness remaining in civilization. Wild game symbolized the wilderness, and thus the comment that field sports added "realism" to the imitation of earlier camp life, a life involving wilderness experiences. 34 Although some species of wild animals, such as the elk or buffalo, disappeared from Missouri soon after American settlement, many other species remained in the state. Having once been inhabitants of the wilderness, these animals remained after human settlement to inhabit less wild and even cultivated areas. Their presence invoked the recall of wilderness associations and images, even though perhaps seen in a farm pond or in a plowed field. Use of imagination could compensate in some degree for the decline of original natural wilderness.
In city parks, pastoral farming areas, or more wild and remote places, and whether through field sports or through more passive activities such as sight-seeing, contact with nature promised beneficial effects for individuals. Literature portraying nature as a playground emphasized the potential effect on a person's mental and physical health, as well as on his personal character. Breathing the clean, fragrant air of the Ozarks was described as a "natural right," something which "nature intended" for the people from the crowded, dirty cities to enjoy. And taking the family to the country for a weekend or an entire summer would promote a wholesome and healthful basis for living. In addition to attractive natural features such as rivers and mountains, Missourians had access to many springs which often formed the nucleus of resort areas in the state, and constituted an important source of health and relaxation for the vacationer. A report of a newly developing resort area, at Sweet Springs, near Sedalia, told of the pleasant natural surroundings, and the health-giving waters. The description told how one individual attributed his recovery from a near-fatal illness to an extended stay at Sweet Springs and the use of its waters. Testimonies such as his presented nature as a healer of specific physical ailments.
The benefits seen to be obtained from contact with nature were usually of a more general type than being cured of a particular sickness; and, along with physical health, they included the peace of mind resulting from communion with, and understanding of, nature. As a return to settings similar to those the pioneers knew, trips into the woods and fields seemed right for man, giving him a better perspective of his life and environment, and helping maintain his own equilibrium. An "inherent something" supposedly existed in man which could be satisfied only by a "temporary return to primitive conditions," whether to hunt and fish, thereby re-enacting aspects of the conquest of nature, or merely to enjoy the scenery. A brief return provided man a vital contact with the primitive and the past, after which he would have to return to the civilized world and the "sordid hunt" for money.\footnote{37}

Hunting, according to promotional efforts at the end of the nineteenth century, would invigorate one's physical well-being, develop mental fitness, and encourage brotherhood and companionship among participants. These would in turn encourage the better character traits to emerge, while suppressing less desirable ones. Real sportsmen, who hunted for recreation and were not market, or pot, hunters, supposedly followed a sense of etiquette
and hunting ethics worthy of gentlemen, and were said to comprise the very best of citizens. Moreover, the quest for money might not be very sordid if accompanied and shaped by the fine personal characteristics that a love of nature stimulated in its enthusiasts. The image of the gentleman-hunter suggested that honesty, openness, and brotherhood as practiced in the fields and in the camps would also influence daily living. And for the average vacationer, according to the State Game and Fish Commission, there existed a similar relationship between the love of nature and the possession of more desired personal traits. The Commission claimed that "Misers," grouchy persons and "skin flints" are seldom found in vacation throngs; they sit at home and absorb all the misery possible, but the bright, intelligent, broad-minded and liberal citizens of the country . . . are the persons who take vacations . . . . They are the cream of the land, the persons who cause the country to progress . . . .

Thus, as promoted in Missouri, the benefits derived from contact with nature appeared as a kind of safety-valve and character-building factor. Short trips to hunting, camping, and resort areas promised inexpensive and temporary mobility, an escape from the city to the country, and the easing of pressure within a person. Promotional writings advised Missourians that they needed a "positive and natural change" from their routines, and that health and pleasure were "within the easy grasp of
all--[within] a few hours' journey, [and] at a moderate expense . . . ." In quiet, rural areas, men could forget for a while the cares of the business world, women could escape from the day-to-day household drudgery, and, like the adults, children could also experience improved mental and physical fitness. At the end of a vacation, one would find that many of his former problems had dissolved, that his energies were renewed, and that sportsmanship as practiced while hunting or fishing carried over to influence business and family life.

Through contact with benevolent nature or with the wilder aspects of Missouri's land forms, Missourians hopefully could attain ruddy health and strength of character such as seen to have belonged to the colorful, heroic pioneer ancestors. Several decades after pioneering in Missouri had ended, the literature promoting field sports and vacationing in the state suggested possible means of reliving the frontier experience.
CHAPTER VI

CONCERNS FOR WASTE AND DEPLETION OF THE NATURAL RESOURCES; AND THE INTEREST IN SCIENTIFIC MANAGEMENT

During the late nineteenth century increasing concern for America's natural resources brought about the national conservation movement, involving the passing of laws and an increase in bureaucratic power for overseeing the development, use, and preservation of the country's natural wealth. Missouri, for example, exemplified this movement by enacting laws in 1905 and 1909 which strengthened the state's fish and game protective agencies, gave them better financial support, and increased their power to enforce protection of fish and game. These laws came about because many Missourians feared that the state's game and fish were being wastefully depleted, and hoped that through proper control and use threatened species could be restored to their original numbers to be enjoyed by Missourians for generations to come. Passed with these goals in mind, the laws thus exemplified currently popular national conservation ideas.

Overall, the national conservation movement
embraced a variety of attitudes toward natural resources. Meaning basically "to conserve," or "to keep," the term "conservation," as applied to natural resources, was never closely defined by its early proponents. Instead, advocates frequently described conservation in such general terms as "wise use" of the resources, or as development of them in such a way as to bring about the "greatest good for the greatest number for the longest time." Disagreements continually arose over what was wise, or what constituted the best for the most people over the longest period of time. In its broadest sense, the conservation movement included persons with diverse and frequently conflicting interests, from preservationists, who, often for esthetic reasons, demanded the withholding of resources from any sort of exploitative use, to advocates of full resource development and use.¹

All conservationists sought in some way to improve management of natural resources with the goal of making them most beneficial to man. Moreover, whatever their programs, conservationists claimed to be acting in the best public interest. By manipulating natural resources in the most advantageous way, conservationists sought to obtain greater efficiency in their management. They relied on trained technicians and on the application of scientific methods in the production or control of
natural resources.² By applying scientific methods to achieve efficient production, conservationists hoped to achieve a greater amount of use out of the resources.

The main thrust of the national conservation movement stressed full development and use of the resources more than just preserving them for future use. Gifford Pinchot, the most vigorous leader of the conservation movement, expressed a strong interest in immediate development and use. In a statement made in 1910, Pinchot indicated the decidedly utilitarian views which he supported. He wrote that,

The first great fact about conservation is that it stands for development. There has been a fundamental misconception that conservation means nothing but the husbanding of resources for future generations. There could be no more serious mistake. Conservation does mean provision for the future, but it means also and first of all the recognition of the right of the present generation to the fullest necessary use of all the resources with which this country is so abundantly blessed. Conservation demands the welfare of this generation first, and afterward the welfare of the generations to follow.

The first principle of conservation is development, the use of the natural resources now existing on this continent for the benefit of the people who live here now. There may be just as much waste in neglecting the development and use of certain natural resources as there is in their destruction.³

Conservationists such as Pinchot definitely were active developers. Yet, even with such an emphasis on immediate development and use, conservationists were concerned about future generations, as Pinchot indicated. The commonly heard slogan, "the greatest good for the
greatest number for the longest time," suggested a concern for future as well as contemporary generations. Many of the organic resources with which conservationists dealt had the capacity for reproduction and for continued use, and, through efficient management, could in most cases provide sustained abundant productivity for an indefinite length of time. If handled so as to avoid waste, consumption of inorganic resources, such as minerals, could also be extended for longer periods of time. New discoveries could further extend their period of use. Thus in advocating wise, or proper, development and use, conservationists concerned themselves with both the present and the future. Waste and depletion of natural resources, the major threats posed to conservationists, would adversely affect both present and future generations.

In sum, the more frequently expressed attitudes of conservationists at the turn of the century included a desire to promote wise and efficient use of resources through scientific methods in the interest of the public good, and the hope that resources could be managed in such a way as to avoid waste and undue depletion, thus extending the period of any resource's productivity. As will be discussed below, Missourians at the turn of the century who desired effective game and fish laws expressed
concerns similar to those prevailing in the national conservation movement. Significantly though, conservation ideas of Missourians in 1900 did not constitute a sharp break with their past attitudes. Concerns for efficiency, prevention of waste, scientific methods, wise use, and the public good in the use of natural resources did not appear overnight, since related ideas had been expressed by individuals involved in the use of various natural resources in Missouri throughout much of the time after American acquisition of the area.

In the nineteenth century, the overall thrust of the attitudes toward natural resources in Missouri was certainly toward rapid and usually indiscriminate development and use. Yet, some individuals, particularly scientifically trained persons, even those involved in promotion, evidenced an awareness of the problems arising from misuse of resources. Such individuals seemed to have the desire, if not the power and authority, to avoid haphazard methods and thus to bring about more efficient, scientific development and use of Missouri's resources.

Even during Missouri's frontier period, when confident expressions of abundance and inexhaustibility of resources were frequently expressed, some observers voiced concern about the lack of efficient methods used in lead production in the mineral region southwest of
St. Louis. Wasteful procedures employed by the early French lead miners shocked many Americans who visited the mineral region or came there to work. The French mining techniques, which had continued virtually unchanged since first being used to develop the Missouri lead district in the early eighteenth century, consisted mostly of digging shallow pits to extract the mineral. Frenchmen dug the pits in places where lead deposits were most obvious at the surface, and, since the miners made only weak efforts to trace the mineral veins, the pits appeared to be scattered at random through the mining areas. They were abandoned when seepage and drainage problems interfered too much with mining activities. The continuance of these practices for approximately a century had been encouraged partly by the ease with which surface deposits were discovered and mined.

Observers such as Moses Austin, Henry Schoolcraft, and George Featherstonhaugh, all interested in scientific mining methods, recognized the wastefulness in the French mining procedures. They noted that such procedures thwarted chances of realizing the full potential of the lead deposits, and that both the extraction and smelting processes reduced returns below what the mines were capable of producing if worked under the best current technology. Although the lead deposits appeared to be
abundant, and the scientists believed them to be so, they still could only estimate how extensive the deposits actually were. In some instances it appeared that the inept mining practices might soon result in depletion of the mines, or at least so hamper the application of improved methods that they would render the mines difficult to operate and possibly useless for further development. Thus, even though assurances about the abundance of the resources did dominate popular rhetoric, poor mining procedures prompted expressions of concern about depletion, waste, and exhaustion of minerals during Missouri's frontier period.

As persons interested in the application of scientific methods, Austin, Schoolcraft, and Featherstonhaugh seemed very much concerned about efficient development throughout the mineral region. Most frequently, these individuals expressed a desire for "system" in mining, that is, systematic procedures both in investigating the mineral country, and in digging and operating the mines. They wanted efficiency in mining based upon accurate scientific knowledge of the properties of minerals and of the nature of the mining country. Through orderly and systematic mining operations, Missouri could more fully realize its mineral potential. Observers noted that the most highly developed mining procedures were those used
in Europe. Henry Schoolcraft wrote that in Missouri "there is little of that system, skill, industry, and precaution which characterize the best conducted European mines." European mining methods constituted the standard by which operations in Missouri were ultimately judged by Schoolcraft and others.

Although many other factors were involved, early concerns over waste and inefficiency were frequently included in arguments concerning federal ownership and leasing of mining properties in the Ozarks. By a law passed in 1807, confirming the United States government's authority to maintain control of mineral lands within the public domain, prospective mineral areas in the Ozarks were withheld from land sales. Instead of going permanently into private hands, the lands became subject to leasing for periods of up to three years. Contributing to the difficulties in developing the area, early surveyors had instructions from the government to indicate on their surveys which lands had apparent potential for commercial mining operations. Often lacking sufficient training in geology or mineralogy, the surveyors set aside numerous areas having little or no commercial mineral deposits. Furthermore, leasing of mineral lands, done under the supervision of the government's land recorder in St. Louis, tended to be erratically
administered, so that claim jumping and ignoring of the government's regulations occurred very frequently.\textsuperscript{12}

Those who opposed the federal leasing system and desired to see it altered or abolished based part of their argument on the need for efficient and systematic production of minerals. The short-term leasing arrangements, they claimed, encouraged hasty and erratic mining methods designed not to get the greatest overall productivity, but rather to obtain quick profits out of the mines. Prolonged, systematic attempts at deeper mining operations risked the chance of extending beyond the lease period, thus threatening the lessee with the possible loss of his investment in the mines. In discussing the leasing situation in 1819, Henry Schoolcraft wrote that, "Men of respectability, and of sufficient capital to carry on mining in a systematic manner, have, it is believed, been frequently deterred from making applications for leases, from the short period for which only they can be granted."\textsuperscript{13} Similarly, Moses Austin, who worked in the Missouri mining region during the first two decades of the nineteenth century, believed that if the leasing were to be continued, it should be done on a basis which would promote more careful mining operations. He wrote that the leases should "be so fashioned as to give the lessee proper encouragement to secure his
diggings. The object of the Government is to produce a revenue, and, at the same time, to have the mines so worked as to secure them from waste." If the miners continued to operate under the existing regulations, Austin believed, they could soon ruin and exhaust the mines.14

Disagreeing with Austin over the effects of the federal leasing system, Lieutenant Martin Thomas of the United States Army, a government official in the mining region during the mid-1820's, listed other reasons why "scientific mining" procedures had not developed in Missouri. He noted that miners could still find valuable deposits of lead ore near the surface and thus possibly would not be forced to change their methods and resort to more complex mining operations for some time. Also, he observed that labor was scarce and high priced. This would adversely affect attempts at more extensive and sophisticated mining development which would need greater numbers of materials and laborers. Thomas further noted that the "absence of capital, science, and practical skill" encouraged the continuance of haphazard mining procedures. He believed that these factors, rather than the leasing system itself, hindered the development of improved mining operations in Missouri.15

The year, 1829, witnessed the termination of the federal leasing system in Missouri.16 Opposed in large
part by those who wished to free private enterprise from governmental interference, the leasing system had raised questions concerning wastefulness, possible exhaustion of the minerals, and the need for efficient methods, all during the early phase of the American frontier movement in Missouri. Termination of the leasing system did not, however, actually result in the cessation of shallow, random mining operations, or the end of concerns over wasteful procedures. For instance, George Featherstonhaugh, an Englishman trained in science and who toured Missouri in 1834, after the ending of the federal leasing system, noted that "Adventurers" dug shallow mines and then soon moved on to other locations. He wrote that, "The disorder into which the country had been thus thrown is entirely owing to ignorance of the geological structure of the country, and the commonest principles of mining, and is much to be regretted, as it will greatly embarrass future efforts, in those localities, at systematic mining." Featherstonhaugh felt confident, though, that a complete reform of mining procedures would soon take place, and that thereafter mining would "be conducted upon acknowledged principles, consistent with the true nature of metalliferous veins ... ."

The interest in improving upon the rude mining procedures first employed by the French and then con-
tinued by Americans represented an early concern for wise use of the mineral resources, including the desire to attain fuller development of the mineral region and to move closer to realizing the full potential of individual mines. Especially with the beginning of more complex and expensive mining procedures, increased capital investments in machinery and the overall operating costs of mines made higher recovery percentages more important than when "Adventurers" had searched the area for easily obtained surface deposits. In the expensive, complex deep-mining of base metals, the encouragement of careless frontier attitudes, such as to "dig out and get out" using wasteful, indifferent methods surely were lessened. 19

However, the previously cited examples of concern over waste and possible depletion of mineral resources did not comprise the mainstream of early nineteenth century thought about Missouri's natural resources. Rather, they deserve attention because they do show that such concerns were not ignored by articulate, scientifically-oriented spokesmen. Such persons also stressed the need for more efficient, systematic production of minerals. Together these same concerns later formed an important part of arguments supporting the establishment of state institutions having to do with
natural resources. Although designed to serve in an advisory capacity only, and thus having no actual authority over the production of resources, institutions such as the State Geological Survey, the State Board of Agriculture, and the state schools of mining and agriculture were founded in part to promote the use of natural resources on a more knowledgeable and efficient, as well as profitable, basis.

Included as a part of the internal-improvements drive, the Missouri State Geological Survey, established in 1853, sought to determine the extent of the state's important resources, to further state promotional efforts, and to aid in securing full use and development of the physical resources. Although the Survey provided information for private individuals and companies, its promoters frequently emphasized the benefits it would bring for all Missouri citizens and for the nation as a whole. They stressed the important relationship between public welfare and proper development of the state's resources. By helping Missouri's lawmakers develop "more intelligent legislation upon every branch of the public interest," the Geological Survey hopefully would encourage a general prosperity for contemporary and future generations.
Once state resources had been surveyed and their development had begun to accelerate, the national importance of the Survey would become evident. Attracted to Missouri by the Survey's work and reports, immigrants would occupy and put to use many previously untouched and unused areas in the state. Henry King, a scientist living in St. Louis, promoted the Survey partly with the argument that he felt it would help transform Missouri from a largely unoccupied and "useless" area into the abode of "five to seven millions of souls," who, while benefiting from their labors, would also contribute greatly to the national welfare. The Geological Survey was thus encouraged partly by emphasizing the public benefits supposed to result from it.

Supporters of the Survey also claimed that it would make the development of Missouri's resources more systematic, and therefore less haphazard. State legislators voiced this same argument when they declared that by using the Survey "more intelligent legislation" would result regarding the use of Missouri's resources, and, hopefully, that more efficient, knowledgeable development would develop. The same General Assembly added that Missouri's resources were valuable enough to deserve the state's "fostering care and attention."
Earlier, before the movement for a geological survey had actually begun, the same scientists who had proposed that mining operations in Missouri be updated and subjected to scientific methods sought to apply some degree of system to the development of all of the state's resources through a geological survey. Supporting such an idea in 1819, Henry Schoolcraft expressed his interest in providing an orderly approach to the development of resources in Missouri when he wrote,

But who has ever explored Missouri with a geological eye? What mineralogist has ever travelled the country to make a collection of its numerous fossils? Or what chymist has ever analyzed its mineral and vegetable productions? I know of none; it is a boundless field on which the light of science has but partially dawned; but . . . when such observations are made, there will be found as much regularity, harmony, and order in the works of nature as generally exist.\(^\text{24}\)

Without knowing the "regularity, harmony, and order" in nature as found in Missouri, persons might continue the same erratic, inefficient development of resources that Schoolcraft had observed in the French mining district. While journeying into the Ozarks in the mid-1830's, two decades after Schoolcraft's visit, George Featherstonhaugh observed that an accurate geological survey of the country could provide "rational estimates" of the resources, and should precede any internal-improvements program.\(^\text{25}\) In suggesting that the survey come before internal improvements, Featherstonhaugh indicated a desire that Missourians
first lay a foundation of scientific knowledge for proper development of state resources.

This overall interest on the part of some individuals in systematic development, scientific knowledge, and "intelligent legislation" reflected a desire to attain fuller development and to avoid the wasteful practices of the past. In the nineteenth century, statements about Missouri's resources generally involved two concepts of waste. One of these concerned misuse of the resources, especially their improper development, and the other involved the failure to develop certain areas and resources at all.

For instance, Henry King, the St. Louis scientist who became one of the chief supporters of the Geological Survey, frequently expressed optimism about the abundance of Missouri's resources, yet was at times pessimistic about the likelihood of proper development. He based some of his arguments for programs, such as the State Geological Survey, on fears of improper use, as well as concern that areas of significant resource potential still remained untouched or undeveloped and therefore, in his estimation, wasted through neglect. In support of the Survey, King stated that perhaps by attaining exact knowledge based on scientific investigation, Missouri could avoid becoming a "theater of mining disasters,"
which he felt had occurred too frequently in the United States. Such disasters resulted from wasteful, inefficient development of resources, that is, from improper use. And, like others who promoted Missouri's early development, Henry King seemed to abhor vacant and unused lands. As long as such lands were not put to man's use, King viewed them as wastelands, "useless as a barren desert." He felt that Missouri was too sparsely populated and too poorly developed, and that a geological survey would make known the capabilities for which the land might be used, after which the vacant areas could be fully settled rather than continue to be empty and useless.

As a public institution designed to collect and make known scientific information about Missouri's natural resources, the Geological Survey shared some common purposes with the state's agricultural and mining schools. The establishment of these two institutions resulted largely from the Federal Land Grant Act of 1862. The following year, the Missouri General Assembly formally accepted the provisions of the act and, in 1870, allocated one-fourth of the returns from the sale of the granted lands to the mining school, and three-fourths to the agricultural school. Rivalries among towns over the location of the schools delayed their establishment
for several years. Missourians also debated whether to establish institutions separate from the state university at Columbia. Some had fears that the purposes of the schools—to provide technical training and education for the sons of farming and laboring classes in Missouri—would be subverted by the liberal-arts curriculum of the University of Missouri. However, in 1870, the Missouri General Assembly voted to establish the agricultural school with the state university in Columbia, and to establish the mining school at Rolla, a town located in the mineral region. 29

Supporters of these schools frequently made reference to the role they believed the schools would play in the development of the state's natural resources. Regarding a mining school, the need for an institution to study mining techniques and the properties of minerals in Missouri had been recognized as early as 1819, when Henry Schoolcraft called for a "mineralogical school" to be located in the mining district. 30 However, this idea did not receive enthusiastic support until the 1840's and 50's. At that time much of the concern for establishing a mining school came from persons who also advocated the establishment of the Geological Survey. While not involving any control of private enterprises, the mining school and the Geological Survey were major expressions
of public interest in applying science to the development
of mineral resources in Missouri in the nineteenth cen-
tury.

Similar to ideas involved in the promotion of the
Geological Survey, proponents of the mining school
brought before Missourians of the mid-nineteenth century
issues such as depletion and waste of the natural
resources, concerns for the public welfare, and interests
in wise use of resources through scientific methods.
Henry King, an eager supporter of the mining school as
well as the Geological Survey, stressed the lack of
"expansive," or "reproductive" qualities in minerals as
making necessary the "prudent, economical, and intelli-
gent" use of Missouri's mineral resources. King wrote
that even though more deposits might be discovered in the
future, the properties of minerals remained the same, so
that every particle of mineral taken out of a mine would
contribute to its eventual exhaustion. In the long run,
King realized, continued mining production depended upon
wise, efficient production methods, along with new dis-
coveries, and by the very nature of minerals could not
depend upon reproduction of the resource.31 Concerned
with the ultimate depletion of the ores, King felt that
for improved handling of the mines, Missouri needed a
"mining population," one which was properly trained in
the most efficient and advanced procedures for extracting and processing minerals. While informed Missourians knew of advanced European mining techniques, nevertheless the state remained unprepared and "deficient in [the] scientific and practical knowledge" necessary to conduct efficient mining operations.32

Other advocates of the mining school stressed that Missouri must use its resources for the state's greatest advantage, and that through previous lack of learned, scientific technology, much of the mineral resources had already been wasted. Through scientific education, "intelligent treatment" of the mines could bring about their fuller development and the obtaining of greater percentages of the ores, thus reducing waste. Reporting in 1867 to the Board of Curators of the University of Missouri, Daniel Read, president of the University, declared that "the loss and waste are so great in mining operations, for want of skill and science, as to call loudly for some remedy."33 His suggested remedy was the state mining school, at the opening ceremonies of which, in 1871, Read called for a "special and thorough science to enable us to use our natural wealth to the best advantage . . . . The State cannot do without it. It is too wasteful to do so, and we are not rich enough to afford it."34
Probably to a greater degree than with mining, articulate state leaders interested in agriculture expressed alarm over wasteful use of the resources, in this case the soils. By the 1850's, only three decades after Missouri became a state, talk of agricultural improvement had become common. Such concern for better agricultural methods occasionally involved serious consideration of establishing a school designed especially to train farmers. Responding to this concern, the University of Missouri, by 1860, had begun to offer agricultural courses designed to aid farmers. This was believed to be unsatisfactory. Thus, in 1870, with the support of the Federal Land Grant Act, the General Assembly provided for a school of agriculture as a part of the state university in Columbia. Other developments with regard to public concern for agricultural improvement included the beginning and spreading of agricultural fairs, especially in the 1850's, and the establishment in 1865 of the Missouri State Board of Agriculture.35

Interest in a school of agriculture produced numerous warnings concerning harmful agricultural practices in Missouri, and included themes similar to those found in expressions of concern over improper development of the state's mineral resources. Leaders deplored farming procedures which wasted the soil and threatened
depletion of that very important resource. Recognizing a strong public interest in conserving valuable soils, spokesmen hoped that through education they could enable the farmer to apply scientific methods and to use the lands more wisely, thus extending the soil's productivity for an unlimited period of time.

In making the initial report of the Missouri State Board of Agriculture, in 1865, the Board's secretary traced wasteful and depletionary agricultural practices to frontier attitudes. According to the secretary, pioneers, who generally ignored the most advanced agricultural methods, moved into an area, developed it, and caused it to flourish, often on a promising basis of abundant and quite fertile lands. But, as these farmers sought to increase their profits by making increasingly heavy demands on the lands, the soils rapidly became depleted. The tendency among some farmers was then to move to newly developing areas, thus repeating the pioneering process. The secretary continued by commenting that,

Among the great mass of immigrants now flocking to Missouri, it remains to be seen what proportion belong to the class of pioneers who have worn out the soil elsewhere. In all older countries an improved system of agriculture is adopted per force as it were, because without it the land would not sustain the increased population.36

Writing for the benefit of Missouri's farmers, the
secretary cautioned that farmers who did not wish to continue moving, but preferred to establish a permanent home would be wise to avoid wasteful practices from the very first, and thus also avoid heavy expenses of revitalizing overused soils.\textsuperscript{37}

In penning these remarks, the Secretary identified a common pattern in attitudes toward the natural resources of America: the careless use of the resources during, and for a period after, frontier development, followed by greater caution and by efforts to take better care of the resources upon which the welfare of individuals, states, and nations depended. For the state of Missouri and for many individuals who did not choose to move farther west, direct participation in the frontier process ended long before the national frontiers closed. By mid-century, pioneering in Missouri was gradually ceasing, and doubtlessly by then many individuals had moved to the state hoping to establish permanent homes. Regardless of the closing of the national frontiers by approximately the end of the nineteenth century, Missouri experienced the closing of its own frontiers approximately during the decade of the 1850's, when all but scattered areas had been settled and developed.\textsuperscript{38} Those who wished to remain in Missouri to seek their fortunes and to help promote the welfare of the state witnessed the occupying of any
remaining fertile lands and the continued assault on the state's resources. Instead of relying on a new start on the national frontier, these individuals had to continue to work Missouri's lands and other resources, and to achieve continued growth and progress ultimately through wise use rather than by simple exploitation.

Moreover, fears expressed by mid-century that Missouri soils were being depleted reflected an awareness among some of the state's leaders that careless, opportune, "frontier" attitudes toward the soil continued, and that individuals whose fortunes depended upon a sustained economy in Missouri must concern themselves with wise and proper use of the soil resources. The State Board of Agriculture warned of the soil depletion that took place "in all new countries" where virgin soils enticed farmers to seek excessive productivity. This situation was said to exist in Missouri on a dangerous scale, to the point of ultimate depletion of its soils.

In an effort to impress Missourians with the seriousness of the need for good farming practices, including a need to preserve the soils, the State Board of Agriculture published an address by Justin Morrill, chief architect of the Federal Land Grant Act of 1862. In ominous tones, Morrill warned of declining fertility of the nation's farm lands, predicted possible
starvation in the future, and claimed that opportunities in agriculture would seriously decline. He denounced the "go-ahead system of farming," where "the main relief sought was such as that practiced by flocks of wild pigeons, which no sooner strip and waste one field than they take wing and fly further on."\(^41\) A similar mobility of American farmers helped prompt their carelessness in working the soils.

Arguments for agricultural improvement in Missouri stressed both a desire to increase profits by increasing yields, and a concern for permanently maintaining the quality and fertility of the soils. These two goals could conflict, especially if farmers sought quick profits through increased yields without regard to overuse and depletion. In an address made in Jefferson City, in January, 1868, George C. Swallow, the first state geologist, and later first head of the state agricultural school, emphasized that farmers should work their land in proper accordance with the laws of nature. Yet he noted that the "whole business" of the farmer was to "aid nature--make two blades of grass grow where but one grew before."\(^42\) Thus, while Swallow considered soil exhaustion to be one of the most serious questions confronting the state, he also urged that farmers double their yields. Any contradictions in these desires supposedly could be
resolved through scientific education of the state's farmers. "Agricultural colleges," as the secretary of the State Board of Agriculture noted, "are needed to teach farmers how to increase their crops without impairing the fertility of their fields, and how to restore the necessary elements when their lands have become degenerated."^43

Agricultural education in Missouri was thus promoted in a sort of dual rhetoric, mixing promises of a prosperous future with fears of soil exhaustion and the resulting collapse of the state economy if bad husbandry continued. George Swallow claimed that an agricultural college could educate farmers in the methods of maintaining soil fertility, and thus provide "the best possible guarantee against this calamity of exhausted soils and depopulated States." In the future, this would repay Missouri many times over by securing a huge resource endowment for its citizens. Thus the state had a duty to establish an agricultural college for the welfare of existent and succeeding generations.\(^44\) In this manner, Swallow combined the threat of soil depletion with the belief that problems could be overcome through scientific education. Although a confident optimism in science prevailed, nevertheless articulate agricultural leaders showed an awareness of negative aspects such as soil
depletion, a potential deterrent to the state's continued progress.

Beginning soon after the Civil War, there evolved through a series of state laws a game and fish protective agency, another state institution designed to deal with natural resources. During the nineteenth century, the abundance of game in Missouri had provided sustenance and sport for frontiersmen and farmers, and eventually became an important part of the developing tourist industry. Although game possibly increased in numbers during the Civil War, in the years thereafter a combination of several developments caused a serious decline in the quantity of fish and wild game. The overuse of these resources actually threatened depletion of some species. During the latter part of the nineteenth century, the state's human population increased from decade to decade, certainly including the arrival of more sportsmen as well as many others who desired to buy fresh-killed game in the markets. Farmers, in an effort to utilize their soil resources to a maximum, cleared large areas of brush and woodland. By reducing the amounts of timber and brushlands, the farmers unwittingly reduced the habitat for many game species. Lumbering, the burning off of woodlands, and generally poor protection against erosion resulted in heavy soil deposition in streams, thereby
adversely affecting the spawning grounds of fish.  

Using improved guns and equipment, increasing numbers of city dwellers went to the country on weekends or for longer stays and slaughtered vast quantities of fish and game. Better transportation by railroads and their active promotion of hunting and fishing encouraged sportsmen to go to the country and to travel conveniently greater distances across the state in search of new game areas. Moreover, enthusiastic individuals who joined hunting and fishing clubs bought or leased prime areas to protect their rights to seek the local game.

Effectively, a massive assault began on the state's game and fish population after the Civil War. Estimates of the numbers of wild-game species killed in local areas ran extremely high. Writing from Sedalia in 1890, R. H. Fesperman noted that some hunters in the vicinity averaged from fifteen to sixty quail per person per day. Four men from the area had reported one day's bag of 144 ducks, the largest daily bag of ducks taken locally during the past season. A Carroll County correspondent to Forest and Stream magazine wrote that some local hunters had killed an average of sixty snipe per day over a three-week period during the spring of 1883. He noted one particular instance where two men had bagged eleven dozen snipe in one day. "Bugle Bill," of Norborne, in
Carroll County, reported sending nearly 11,000 snipe to game markets within a three-month period in 1883. All of the birds had been killed within a five-mile radius of Norborne. 

Such high rates of kill resulted from efforts of both local hunters and those from the cities, with local hunters at times being interested in marketing their game in St. Louis. In addition to shooting game, market hunters sometimes used nets to snare quail and pigeons. Similarly, such individuals took fish in huge amounts by using dynamite and seins to increase their catch. 

Within a decade and a half after the Civil War, the St. Louis game market had become one of the very largest in the country, with an estimated annual business in excess of a million dollars. 

Although throughout the latter part of the nineteenth century many individuals continued to boast of very good hunting and fishing conditions in the state, numerous expressions of alarm over the threat of fish and game depletion evidenced an awareness by some Missourians that their wildlife was becoming endangered. Individuals expressed concern that such creatures as snipe, swan, deer, quail, passenger pigeon, and various species of fish might disappear from Missouri. As early as 1869, M.J. Hines, a resident of Cape Girardeau, stated his
fears that a serious decrease in the deer population had occurred. Deer had been plentiful only two decades previously, but were rapidly being killed off by farmers and hunters interested in meat, hides, or just sport. Jasper Blines, of Alexandria, in northeast Missouri, claimed in 1888 that the "native game birds are rapidly disappearing, and will in not very remote time be extinct." 

In Missouri during this period, market hunters received the greatest part of the blame for the threatened depletion of game. Furthermore, they were often identified as hunters from the cities, an association derived partly from truth but mostly from the fact that market centers were located in the cities, particularly St. Louis and Chicago for midwestern game. Thus, although farmers and persons from local towns and villages often hunted for market purposes, merchants in the cities sold the resulting product at a profit and therefore received much of the blame for decline of various game species. Concerned Missourians also accused easterners of encouraging excessive market hunting in the state, as the "rich people of the East" paid prices high enough to attract people to the market trade in game.
Persons in rural areas of Missouri often felt that "foreign hunters," or hunters from the cities were a particular nuisance and a threat to their own enjoyment of, or profit from, hunting. Too many city people came to the country to hunt, and tended to flock to preferred hunting grounds on weekends, thus reducing local game populations. Farmers resented this intrusion, accused the city hunters of being game hogs, and often forbade them to hunt on their lands. Writing to Forest and Stream magazine, one individual complained of the "Sunday exodus" of "hoodlum hunters," who traveled from St. Louis into the neighboring rural areas, and killed all the game in sight, as well as some cattle and poultry. He wrote that to combat this onslaught, the local officials had begun meeting hunters at the stations along the Missouri Pacific and Frisco routes and warning them not to trespass or hunt in the area. Such hostilities encouraged the development of hunting and fishing clubs for those who wanted guaranteed access to game areas.

Concern over the depletion of wildlife resulted in state-wide action against hunting and fishing excesses. In 1874, the General Assembly established closed seasons on some threatened game species, and placed restrictions on such practices as the netting of birds and the use of fish dams, dynamite, and other devices and methods
designed to catch massive amounts of game and fish. The General Assembly also established the office of State Fish Commissioner in 1878, and in 1895 created the office of the State Game and Fish Warden. 60

Unlike earlier public institutions designed to deal with natural resources, the game and fish protective agencies did have authority to control indiscriminate overuse of wildlife resources. However, while they had legal authority to control the taking of numerous game species, their true powers were very weak in that they did not have the means for effective enforcement of game laws. For instance, in the early decades of the game and fish laws, state wardens had to depend upon local authorities such as sheriffs and constables to prevent out-of-season hunting or fishing. Busy with their regular duties, which often kept them away from the more remote hunting areas, these local officials did not often perform effectively. 61 This situation was partially remedied with the passage of laws in 1905 and 1909 enlarging the state protective forces and providing increased financial stability for the state game and fish officials. The same laws placed restrictions on the selling or transporting of threatened species of game and fish within the state, thus prohibiting market-hunting activities for these species. 62
Along with attempting to protect wildlife resources through legal restrictions on hunting and fishing, the protective agencies sought to replenish fields and streams by artificial means--the propagation of game species. Propagation, a method widely used by wildlife specialists in combating depletion of fish and game, quickly became a major effort of Missouri wildlife agencies to increase the amounts of fish and game.\textsuperscript{63} However, some individuals did indicate an early awareness that the restoring and maintaining of proper habitats for fish and game could greatly aid the repopulating of threatened species.\textsuperscript{64} In both field and stream, the restoring of natural conditions would allow wildlife a better chance at natural increase. By the early 1930's the State Game and Fish Commission acknowledged that propagation itself was not sufficient to maintain game populations in Missouri. Rather, the "final solution" was seen to be that of insuring proper habitats for fish and game.\textsuperscript{65} Encouraged by such outstanding wildlife specialists as Aldo Leopold, the ecological approach of providing proper conditions for food, cover, and breeding eventually became perhaps the most important aspect of Missouri's wildlife program.\textsuperscript{66}

The enactment of the state's game and fish laws had the goals of preventing needless waste of these
natural resources, and of overseeing their wise use for the public good. Supporters of the game laws frequently stressed the broad public benefits supposed to result from game protection and the prevention of depletion of game species. Sportsmen would thereby have continued enjoyment of fish and game, and the general public would supposedly have a ready supply of wildlife, a "cheap and nutritious food for the benefit of all people." Poorer classes of Missourians would benefit as well as more prosperous sporting interests.

Far more than having an interest in supplying food for Missourians, rich or poor, proponents of the laws hoped that protection of game and fish would further the development of tourism in Missouri. Although the tourist trade had been expanding since soon after the Civil War, persons at the turn of the century hailed the beginnings of a "new Missouri industry" of tourist trade, based on the continued abundance of game that would result from strict enforcement of the laws. The State Game and Fish Commissioner noted in 1909 that his activities would be conducted "from the standpoint of dollars and cents actually brought into the state by various sources, or retaining in the state, money which would otherwise be spent outside the state at more attractive places." The increase of tourism was seen as a general public
good, benefiting manufacturers, jobbers, retail dealers, salesmen, guides, hotels, and railroads, as well as benefiting the public as a whole. By helping to attract tourists with money into the state, the game and fish protective agencies would aid in improving the general welfare, enabling Missouri to attain for its citizens "the greatest benefit to the greatest number." Promoters of fish and game laws wanted the continued and increased use of these natural resources for field sports and tourism. In this manner, these conservationists were eager developers and promoters of a "new Missouri industry."

Throughout the first century of American development of Missouri there had occurred expressions of alarm over the misuse, waste, and possible depletion of the area's natural resources, concerns which revealed a desire for use of scientific knowledge and methods in developing and using the resources. Efficient, scientific methods could be, and certainly were, used in such pursuits as mining and farming to produce higher, immediate profits, without regard for long-range problems of waste and depletion. Yet, articulate spokesmen, such as Henry R. Schoolcraft and George Swallow, combined the concern for increased profits through improved methods with warnings of possible depletion of resources if efficient and scientific methods were not employed in consideration
of future, as well as current, use and profits. They also considered the problems of depletion and waste, and the needs for current and future use and profit in their arguments for the establishment of institutions which had potentially broad benefits for the general public. Institutions such as the State Geological Survey and the agricultural and mining schools sought to bring about both wide-spread application of scientific knowledge for the development of known resources, and necessary analysis for continued use of, or new discoveries of, the state's natural resources. The wildlife protective agencies aimed at conserving natural resources for current and future public use through a system of closed seasons and propagation, and later through the use of a broader, scientifically developed ecological approach.

Recurring expressions of alarm over waste and depletion of resources shared some common ground with general nineteenth-century optimism about "inexhaustibility" and abundance. Conservation concerns inspired the use of scientific means of extending abundance indefinitely, thus at least "in the direction of" inexhaustibility. Both conservationists and promoters focused on development and the use of science. Promoters sought to develop Missouri, and hoped to use science as a means of more efficient and profitable development.
Those who expressed alarm over depletion and waste had faith in science as a means of correcting such misuse of the resources, and hoped that science would insure continuance of development, abundance, and profitable growth. Conservation was a means of using science to extend optimistic frontier attitudes about abundance and inexhaustibility.
CHAPTER I


2 Ibid., pp. 10-14.


6 Amos Stoddard, Sketches, Historical and Descriptive, of Louisiana (Philadelphia: Mathew Carey, 1812), p. 249.


8 Timothy Flint, Recollections of the Last Ten Years (Boston: Cummings, Hilliard, and Company, 1826), pp. 242-244. See also Arthur K. Moore, The Frontier Mind (Lexington: University of Kentucky Press, 1957),
p. 27. On pages 25-43, Moore discusses imagination and myth as influences on immigration.

9Flint, Recollections, p. 123.

10For instance, similar descriptions of Kentucky appear in ibid., pp. 61-63.

11Ibid., p. 123.


13Charles Augustus Murray, Travels in North America During the Years 1834, 1835, and 1836 (2 vols.; London: Richard Bentley, 1839), 240-241.


15Ibid., p. 39. Other descriptions of the expedition are much briefer. See, for instance, Patrick Gass, Gass's Journal of the Lewis and Clark Expedition, ed. James Kendall Hosmer (Chicago: A.C. McClurg, 1904), pp. 1-12, which gives only occasional references to the landscape or resources.

16Edwin James, Account of an Expedition From Pittsburgh to the Rocky Mountains, Performed in the Years 1819, 1820, Vol. XIV-XV of Early Western Travels, ed. Thwaites, XIV, 160.

17Ibid., pp. 144-145.

18John K. Townsend, Narrative of a Journey Across the Rocky Mountains to the Columbia River, and a Visit to the Sandwich Islands, Chili, etc. (Philadelphia: Henry Perkins, 1839), pp. 9-42.

20 Henry Marie Brackenridge, Views of Louisiana; Together With a Journal of a Voyage Up the Missouri River in 1811 (Pittsburgh: Cramer, Spear and Eichbaum, 1814); Stoddard, Sketches, Historical and Descriptive.


22 Stoddard, Sketches, Historical and Descriptive, p. 7.


24 Brackenridge, Views of Louisiana, p. 7.

25 Brown, Western Gazetteer, p. vi; Beck, Gazetteer, p. v; Stoddard, Sketches, Historical and Descriptive, p. vii.

26 Beck, Gazetteer, pp. 188-190, passim, relies on the earlier writings of Henry Rowe Schoolcraft. Alphonso Wetmore, in his Gazetteer of the State of Missouri (St. Louis: C. Keemle, 1837), uses the earlier writings of Lewis and Clark, Schoolcraft, Beck, and others. See, for example, pp. 252-253.

27 Stoddard, Sketches, Historical and Descriptive, pp. vi-vii.

28 Ibid., pp. 389-390.

29 Ibid., p. 227.

30 Ibid., p. 221.

31 Ibid., p. 229.

32 Brackenridge, Views of Louisiana, pp. 3-4.

33 Ibid., pp. 5-6.

34 Ibid., p. 102.


36 Ibid., p. 107.
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37 Ibid., p. 103.
38 Ibid., p. 110.
39 Ibid., p. 212.
41 Ibid., pp. 254-257.
44 Schoolcraft, View of the Lead Mines, pp. 4-5, 52-53.
46 Ibid., pp. 4-6.
47 Ibid., pp. 22-23.
48 Ibid., p. 128.
49 Ibid., pp. 129-131.
50 Ibid., pp. 22-23, 92-93.
52 Schoolcraft, View of the Lead Mines, pp. 52, 155.
53 Ibid., p. 34.
54 Henry R. Schoolcraft, Scenes and Adventures in the Semi-Alpine Region of the Ozark Mountains of Missouri and Arkansas (Philadelphia: Lippincott, Grambo and Company, 1853), pp. 20-21; Chase S. Osborn and Stellanova

55 Timothy Flint, The History and Geography of the Mississippi Valley (Cincinnati: E.H. Flint and L.R. Lincoln, 1832); Baird, View of the Valley.

56 Beck, Gazetteer, pp. v-vi.


58 Beck, Gazetteer, p. 179.

59 Ibid., pp. 187-197.

60 Ibid., pp. 233, 282.

61 Ibid., pp. 170, 262, 187.

62 Kate L. Gregg, "Major Alphonso Wetmore," Missouri Historical Review, XXXV (April, 1941), 385-393; Carle Brooks Spotts, "The Development of Fiction on the Missouri Frontier," Missouri Historical Review, XXIX (October, 1934), 17-26. On page 17, Spotts refers to Wetmore as the "most skillful writer of short narrative in Missouri before 1840."

63 Some of his short works are included in his gazetteer. See Wetmore, Gazetteer, pp. 281-350.

64 Ibid., pp. 26, 29.

65 Ibid., p. 64.

66 Ibid., p. 111.

68 Wetmore, Gazetteer, p. 36.

69 Ibid.

CHAPTER II


2Roderick Nash, in Wilderness and the American Mind (New Haven: Yale University Press, 1967), discusses the early American compulsion for conquering and developing the wilderness, an obstacle to progress. See especially pp. 23-43.


5Henry R. Schoolcraft, A View of the Lead Mines of Missouri (New York: Charles Wiley and Company, 1819), p. 4. At Potosi, Schoolcraft had actually described aspects of three major components of American imagery of the nineteenth century; that is, wilderness, the pastoral middleground, and the village with its small industry, the latter involving implications of future cities and civilization. See Leo Marx, The Machine in the Garden; Technology and the Pastoral Ideal in America (London: Oxford University Press, 1964), pp. 11-19, 227-229, 267-269. Although fascinated by all three aspects, Schoolcraft, as a scientist-explorer, was probably more attracted to wilderness and civilizing progress than to pastoralism. William Goetzman discusses these conflicting values in Army Exploration in the American West, 1805-1863 (New Haven: Yale University Press, 1959), pp. 3-21; and in his Exploration and Empire; The Explorer and the Scientist in the Winning of the American West (New York: Alfred A. Knopf, 1966), pp. 303-305.


Ibid., II, 356; Ibid., p. 100; Proceedings of a Convention of Delegates for the Promotion of Internal Improvements within the State of Missouri (St. Louis: Charles Keemle, 1836), p. 28.


Gates, "Railroads of Missouri," pp. 128-131; Primm, Economic Policy, pp. 73-113, discusses the internal improvements program from the 1830's through the 1850's.


Henry King, "Geological Survey of the State of Missouri," The Western Journal, III (October, 1949), 13-21; Henry King, "Geological Survey of the State of

18 Amos Stoddard, Sketches, Historical and Descriptive of Louisiana (Philadelphia: Mathew Carey, 1812), pp. vi-vii; Brackenridge, Views of Louisiana, pp. 3-4.


20 The First and Second Annual Reports of the Geological Survey of Missouri (Jefferson City, 1854), pp. 29-32.


27 Ibid., pp. 7, 15.

28 Nathan H. Parker, The Missouri Hand-book, Embracing a Full Description of the State of Missouri


31 Ibid., 8. (Italics in original); Similar concerns developed in response to overly enthusiastic promotion of the plains states west of Missouri. There, the promoters tended to overlook the marginal crop-growing conditions of the semi-arid regions. See David M. Emmons' discussion of these problems in his Garden in the Grasslands: Boomer Literature of the Central Great Plains (Lincoln: University of Nebraska Press, 1971), pp. 162-198.

32 R.A. Campbell, Campbell's Gazetteer of Missouri (St. Louis: R.A. Campbell, 1874). His county descriptions were very statistically oriented; see, for instance, descriptions of Scotland County, pp. 591-593, and Perry County, pp. 421-426.

33 Ibid., p. 9.

34 Fifth Biennial Report of the Board of Immigration of the State of Missouri, p. 10.


41 Ibid., p. 4.

42 Ibid.

43 Ibid., p. 3.


45 See for instance, History of Cole, Moniteau, Morgan, Benton, Miller, Maries, and Osage Counties, Missouri (Chicago: The Goodspeed Company, 1889); Joel T. Livingston, A History of Jasper County, Missouri and Its People (Chicago: The Lewis Publishing Company, 1912); The History of Clinton County, Missouri (St. Joseph: National Historical Company, 1881). One company, the Historical Publishing Company, of Topeka, Kansas, relied heavily on local individuals to write the history of their particular county or counties. See for instance, Carrie Polk Johnson and W.H.S. McGlumphy, History of Clinton and Caldwell Counties, Missouri (Topeka: Historical Publishing Company, 1923); and John C. Leopard, et al., History of Daviess and Gentry Counties, Missouri (Topeka: Historical Publishing Company, 1922). This tendency for local writers to compile the histories seems to have increased in the twentieth century.


47 The History of Buchanan County, Missouri (St. Joseph: Union Historical Company, 1881), pp. 80-81.


49 Waterhouse, Resources of Missouri, p. 6.


52 Ibid., p. 7.


54 Waterhouse, Resources of Missouri, p. 30. (Italics added.)


59 History of Holt County, p. 38. (Italics added.)


62 Second Annual Report of the Missouri State Board of Agriculture, p. 632. (Italics added.)

63 Ibid.
CHAPTER III


4 Jefferson City Daily Tribune, August 17, 1887, p. 4.

5 The History of Buchanan County, Missouri (St. Joseph: Union Historical Company, 1881), pp. 92-93.


9 Ibid., pp. 16-17.

10 Young, History of Dade County, I, 17.


17. See above, Chapter II, pp. 56-61.


21. Ibid., XII (April, 1918), 172.


24 Alphonso Wetmore, Gazetteer of the State of Missouri (St. Louis: C. Keemle, 1837), pp. 47, 64.

25 Atkeson, Bates County, p. 121.

26 Third Annual Report of the Missouri State Board of Agriculture (Jefferson City, 1867), p. 35.

27 Paul Shepard, in Man in the Landscape: A Historic View of the Esthetics of Nature (New York: Alfred A. Knopf, 1967), p. 255, makes the following comment on park-like landscapes: "... the garden to nineteenth-century English and Americans meant the landscape park, a descendant of the paradise garden by way of the classical pastoral and village green. The 'natural' garden or 'park' was the estate grounds, landscaped to blend into the rural countryside. The park was a particular association--planned randomness--of scattered trees, lawn, and winding streams connecting lakes. It looked somewhat like paintings of Arcadia or of paradise. It was both an abstraction from nature and a figment of human experience, roughly equivalent to the pastoral landscape of mixed forests and meadow from which modern European man emerged."


29 Worth and Gentry Counties, p. 515.


33 Jefferson City Daily Tribune, August 17, 1887, p. 4.

34 Kansas City Southern Railway, The Ozark Mountain Region of Missouri and Arkansas As It Appears Along the
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36 Missouri Pacific, Health and Pleasure Resorts, p. 29. See also Hans Huth, Nature and the American: Three Centuries of Changing Attitudes (Berkeley: University of California Press, 1957), pp. 66-69, 165-166, for comments on the use of cemeteries as parks in the nineteenth century, and the development of the more typical city parks, such as Central Park in New York City.


38 Noel P. Gist, et al. (eds.), Missouri; Its Resources, People, and Institutions (Columbia: Curators of the University of Missouri, 1950), pp. 36-40, 153-54.

39 Third Annual Report of the Missouri State Board of Agriculture, p. 35.


41 For discussions of these problems, see Henry Nash Smith, Virgin Land; The American West as Symbol and Myth (New York: Random House, 1950), pp. 201-213 passim; and David M. Emmons, Garden in the Grasslands: Boomer Literature of the Central Great Plains (Lincoln: University of Nebraska Press, 1971).


43 Missouri Immigration Society, Handbook of Missouri, p. 13; Missouri Pacific, Statistics and Information Concerning the State of Missouri, p. 6; Young, History of Dade County, I, 17; Ibid., p. 284.


48. The History of Buchanan County, p. 79.

49. See Emmons, Garden in the Grasslands, pp. 128-161, for a discussion of the idea that "Rain follows the plow." Emmons notes on page 129 that, "In part, of course, the notion of increased rainfall [following cultivation of the land] was simply one manifestation of man's alleged dominion over nature. God had created man superior to his natural environment and man was exercising that superiority."


51. Niles' Register, October 19, 1816, as quoted in Hattie M. Anderson, "Missouri, A Land of Promise," Missouri Historical Review, XXX (April, 1936), 244-245.


56. Ibid., XV (July, 1921), p. 680.


58. Inaugural Address of Governor Thomas C. Fletcher, January 2, 1865, in Floyd C. Shoemaker, et al. (eds.),


61. Kansas City Southern Railway, "Home Life in the Ozark Region," The Ozark Mountain Region of Missouri and Arkansas as It Appears Along the Line of the Kansas City Southern Railway, pp. 5-10.

62. Ibid., pp. 5-6.

63. Ibid., pp. 6-7.

64. Ibid., pp. 8-10.

65. Ibid., p. 7.

66. Ibid., p. 10.
CHAPTER IV

1Moses Austin to Amos Stoddard, February 13, 1804, American State Papers: Public Lands (8 vols.; Washington: Gales and Seaton, 1832-1861), I, 190-191; Louis Houck, A History of Missouri From the Earliest Explorations and Settlements Until the Admission of the State Into the Union (3 vols.; Chicago: R.R. Donnelley and Sons Company, 1908), I, 273-275.


4Houck, A History of Missouri From the Earliest Explorations, I, 237, 277-282.


7For a discussion of this aspect of Missouri's landscape, see above, Chapter III, pp. 78-82.

8Similarly, the fact that the myth of the American cowboy is stronger than that of the cattleman might relate in part to the cowboy's supposedly lacking capitalistic motives, in contrast to the cattleman. Thus, in the myth, the cowboy, like the yeoman farmer, could claim a sense of freedom in not being tied to capitalistic motives.


10Kansas City Southern Railway, "Summer Outings in the Ozark Mountain Region," in The Ozark Mountain Region of Missouri and Arkansas as It Appears Along the Line of the Kansas City Southern Railway (Kansas City: R.M. Rigby Printing Company, n.d.), p. 10. Also, see below,
Chapter V, pp. 132-134, for comments on the inviting aspects of Ozark scenery.


14 Ibid., p. 95.

15 Ibid., p. 97.

16 Ibid., p. 102. Schoolcraft no doubt had reference here to an actual historical event, the New Madrid earthquake which occurred intermittently during the winter of 1811 and 1812. Of course he used poetic license in attributing the cause of the earthquake to the boisterous meeting of the metals.


18 Schoolcraft, Journal of a Tour, p. 4. See also above, Chapter II, pp. 36-38.

19 O'Hanlon, Life and Scenery in Missouri, p. 236.

20 Ibid., pp. 232, 237.

21 Ibid., p. 234.

22 Arthur B. Cozzens, "The Iron Industry in Missouri," Missouri Historical Review, XXXV (July, 1941), 513-537; ibid., XXXVI (October, 1941), 56-57. James Norris discusses the iron producers' desire for controlling the cutting of timber in their own local areas. See Norris, Frontier Iron, pp. 43-47.


24 Ibid., pp. 103-106.


30 Ibid.

31 Ibid.


34. Gibson, "Lead Mining in Southwest Missouri After 1865," p. 327.


40. Inaugural Address of Governor B. Gratz Brown, January 9, 1871, in Shoemaker, et al., Messages and Proclamations, V, 22; Swallow, "Physical Geography," p. 773; Dedication Day Address of President Daniel Read of the University of Missouri at the opening ceremonies of the Missouri School of Mines, November 23, 1871, in Board of Curators, University of Missouri, Report by the Curators to the Governor, Year Ending June, 1872 (St. Louis, 1873), p. 129.

41. The State Board of Immigration, The Agricultural, Manufacturing, Commercial and Geographical Center of the Mississippi Valley; Missouri The Imperial State, Its Wealth and Resources (n.p., n.n., 1880), pp. 27-29.

CHAPTER V


3 John Canon O'Hanlon, Life and Scenery in Missouri; Reminiscences of a Missionary Priest (Dublin: James Duffy and Co., Ltd., 1890), p. 152.


6 Ibid., p. 4.


8 O'Hanlon, Life and Scenery in Missouri, pp. 153-155.


10 Ibid., XVI (July, 1922), 541.

11 Ibid., p. 548.


16 O'Hanlon, Life and Scenery in Missouri, pp. 239-240.

17 Forest and Stream, III (September 17, 1874), 36-37.

18 H.E. Jones, "A Camp Hunt in Missouri," ibid., XXVI (February 4, 1886), 25.

19 Ibid., III (December 31, 1874), 331-332; Missouri Pacific, Statistics and Information Concerning the State of Missouri, pp. 6, 68-69.


23 Ellis, Missouri: Our Game, Fish, Song Birds and Forestry, no pagination.


25 O'Hanlon, Life and Scenery in Missouri, p. 239.


27 Kansas City Southern Railway, Kansas City Southern Ozarks (Kansas City: Schooley Printers, 1924), no pagination.


29 Kansas City Southern Railway, Kansas City Southern Ozarks, no pagination.


Throughout the remainder of his book, however, his primary concern is with original natural wilderness.

34 Second Annual Report of the State Game and Fish Commission, p. 23.


36 Jefferson City Daily Tribune, June 16, 1887, p. 4.


38 Gillmore, Accessible Field Sports, p. 312; J.E. Guinotte (ed.), Twenty Years of Trap Shooting in Missouri; A History of the Missouri State Game and Fish Protective Association (Kansas City: Lawton and Burnap, 1898), pp. 306-307.


40 W.W. Ellis, Missouri: Our Game, Fish, Song Birds and Forestry, no pagination; Frisco Lines, Summertime in the Eastern Ozarks, p. 2.

CHAPTER VI


Pinchot, Fight for Conservation, pp. 42-43.

Ibid., p. 48; Herfindahl, "What is Conservation?," pp. 229-236.

See above, Chapter II, for a discussion of the interest in developing Missouri and its resources during the nineteenth century.


Ibid., pp. 44-45, 48-49; Schoolcraft, View of the Lead Mines, pp. 53, 131; Moses Austin to Josiah Meigs, October 7, 1816, ASP:PL, III, 612.
10 Schoolcraft, View of the Lead Mines, p. 23.


13 Schoolcraft, View of the Lead Mines, p. 115. (Italics in original.)

14 Moses Austin to Josiah Meigs, October 7, 1816, ASP:PL, III, 612.

15 Lieutenant Martin Thomas to Colonel George Bomford, January, 1826, ASP:PL, IV, 378.

16 Robert W. Swenson, in his chapter on legal aspects of mineral-resource development, in Paul W. Gates, History of Public Land Law Development (Washington: Public Land Law Review Commission, 1968), pp. 706-707, notes that the opening of Missouri's mineral lands to fee ownership was an exception to the government's leasing policy which prevailed from 1785 to 1846. In 1846, the government changed its policy regarding mineral lands, and opened other areas to private ownership such as had been done earlier in Missouri. See also Daniel Di Piazza, "A History of Federal Policy Toward the Public Mineral Lands" (unpublished Master's thesis, Dept. of History, University of Missouri-Columbia, 1957), pp. 53-62.


18 Ibid., pp. 48-49.

19 James D. Norris, in his work, Frontier Iron; The Meramec Iron Works, 1826-1876 (Madison: State Historical Society of Wisconsin, 1964), pp. 4, 13, 22-25, discusses the problems and expense of establishing the Meramec Iron Works, near Meramec Springs, in the late 1820's. Norris concludes that the iron industry on the frontier "quickly lost its pioneer characteristics and, because of the considerable capital required, achieved remarkable stability." See also ibid., pp. 13, 22-25.

20 See above, Chapter II, p. 44, for discussion of the Geological Survey as a means of promoting Missouri.


24 Schoolcraft, View of the Lead Mines, p. 92. See also Schoolcraft's similar concerns expressed in ibid., pp. 131-132.

25 Featherstonhaugh, Geological Report, p. 82.


28 Frank F. Stephens, A History of the University of Missouri (Columbia: University of Missouri Press, 1962), pp. 175, 210-211.

29 Ibid., pp. 211-212, 238, 279-280; Frederick B. Mumford, History of the Missouri College of Agriculture (Columbia: University of Missouri College of Agriculture, Agricultural Experiment Station, 1944), pp. 18-23.

30 Schoolcraft, View of the Lead Mines, p. 23.

31 Henry King, "The School of Mines," The Western Journal, IV (January, 1850), 228.

32 Ibid., pp. 228-229.
33 Report of President Read to the Board of Curators, Journal of the House and Senate of Missouri, Appendix, Adjourned Session, 24th General Assembly (Jefferson City, 1867), p. 269.

34 Dedication Day address of President Daniel Read of the University of Missouri at the opening ceremonies of the Missouri School of Mines, November 23, 1871, in Board of Curators, University of Missouri, Report by the Curators to the Governor, Year Ending June, 1872 (St. Louis, 1873), p. 129. The early history of the mining school is given in Clarence N. Roberts, History of the University of Missouri School of Mines and Metallurgy, 1871-1946 (Rolla: n.n., 1946), pp. 9-42.


36 First Annual Report of the Missouri State Board of Agriculture (Jefferson City, 1865), p. 11. (Italics in original.)

37 Ibid., p. 17.

38 James E. Collier, in his "Geography of the Northern Ozark Border Region in Missouri," The University of Missouri Studies, XXVI, No. 1 (1953), 49, notes that "By 1850, settlement of low density had extended over the entire state, except the southeastern Ozark area ... ." He further indicates that, by 1860, areas having a population under two persons per square mile were largely limited to this same southeastern Ozark location.

39 First Annual Report of the Missouri State Board of Agriculture, p. 11.

40 Third Annual Report of the Missouri State Board of Agriculture (Jefferson City, 1867), p. 34.


42 Third Annual Report of the Missouri State Board of Agriculture, p. 207. (Italics in original.)

Third Annual Report of the Missouri State Board of Agriculture, p. 207.

See above, Chapter V, for a discussion of the development of field sports and tourism in Missouri.


Forest and Stream, XXXIV (March 20, 1890), p. 169.

Ibid., XX (May 3, 1883), 270.


Jefferson City Daily Tribune, July 31, 1895, p. 2; Forest and Stream, XXXI (November 22, 1888), 343; ibid., XXXI (November 15, 1888), 325.

55 Forest and Stream, XXXIX (October 6, 1892), 294.


57 Jefferson City Daily Tribune, July 31, 1895, p. 2; Forest and Stream, XXXV (October 30, 1890), 290; ibid., XXXVII (September 3, 1881), 126.

58 Forest and Stream, XXXVII (October 22, 1891), 269.

59 Ibid., XXXI (November 15, 1888), 325.

60 Callison, Man and Wildlife in Missouri, pp. 2-7; McKinley, "Chronology and Bibliography," pp. 22-37. The exact names of these offices changed occasionally during the late nineteenth and early twentieth centuries.


Aldo Leopold, "Whither Missouri?," The Missouri Conservationist, I (July, 1938), 6; Callison, Man and Wildlife in Missouri, pp. 82-93.


First Report of the Fish Commission of the State of Missouri, p. 20.


Second Annual Report of the State Game and Fish Commission, p. 27; "Missouri," in Ellis, Missouri: Our Game, Fish, Song Birds and Forestry, no pagination; "The Evolution of Game Protection," ibid., no pagination.
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ABSTRACT

The literature concerning Missouri's natural resources expressed both a desire for exact, scientific knowledge of the resources and an urge to portray Missouri in an exaggerated imagery of richness and abundance. Lacking sufficient, detailed information, public knowledge of Missouri's resources remained vague and generalized during much of the nineteenth century. Prospective immigrants who relied on published descriptions of the state could find little more than general geographical outlines. As promotion of the state increased through the nineteenth century, expansive rhetoric became the chief means by which promoters sought to capture the imagination of prospective immigrants or investors. The exaggerated rhetoric continued while Missouri slowly developed talent and facilities for acquiring more accurate knowledge of the resources.

State-sponsored efforts to develop and promote Missouri's natural resources began in earnest with the internal-improvements drive of the 1830's, 40's, and 50's.
Through internal improvements state leaders hoped to open new areas and develop the resources, thereby helping to increase the state's population and wealth. Efforts of the State Board of Immigration after the Civil War also focused on the need to develop resources which otherwise lay useless and wasted for Missouri's current needs and purposes. Interested in sheer population growth, the Board also viewed the peopling of Missouri as a means of achieving needed development of the resources.

The promotional literature stressed progress as the natural order of events and associated progress and natural abundance with an aggressive and utilitarian god who strongly approved of the white man's development and use of Missouri's resources. Missouri was portrayed as a rich, pastoral utopia, a place providing physical and psychological security and comfort in idyllic, rustic settings. The state's mineral deposits helped round out the picture of abundance, and aided progress through the development of local industry.

Following the Civil War, Missourians became increasingly aware of the newly developing commercial value of fish, game, and natural scenery--resources which formed a basis for the state's tourist industry. The literature promoting field sports and vacationing in Missouri depicted nature as providing a respite from
work, yet creating a boon to progress and improvement through its having beneficial effects on persons. The literature also suggested possible means of re-enacting the romanticized frontier experience through a return to nature and to camp life.

Throughout the nineteenth century the main concern for Missouri's natural resources involved rapid and usually indiscriminate development and use. Yet some individuals, particularly scientifically trained persons, evidenced an awareness of the problems arising from misuse of resources. Such individuals had the desire, if not the power and authority, to avoid wasteful methods and to bring about more efficient, scientific development and use of Missouri's resources. Concerns for efficiency, prevention of waste, scientific methods, wise use, and the public good in the use of natural resources were expressed throughout the nineteenth century. Although designed to serve in an advisory capacity only, and thus having no actual authority over the production of resources, institutions such as the State Geological Survey, the State Board of Agriculture, and the state schools of mining and agriculture were founded in part to promote the use of natural resources on a more knowledgeable and efficient, as well as profitable, basis. Established in the third quarter of the nineteenth
century, these institutions provided a basis for the accumulation and application of scientific knowledge in the continued development of natural resources in Missouri.
VITA

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