

Last Sunday, after service at the Tabernacle, Brigham Young sent for us to the raised dais on which he and the dignitaries had been seated, to see a private meeting of the bishops, and to hear what kind of work these reverend fathers had met to do. . . . The old men gathered in a ring; and Edward Hunter, their presiding bishop, questioned each and all, as to the work going on in his ward, the building, painting, draining, gardening; also as to what this man needed, and that man needed, in the way of help. An emigrant train had just come in, and the bishops had to put six hundred persons in the way of growing their cabbages and building their homes. One bishop said he could take five bricklayers, another two carpenters, a third a tinman, a fourth seven or eight farm-servants, and so on through the whole bench. In a few minutes I saw that two hundred of these poor emigrants had been placed in the way of earning their daily bread.⁴⁸

Once these families were situated in a ward, it was the bishop's responsibility to see that they were taken care of, and in this respect church leaders constantly stressed the importance of providing employment rather than handouts:

Bishops, we have a word of counsel to you. You are the fathers of the poor, and stewards in Israel. . . . True charity to a poor family or person consists in placing them in a situation in which they can support themselves. In this country there is no person possessing an ordinary degree of health and strength, but can earn a support for himself and family. But many of our brethren have been raised at some particular trade or employment in the old country, and have not tact and ingenuity to turn their hand to anything, which forms a strong feature in American character. It therefore becomes our duty to teach them how to live. They are generally good citizens of industrious habits, and with a little teaching will soon be able to support themselves. We desire bishops to give them employment which they can perform, and exercise a little patience in instructing them; and it will soon be found that they will no longer prove a burden upon the public funds.⁴⁹

Eventually most of these immigrants found land or labor in one of the many villages in the territory, or, as happened in many cases, they were called, individually or collectively, to colonize a new area or strengthen a growing settlement. A careful record was made of their occupations and an attempt was made to utilize their skill to advantage in the economic life of the region.

THE ORGANIZATION OF PUBLIC WORKS

The transformation of a Welsh coal miner into a seasoned desert colonizer required some intermediate period of adjustment and training. Moreover, the building of the Kingdom required the construction of buildings and the establishment of enterprises which individuals or private sectors of the economy could not be depended upon to provide. Church public works

thus served the dual purpose of building the Kingdom and of providing gainful employment to the newly arrived immigrants while they were becoming adjusted to the problems of the frontier.

The first permanent organization for the construction of public works in the Great Basin was established January 26, 1850 when the Office of the Superintendent of Public Works was created. Daniel H. Wells, a leading military and civic figure, was appointed superintendent and served until the office was transferred to the Presiding Bishop in 1870. The office was a church appointment and Superintendent Wells was considered to be one of the "general authorities" of the church. A church architect was also appointed. Under orders from Brigham Young and the Council of Twelve, the architect drew up lists of materials and labor needed in the construction of various works, and the superintendent saw to it that such materials and labor were donated as tithing, purchased on the local market, or imported from the East.⁵⁰ Most of the labor was recruited by the superintendent from the various wards in the Salt Lake Valley. The procedure is illustrated by the following announcement, dated September 28, 1850, issued from the Office of the Superintendent of Public Works and published in the *Deseret News* of that date:

The bishops are requested to come with the brethren of the respective wards, to work on the public works the coming week as follows: Bishop C. Williams of the 3rd; J. Reese of the 4th, and Wm. N. Nickenlooper of the 6th Ward on Monday. — Bishop S. Taft of the 9th and A. F. Farr of the 17th on Tuesday. — Bishop D. Pettigrew of the 10th and J. Lytle of the 11th on Wednesday. — Bishop B. Covey of the 12th on Thursday. — Bishop T. Lewis of the 13th Ward on Friday, and Bishop J. Murdock of the 14th on Saturday.

— D. H. Wells, Superintendent

Although he often paid with nothing but "tithing credit," the superintendent became the largest employer of labor and the most important purchasing agent in the territory. At the peak, he probably employed as many as two thousand workmen and expended up to a quarter of a million dollars a year in cash, labor, and commodities. From 200 to 500 men were employed on the average on these works in the 1850's.

With the establishment of the Public Works Department in 1850, the various mechanics and tradesmen in the Salt Lake Valley were "classified" according to skills and preparations were made for each to render tithing labor in the field of his specialization. Full-time foremen were appointed to supervise the work of carpenters, joiners, masons, and the "tithing hands." Carpenters and joiners were initially paid or credited with \$2.00 per day, masons drew \$2.50 per day, and blacksmiths were hired at salaries ranging from \$2.50 to \$3.00.⁵¹ Headquarters for the various types of work were established on the northeast corner of Temple Block. These included

a carpenter shop, paint shop, stone-cutting shop, and blacksmith shop. A lime kiln was built at the entrance to one of the canyons near Salt Lake City, and a public adobe yard was located not far away from Temple Square. These shops functioned not only in connection with public works but also did a sizeable private business as well, for which full-time employees were hired. Carpenters, for example, built a number of homes for church officials, missionaries, and others.⁵² The stone shop cut millstones for gristmills, and the blacksmith shop, in addition to providing tools and materials for public works projects, shod horses, cast wheels, and fashioned many types of machinery and equipment.

As the public works department became larger, and as its activities became more complex and involved, three additional shops were established which constituted the first light industry in the region. These were the machine shop (1852-1864), the foundry (1854-1864), and the nail factory (1859-1865). The machine shop, which included machinery for wood and metal work, was established in the winter of 1852-1853. The machinery was powered by a large water wheel made possible by running a channel from City Creek down the north side of North Temple Street. This shop was operated partly for the benefit of public works projects and partly as a service to the community and church-at-large. In the former capacity it manufactured, repaired, and sharpened tools of many types, and manufactured wheels, cranks, flanges, locks, and other equipment useful in construction. In the latter capacity the shop made a fire engine, a carding machine, threshing machines, and two large lifeboats for the use of the church president. The cutlery manufactured at the shop, which attained wide popularity among Mormon officials, included Congress knives, swords, saws, currier's tools, and pruning hooks.

The foundry was erected adjoining the blacksmith shop in 1854. In this shop were cast iron, brass, copper and lead materials in many patterns, including such useful items as cog wheels, cranks, mill gearing, water wheels, trip hammers, and anvils.

The expensiveness of nails, due to the length and difficulty of haul by ox-team from St. Louis, hampered Mormon construction activities until the coming of the railroad in 1869. Church leaders continually experimented with construction materials and devices which would economize in the use of nails. Some buildings, as for instance the famous Mormon Tabernacle which still stands, were tied together with rawhide thongs and required few or no nails. The widespread use of rocks and adobe cut down the use of nails as well as of timber. As early as 1850, a mission was dispatched to Iron Mountain, in southern Utah, to develop an iron industry which would make possible homemade nails. While this Mission was struggling to produce home-mined iron, one of its skilled members produced

nails from wagon tires and other iron articles which had been transported into the Great Basin. A quantity of these cut nails were sent to Salt Lake City in 1851, and again in 1855, but the quantity which could thus be fashioned was severely limited.⁵³ When federal troops occupied Utah during the years 1857-1861, iron supplies once more became abundant, causing Brigham Young, as trustee-in-trust of the church, to order machinery for manufacturing nails and screws.⁵⁴ The machinery arrived in Salt Lake City with the first Church Train in 1859, and was installed in a factory constructed on Big Canyon Creek. By April 1861, public works employees were turning out nails by the ton.⁵⁵ The supply of iron left by the army was exhausted by 1865, however, and the "Old Nail Factory" closed down.

The establishment of the so-called "Temple Block Public Works" in 1850 represented the first employment of a group of skilled mechanics in the construction of permanent buildings and improvements for the use and benefit of the community. It also provided the first organization prepared to provide labor for any person not otherwise engaged. For immigrants, it could provide the start in life — the buffer — which would assure food and clothing, when gainful employment might be unobtainable in the private sector of the economy. It was also a means by which the community would benefit from the skill of immigrant mechanics and artists which might otherwise have been lost or wasted for lack of such a bureau.

Among the earliest construction projects to which public works specialists devoted their time were: the Council House, a \$45,000 two-story sandstone structure, completed in 1855, which was used by church, city, county, and territorial officials until its destruction by fire in 1883; the Old Tabernacle, a large adobe meetinghouse built in 1851-1852; a two-story adobe Social Hall, built in 1852; a two-story adobe Endowment House, erected in 1855 for use in performing sacred ordinances; a Bath House and connecting fixtures, completed in 1850 on the site now occupied by the municipally operated Wasatch Springs; a Tithing Store and Storehouse, built in 1850-1852, which contained the offices of the Presiding Bishops and rooms and facilities for the reception and disbursement of tithing; and a store for Livingston and Kinkead, the first mercantile building in the territory. The public works also built in the 1850's an arsenal, a wall around part of the lands allocated to the University of Deseret (now University of Utah), a wall around Temple Block, an official residence for Brigham Young, a church office building, a few private residences for church officials, and schoolhouses in some of the wards.

The public works department also commenced construction of the mammoth Salt Lake Temple in the 1850's. As it was originally contemplated to build the structure of red sandstone from buttes several miles east of Salt Lake City, the public works commenced to build a wooden railway to run

from Red Butte Canyon to the Temple Block. The road was graded and most of the timber and rails were secured, but a decision was made in 1855 to build the temple of granite from quarries in the Little Cottonwood Canyon twenty miles southeast of Salt Lake City.⁵⁶ Using tithing labor, the public works devoted two years to building a canal from a point near the canyon to the Temple Block. This canal was intended to augment the supply of water for irrigation and for the operation of mills, as well as for boating granite rocks to the temple. The canal proved to be impractical as a means of transportation, however, and was largely abandoned as the wooden railroad had been before it.⁵⁷

Partly to furnish labor during the winter for incoming immigrants, and partly to furnish a "good example" to other communities near the Indians, the public works undertook to build a wall around Salt Lake City in 1853-1854. Twelve feet high, six feet thick on the bottom, and two and a half feet thick on a rounded top, this wall was built of mud, mixed with straw or hay and gravel. Less than half the twenty-mile wall was completed when construction was dropped, but it did serve "to keep the English and Danes at work." An estimated \$34,000 was spent on the project.⁵⁸

PROGRAMS OF INDUSTRIAL DEVELOPMENT

In harmony with its immigration and public works program the church began a systematic campaign of industrial development in 1851-1852. Many sermons were delivered on the subject in church meetings; a series of editorials were published in the *Deseret News*; individuals were called to establish various kinds of home industries; "epistles" were directed to European members to bring designs and tools; and the legislature made appropriations and gave other kinds of encouragement to the "home industry" program.⁵⁹

The reasons given for inaugurating the program were both theologic and economic. Theological arguments stressed the revelation to Joseph Smith that the Latter-day Saints should wear only the garments of their own make, and the belief of the Mormons that "Babylon" would become involved in wars, strifes, and contentions, and thus prove to be undependable as a source of supply. Material independence, in short, was divinely ordained. Economic arguments stressed the abundance of skilled artisans in Zion, the necessity of providing employment for the large anticipated immigration, the huge cost of importing items from the East, and the desirability of "keeping money at home." Governor Brigham Young emphasized these arguments in a strongly worded message to the legislative assembly in January 1852, in which he said: