

DIAGRAM SHOWING A TYPICAL JERK LINE TEAM.

—Joe de Young

THE JERK LINE TEAM FREIGHTING IN CALIFORNIA



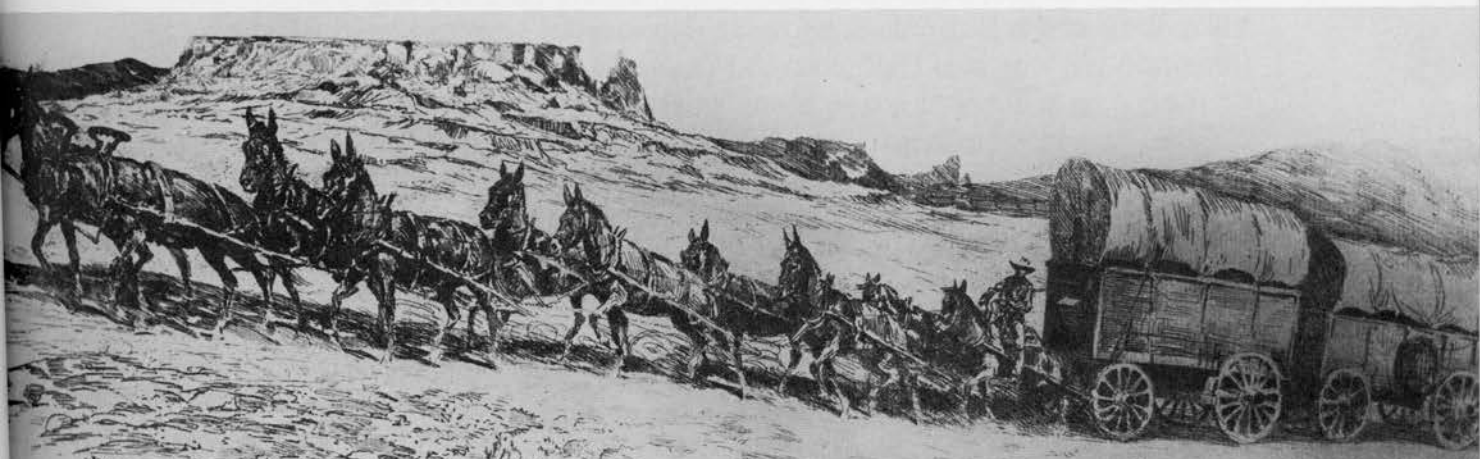
AND THE WEST

by Irving Wills, M.D.

AS WE SPEED ALONG OUR SUPER HIGHWAYS, we seldom contemplate, and little realize, the import of those smoke-belching, diesel-powered giants of the highway, the trucks with their trailers which follow us or block our way. True, if caught behind one of these on a two lane road or a long grade, we may react with annoyance, frustration, or even fist-shaking violence, accompanied by language not usually printable. Moreover, we scarcely glance at the long freight train with its piggy-back trailer cars as we glide swiftly along parallel to a rail line.

But it is on these modern beasts of burden that our very life depends. We demand that someone deliver to us the car we drive and the fuel with which to operate it; the choice foods for our table from all over America and the world, for that matter; household appliances; the materials of which our houses are built; the heavy machinery which furnishes us with light, heat and water supply; indeed, everything which our modern living demands.

In the pastoral days of the West Coast under the old Spanish and Mexican regimes, the ranch with its far-flung acres and the little pueblo with its simple trading center were fairly self-sufficient. Travel was largely on horseback and such trade goods as appeared at the few widely scattered sea ports were transported by pack train or the creaking, wooden-wheeled carreta pulled by a pair of somnolent oxen. The few roads were little more than dusty trails by summer with mud hub-deep in winter.



"The Jerk Line"

Edward Borein

The Jerk Line Team

The coming of the Americans from the Midwest and the East to the West brought an almost revolutionary change. Long distance freighting over rough terrain had already spawned a race of men peculiarly suited to the job at hand. In the 1830s and thereafter, trade began to be established in a small way between America, as represented by St. Louis and Kansas City, and Mexico, whose northern centers of culture were Taos and Santa Fe. The famed old Santa Fe Trail used by trappers and pack outfits was opened up to trade of a sort by such stalwarts as Ceran St. Vrain and Charles and William Bent. As the demand for goods increased, a primitive road replaced the simple trail and the wagon supplanted the pack animal. This was a tremendous forward step. It not only did away with the repeated daily packing and unpacking of the animal but increased enormously the "carrying capacity" per animal, since a horse or mule can pull from five to ten times the weight he can carry on his back.

In the beginning, Bent, St. Vrain & Company used mules along with a few horses on their wagons. However, they found after a year or two that these animals were too great an attraction to the Indians, through whose country they must pass. Therefore, they switched to oxen as their motive power, with a spectacular reduction in the number of Indian attacks. The ox was, of course, slower and possessed another disadvantage; since he, with the heavy yoke, could pull only with his head down, he had difficulty crossing streams where the water was too deep for fording. One of his advantages, however, was that he represented food "on the hoof" if the train were delayed over-long in that at times foodless wilderness.

Perhaps the most spectacular and rapid departure from the mañana ways of the Californios followed on the heels of the gold rush. While the pack train and the "bull team" continued, however inadequately, to serve the relatively inaccessible mountain areas, the sudden, enormously increased demand for distribution of goods had to be met by something far more efficient. The slow bull teams which had pulled, so patiently, covered wagons across prairie and mountain gave way to the horse and the mule. The two, four, and six horse teams got on quite well in the more or less level country of the Midwest and the less rugged mountains of the East. They could be handled by the driver with two hands full of reins or checks. However, they were simply incapable of coping with the heavy loads and negotiating the steep grades of the western mountain country. It was from this chain of circumstances that the phenomenon of heavy transportation which we know as the jerk line team came into full flower in the West.

The narrow, steep, twisting roads were literally carved out of the mountain-

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sides by hand, using pick and shovel together with the simple, primitive road-making tools such as the plow, the drag and the scraper. These were, in effect, one-way streets, but since they had to be used in both directions, occasional wider sections or "turn-outs" were provided in order that teams might pass. The limited width of these "highways" made it impossible to bunch the animals four or more abreast, so that twelve, fourteen, sixteen, twenty or even thirty animals to the team were strung out two abreast with the distance between the teamster and the lead animals so great that the use of reins or checks was a physical impossibility. And to meet this problem, the long jerk line, "the string team," the long line team—call it what you will—came into use.

The exact origin of this method of guiding animals is somewhat obscure. It is quite probable that it was brought over to America from Europe, since the method is known to have been used in pre-revolutionary times and was in fairly general use on the famous National Pike in the early part of the Nineteenth Century—the so-called Golden Age of freighting in the East. Of course, at that time, the number of animals used was much smaller, usually not more than six or eight. Earle R. Forrest, in a most interesting and illuminating article, has immortalized the freighting days of the early Nineteenth Century on the National Pike. Those were the days of the famous Conestoga wagon. In a well-written and carefully researched account which he wrote for the sesquicentennial edition of the *Washington (Pennsylvania) Reporter* in August, 1958, Forrest emphasizes the point that the teamster of that day drove his team with a single line. Many of the earlier teamsters walked close to the near-wheeler of their teams, controlling them with jerk line, voice and whip. Somewhat later, the drivers sat on a "lazy board"—a loose board which was pulled out from the front of the wagon bed. A bit later, the teamster rode the near or left-wheeler. Some drivers rode on the seat of the wagon. This would, at first blush, seem to be the normal place for them; and much later, when roads became well engineered, it was not unusual for the driver to occupy the wagon seat. However, on the primitive roads of an earlier day this was the most precarious, not to say dangerous, spot any teamster could occupy. The roads were frequently so rough that it was impossible to stay on the seat of the wagon. Monroe C. Griggs, in his account of teaming in the '80s tells of his experience: "I was coming down the Stevens grade and in some of the steepest places, the wagon would crowd the team with both wheels locked. The road was so rough it was almost impossible to stay on the seat of the wagon. One very rough jolt threw me off the seat. As I slipped, my foot came off the brake

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and the wagon almost fell on top of the horses before I got back and got the brake on again."

The jerk line was a single light rope, or line, which extended from the teamster all the way to the bridle of the near, or left, lead animal, where it was attached to the ring of the bridle bit. The line itself was usually a long piece of hard twist cotton rope or braided sash cord from a quarter to three-eighths of an inch in diameter which had been previously stretched and often given a coat of paint to increase its durability. This line ran along the left, or near side of the team, sometimes through a ring which was snapped into the left bit ring of each animal or along the top of the left hame. It was with this line that the teamster gave to the near leader the signals to turn right or left. The signals were accompanied by the command "Gee" or "Haw," indicating right and left, respectively. However, with the well-trained leader, these commands were usually unnecessary. It was imperative, of course, that the other lead animal move in unison with his partner to left, right, or straight away, and this was accomplished through the use of a "jockey stick." This was a slender, hardwood stick or slender iron pipe with a ring in each end, usually five feet long, one ring attached to the hame on the collar of the left-hand, or near leader, and the other to the bit ring of the off leader. In this way, the near leader automatically guided his partner in whichever direction he went.

When the teamster wished to make a turn to the left, he gave a steady pull on the jerk line and the leaders moved to the left. In order to reverse the direction, that is, make a right turn, the signal was a sharp "jerk" or series of jerks, on the line, sometimes accompanied by the command "Gee, Gee, Gee," and the leaders swung to the right.

To many, it may be easily understood why a leader would "Haw," that is, turn to the left when he received a pull on the left-hand side of the bit, but it may be difficult to understand how he knew he was to "Gee" when he received a jerk on the line. This was accomplished in the training of the leader by the use of the "Gee String."

This Gee String was a short leather thong attached between the right-hand side of the collar of the near leader and the right-hand bit ring. When a teamster jerked sharply on the line, naturally the animal threw his head to the left, but the moment he did so, he took up all the slack in the Gee String and received a severe jerk on the right-hand side of his mouth. His response, of course, was then to turn to the right. After a little patient training, he quickly learned that he could save himself considerable punishment to his mouth if, when he received a jerk, he did not throw his head to the left but simply turned to the right.

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During this training period, the command "Gee" always accompanied the jerk and for that matter, many teamsters continued to use this command even when working with a well-trained near leader. The command "Haw," although used by some teamsters for a left turn, was often omitted.

Lest anyone get the impression from the foregoing that a team was, or could be handled exclusively by the use of the line, or the two words "Gee" and "Haw" mentioned, something should be said about the use of the voice.

To start the team, the skinner might speak only to the near leader, "Yea, Babe!" and this animal, with her partner, by starting forward, automatically put the rest of the team in motion. All animals were taught the meaning of the word "whoa," as a part of their A.B.C.'s. True, there were times when they disregarded it but these were few and far between. I remember as a youngish man talking to my old friend Henry Tico as he was schooling a young cow horse for me and, perhaps showing a little disappointment regarding his progress, Henry said, "Weeell, maybe he don't know much yet, but he sure knows whoa!"

While the voice might have had secondary importance in the proper direction of any team which had been trained to the point of perfection, the teamster was not always fortunate enough to be in charge of this paragon, so that certain other aids were necessary in the handling of the average group of animals. Each animal in the team had his name, recognized and understood it, and had learned during his training period to respond to it so that when the driver gave his jerk line signal, accompanied by "Bill! Pete!" these two were immediately alerted and, if reasonably responsive, began at once to perform the particular duty which had been assigned to them.

The teamster possessed a vocabulary perhaps unsurpassed in any other of life's activities. He not only knew all of his animals' names but he had at his command a tremendous number of highly colored terms for each of them, most of these coming into the general category of cuss words. These words were so modified by descriptive adjectives, many of them relating to the origin of the particular animal, as to make the vocabulary most flavorful indeed. In fact, the simile, "cuss like a mule skinner," came into our language in this period and the teamster with a superior command and variety of these unbeautiful epithets was most certainly the object of envy to his confreres.

In 1875, Samuel June Barrows wrote: "The originality, picturesqueness, fluency, and irreverence of the teamster's exhortations to his mules under certain circumstances baffles all decent description. No one has a full appreciation of the ultimate power and genius of eloquence until he has heard a teamster

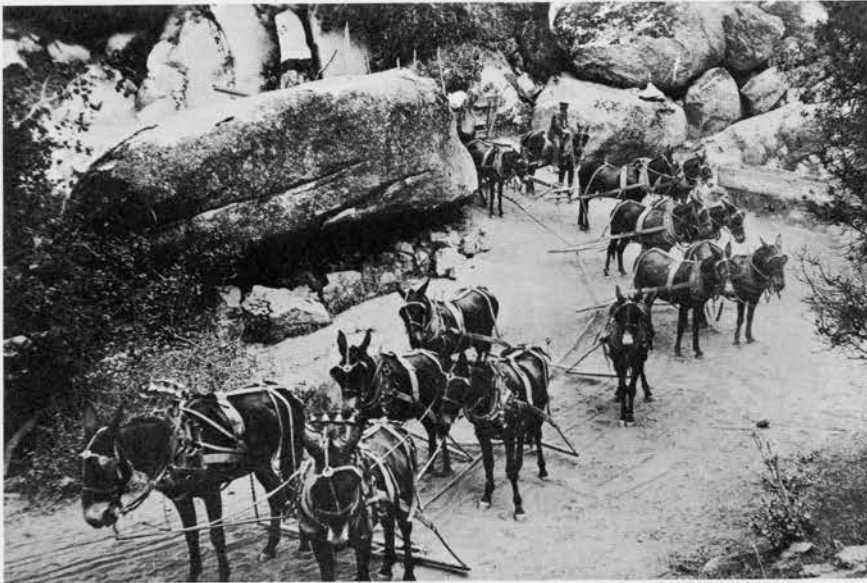
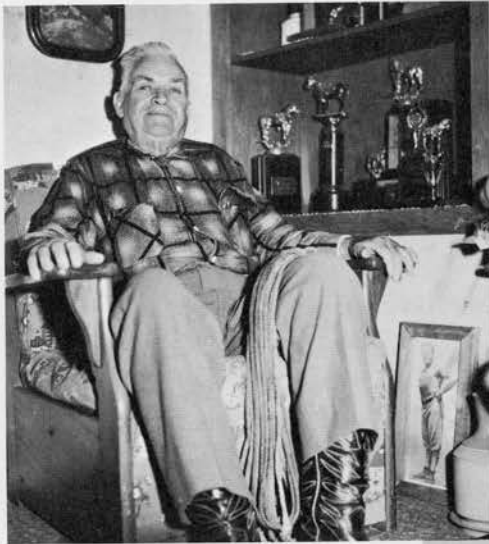


Fig. 2 A fourteen mule team on a turn. First, second, and third pointers across the chain. Courtesy of Henry Van Winkle



Fig. 3 A rare photograph of a team on a sharp downhill turn. Note the near pointer "single pointing" while his mate continues to follow the curve of the road with the rest of the team. The apparent nonchalance of the skinner shows his confidence in the schooling he has given his team.

This picture taken and loaned by H. T. Liliencrantz.



ED BERMINGHAM
 Draped over his knee is the jerkline
 he used for over thirty years.

Fig. 4



Fig. 5

Ed Bermingham's team at the Pioneer Day Celebration in Paso Robles, 1958. This team was the model for Ed Borein's etching of "The Jerk Line."
 Courtesy of Mrs. Robert Work



Fig. 15

A group of freighting teams, both jerkline and check or reined teams, at a "feed yard." This picture shows many different types of hitches, as well as different methods of driving. Note particularly the team in the left foreground, a team of five, with *three* leaders!
 Courtesy of Col. Charles B. Benton

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discourse from the nigh wheel mule. His profanity is generally vulgar, but in its spirit it is really more interjectional than blasphemous. The truth is, his curses are only a vulgar patois."

Whether or not the mule himself grasped all these subtle connotations is open to considerable speculation. Certainly his long, large, sensitive ears missed not a syllable whether it were a whisper or a shout, and he often demonstrated by the way he moved or carried them, that he was "reading" the message perfectly. And he seemed to have a type of wisdom which enabled him to interpret the seemingly uncomplimentary phrases his sensitive microphones picked up, winnow out the hidden love, respect, and appreciation of his master, and put forth his best efforts. So when mule skinner spoke, and mule understood "mule language," there developed a rapport impossible to explain to the uninitiated.

The most successful skimmers were inclined to pitch their voices low and refrained from shouting lest they excite their animals. Moreover, animals handled by one person worked best so that, where possible, one skimmer stayed with the same team.

There was another type of "persuader" which many drivers used, particularly in starting a team. This consisted of a bag of small stones which hung on the saddle. When the teamster was ready to put his team in motion, he would speak to them and then toss a small stone, which he was capable of doing with extreme accuracy, at the near leader. When this animal started up, not only his partner but the rest of the team followed. H. L. Davis, in a short story entitled "Team Bells Woke Me," tells of a teamster, Tamarack Jack, who was so skilled that he could hit as many as three animals with one rock. The beautiful etching by the late Edward Borein, which is reproduced herewith, shows a team at the moment of the start. From the position of the driver's right arm, he has just "thrown his rock," and the near leader, having gotten his "signal," has put his shoulders into the collar, and begun to dig in. The model for this picture was the original jerk line team of Ed and Al Bermingham of Paso Robles. The animals were what remained of their last regular working team, and since this etching was made some twenty-five years ago, all the mules have long since passed into their "mule heaven."

The lead team, or leaders, were in many respects the most important animals in the team. They had to be fast and eager enough to keep the chain tight without lugging too heavily on the bit. At the same time, they had to be quiet and levelheaded and not easily frightened. Most teamsters took great pride in having as leaders the handsomest and most intelligent animals they

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could find. Of course, since the left or "near" leader was the "line" mule, she was the one controlled by the jerk line, and hence really controlled the entire team. I have used the pronoun "she" because in the majority of teams, the *best* leaders were females, either mares or jennetts ("Jinny mules"). The misogynists among you might ponder over this.

Let us consider now the hook-up of a typical jerk line team of animals as shown in Figure 1. The first pair, as already indicated, are known as the leaders. The pairs behind them were designated somewhat differently by different teamsters or freighting outfits. Frequently they were known, beginning just behind the leaders, as "Fours," "Sixes," — "Pointers" and "Wheelers." Other teamsters spoke of the "Fours" and "Sixes" as "Swingers," and the next two pairs as "Second" and "First Pointers." At the wagon were, of course, the "Wheelers," and these animals were placed on either side of the tongue with the teamster usually riding the left or near "Wheeler."

Perhaps a more common designation of the pairs of animals in a jerk line team, was as follows: beginning at the wagon was the pair universally known as the "Wheelers," but also as the "Twos." Going forward, the next pair ("Pointers") would also be the "Fours." Then would come the "Sixes," "Eights," etc., up to the "Leaders." Additional designations such as First, Second and Third "Pointers," "Swingers," etc., were at the whim of the teamster or the custom of the locality.

The wheelers, in addition to being attached each to a single-tree and thence to a double-tree at the base or root of the tongue, were attached in front by the means of a breast chain to the front end of the tongue. This is in contradistinction to the neck-yoke mechanism with which many of you are familiar in the hook-up of the conventional two horse team. This breast chain was attached to the breast strap on the lower part of the collar of each of the two wheelers and was used to hold up the tongue of the wagon. Horses were frequently used as wheelers, not because they were smarter than mules, but because they were as a rule heavier and better able for this reason to handle the wagon tongue on quick turns, or particularly when it "whipped" in rough going. The movement of the tongue is discussed later.

Extending forward from the axle of the lead wagon up to the leaders is a long, heavy chain known as the "fifth chain." At intervals of nine and a half to ten feet along the fifth chain, there are cross bars or "stretchers," which are hooked to the fifth chain. The location of these stretchers provides the proper spacing of the animals.

These stretchers were made of hardwood or, more usually, a piece of iron



Fig. 6 A twelve mule hitch on the Wiggle Tail grade, San Benito County, in 1911. The road shown is hardly wider than the wagons, making passing impossible. Courtesy of Henry Van Winkle



Fig. 7 J. S. Tuley hung bells not only on his leaders, but on his first and second swingers also. Lompoc, Calif.
Courtesy of Judge Clark Guild



Fig. 8 A mixed team of eighteen, Paradise Valley, Nevada. Note lead wagon with four trail wagons. Courtesy of Col. Charles B. Benton

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pipe with the ends flattened and perforated. Linked into each end of a hook or clevis was a whiffle-tree or single-tree, into which the tugs from the harness of each animal were fastened. The stretchers were four feet long and the single-trees, three feet. There has developed a certain amount of confusion as to just what the term "stretchers" meant. To some, it referred to the "double-tree" just described; to others, the two short chains by which the double-tree was attached to the fifth chain; to still others, the combination of the two.

The pointers, the pair of animals immediately in front of the wheelers, were harnessed to a stretcher which was attached to the end of the tongue, and it was their duty to pull the tongue to left or right when a turn was made. When the team was proceeding straight away, the long fifth chain which pulled the wagons and to which all animals except the pointers and wheelers were hitched, lay between each pair of animals. If the team was pulling a light load or going down hill, this chain frequently dragged along the ground. On the other hand, with a heavy load or pulling up-grade, the chain was pulled taut and lifted above the ground to a height of a couple of feet or more.

It is easily seen that in negotiating a sharp turn, particularly on a mountain road, this chain would cut directly across the curve and if there were an obstruction, it would hang up on the inside of the curve. Or, there being no obstruction, it would pull the wagons off the road.

When one visualizes the mountain roads of that earlier day with their many hairpin turns and switchbacks, it is apparent why it was so important to have an extremely well-trained team combined with tremendous skill and judgment on the part of the teamster.

In order to keep the wagon in the middle of the road on a turn, it was necessary for the pointers to jump the chain and by pulling sidewise, that is, in a direction opposite or at perhaps a 45 degree angle to the leaders, keep it always in an arc, representing the center line of the road. Figure 2 shows how beautifully this maneuver is executed by a well-trained team and a skilled teamster. In this picture, the two wagons are almost completely hidden behind a huge boulder into which they could easily be jammed unless this maneuver were carried out with perfection.

I am indebted to my old friend the late Henry Van Winkle, of Santa Barbara, for this magnificent picture, which he snapped many years ago on Sonora Pass in the Sierra while on one of his many hiking trips there. Careful examination of the picture shows the teamster riding the near wheeler, the jerk line in his right hand, the brake rope attached to the brake lever, which can be seen against the white stone behind him, the leaders with the jockey

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stick between them and the jerk line passing forward to the bit ring of the near lead mule. Also shown are the "team bells" or "hame bells" about which something will be said later.

In this picture, the twelves, tens, and eights, or first, second and third pointers as they were sometimes designated, have jumped the chain and are holding it taut in order to keep the wagons in the center of the road as they make this difficult turn.

In a paragraph above, we considered the training of the leaders in the performance of their duties. Perhaps next to the leaders, the pointers are the most important pair of animals in the team. To them is assigned the duty of directing the tongue of the wagon (and its trailer or trailers) into its proper position; so that when a turn is to be negotiated, this pair must immediately jump the fifth chain and so steer the wagon as to keep it in its proper alignment.

The pointers in a well trained team could usually be counted on to jump the chain when they heard the command "Gee" from the teamster. The pairs in front of them, often designated as second or third pointers by some teamsters, might have to have some guidance or encouragement. This was usually furnished by the "swamper." Sometimes they "single-pointed," that is, one animal pulled at an angle to keep the chain in the middle of the road, while his mate stayed on his side of the chain. The teamster with the patience and desire for perfection often seen among people even in the more rugged walks of life, sometimes taught his "sixes" and "eights" to point or single-point on command, but this was most certainly the exception and something to watch for! (Figure 3.)

The technique going down-grade varied considerably from that used in the opposite direction. Taking a curve down-grade, only one of the pointers might need to be put out; otherwise the team would be pulling against the brakes. On the other hand, going up-grade with the pull of all of the animals ahead, it was necessary to put the "sixes," "eights," and sometimes even the "tens" over the chain.

Various means were used to train the pointers, depending upon the training skill and intelligence of the teamster, so perhaps it would be well to digress a moment and have a look at the teamster himself, and how he accomplished his job.

The end result at which all teamsters aimed was a perfectly performing group of animals: a team of ten, sixteen, twenty or more, each pair understanding its particular duty and each carrying it out with a minimum of effort, command, cajoling, cussing or punishment on the part of the man in charge.

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Some, indeed many, teamsters accomplished their purpose primarily through punishment, which often meant generous use of the "black snake," a vicious weapon in the hands of an impatient or unintelligent teamster. When he wished his animals to carry out some particular maneuver, it was rather characteristic that he would dismount and apply this long leather whip vigorously in order to move the animal into the position he desired. Many an old-time, unskilled teamster has been heard to remark, "The only way to handle a mule is to take a chain to him." From this cruel and unthinking method came the title, unfortunately applied to almost all jerk line drivers, the "Mule Skinner." I say unfortunate because many, and probably most, of the best teamsters found this method not only unnecessary but unproductive of the best effort on the part of their teams. My old friend the late Ed Bermingham (Figure 4), one of the most skilled jerk line drivers this country has known, who, up to eighty-two years of age, still drove his jerk line team proudly in the parade each year at the Pioneer Day Celebration in Paso Robles (Figure 5), never had much sympathy with this method.

As a boy, I recall one incident which suggests that at least one team had been trained with the chain. I met a large jerk line outfit while crossing the dry San Benito River near Hollister, California. There were sixteen mules hitched to two heavily loaded wagons, and right in the middle of the sandy stream bed the mules balked and refused to go on. I expected to get some choice additions to my growing vocabulary, but without saying a word, the teamster simply dismounted and unhooked a short butt chain from the double-tree and then proceeded to walk along the side of the team, jingling the chain in each mule's ears. When he had made the complete circuit, he hooked the chain in place, climbed back on the near wheeler and called, "Lige, Bluejay, git goin'!" The entire team dug in as one animal and hauled the heavy load out of the sand.

When Ed Bermingham and his brother Al, also a very accomplished trainer, were schooling their pointers, they rarely found it necessary to leave the saddle in teaching their pointers to jump the chain at the proper moment. Ed told me that he used to sit in his saddle on the wheeler, with a long, old-fashioned bamboo fish pole in his hand. As soon as he gave the signal to the leaders with the jerk line, to make a right or left turn, he called the pointers by name, perhaps "Matt," "June" and then poked them with the fish pole until they jumped to left or right. Given a nimble and reasonably intelligent pair of pointers and a little patience, aided by encouragement furnished by the fish pole, they soon got the idea, and before long, when the leaders made a right



Fig. 9

One of Jack Matney's twentys; a mixed team, 1908.
Courtesy of Gene Booth



Fig. 10

The famous Jack Matney team of twenty-four hauling a
twenty-ton boiler to the oil fields near McKittrick, 1911.
Courtesy of Gene Booth



Fig. 11

Three wheat teams near the park, Paso Robles, about 1904.
Courtesy of Gene Booth

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or left turn, the pointers automatically jumped into their proper position for the turn. Each animal quickly learned his place in the team and on which side of the fifth chain he was to work. After he had learned this, it was difficult to change his position in the team. To me, it was always a fascinating sight to watch a skinner harness his string of animals, turn them loose with a word, or slap on the rump, and see them walk to their places along the fifth chain and stand patiently waiting to be hooked up.

Quoting again from H. L. Davis's story, "Team Bells Woke Me," we read: "Frank Chambeau was the only example in the entire eastern Oregon freighting country of a man who babied his horses. Not merely to work them humanely and see that they got enough to eat; everybody did that, for the same reason that a carpenter takes care of his tools. Chambeau hugged and kissed his horses, carried ponies of bread to deal out to them every two miles, rubbed them down with expensive hair tonic, and bought silver harness studs, conchas, spreader rings, hame knobs, and even a full set of silver alloy team bells.

"An ordinary team, strung with this Siwash get-up, would have run away, out of self-consciousness. Chambeau's horses had no run in them. They were overfed, grizzle-headed old straw-bellies that couldn't be left standing unwatched for ten minutes for fear they would all go to sleep and fall down. Resting them at the foot of a grade, he would distribute bread and endearments all round, and then address the string of dozing, limp-lipped old plugs with a personal appeal. 'Now babies,' he would explain, 'Here's this hill and here is papa depending on you to pull it for him. You are going to do that for papa, ain't you?'"

The best teamsters were careful never to give their teams a load they couldn't move. Once an animal fails to pull a load, he seems either to lose confidence or just lies down on the job later when he gets an even lighter load. The wise and experienced skinner often "double teamed" if in a bad spot and had a partner following; or if alone, he unhooked his trail wagon and pulled the two sections out separately.

Ed Bermingham, at the age of twelve, drove his first jerk line team hitched to an old-time gang plow on the family ranch. In 1889, at age fifteen, he was the proud owner of his first team. His teams hauled hay into Los Angeles in 1899 and thereafter, and grain to Port Hueneme from the Russell ranch near Triunfo in Ventura County. For some years, he had headquarters in Fresno, for his activities took him over most of the San Joaquin Valley and up into the Sierra Nevada; and still later, into San Benito County, where his magnificent

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teams had to negotiate the narrow, treacherous Wiggle Tail grade to the New Idria quicksilver mines. (Figure 6.)

Although the motor truck came into the transportation picture a few years after the turn of the century, Ed continued to operate his teams until 1922, his activities during the later years being confined mostly to plowing the rich wheat lands in the neighborhood of Paso Robles.

It might be timely here to give some consideration to the type of animal best suited to moving the heavy burdens of goods which our rapidly developing western civilization demanded. In addition to the moving of supplies and heavy machinery needed early in the mining operations in the mountain areas of the Mother Lode and later the Comstock, there was in California and Oregon a rapidly expanding agriculture which quickly became a large-scale project not only in the tilling of the soil but in the transportation of the product. In addition, of course, supplies had to be brought in from the "outside." The "freight train" of that period was a far cry from the one with which most of us are familiar.

While the ox or "bull team," as it was often called, was usually able to start a bigger load per animal, it was extremely slow, its speed being from a mile to, at best, a mile and a half per hour, against two and a half or more miles per hour with a full load for a mule or horse team.

There was, and perhaps still remains, among some of the old-timers, a certain amount of difference of opinion as to the superiority of the mule over the horse, or vice versa. But in general, where there was heavy work to be done over difficult terrain and where feed was short, the mule was more often the favorite. However, on some of the large ranches, particularly in the central valleys of California, the heavy duties attendant upon tilling of the soil and harvesting of the crops were frequently delegated to the horse and, through careful breeding, a superior type of heavy draft animal was developed for this purpose.

The mule, of course, has always required a bit of "understanding." Perhaps this is due somewhat to his rather low position in the animal social scale. The mule is a hybrid resulting from a cross between the horse, usually on the dam's side, and the jack, a descendent of the wild ass. The female offspring of this union is almost invariably sterile so that continued production of this animal cannot result in a distinct breed. Since time immemorial, the ass seems to have been looked upon as a lowly object of ridicule, so that the mule, because of his origin, has found it difficult to live down some of his heritage.

Some will recall the occasion on which one of our members of Congress in

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a hot debate attacked his bachelor adversary with somewhat these words: "The esteemed representative from the State of _____ reminds me of the Missouri mule—no pride of ancestry nor hope of posterity."

Regardless of these, to some, important shortcomings, the mule has, through the generations, not only endeared himself to the many who understood him, but in many ways has proven his superiority as a beast of burden.

I asked Ed Bermingham what he thought of mules versus horses in a jerk line team, and while I can't quote him verbatim, what he had to say was something like this: "A mule is certainly as gentle as a horse and if you treat him right, he'll do more for you; and weight for weight, he'll usually pull more than a horse. It doesn't take as much feed or as good feed to keep him in shape. When you turn him out, all hot and sweaty after a day's work, instead of rolling over once or twice the way a horse does, he'll roll over and over until he cleans himself, and his hair is so nice and short, it is much less trouble to get him ready in the morning when you want to hitch him up. Also, when he comes in hot, he uses some common sense; and where a horse will drink almost all the water in sight, and founder himself, a mule will take just a little drink and then after he has cooled off, go back for more and never founder."

Although I am sure this is apocryphal, I remember an old mule driver with reference to the amount of feed a mule needs, saying enthusiastically, "Why, when feed is scarce, my mules will live on poison oak and ferns and still keep fat."

One amusing, and to some teamsters annoying, trait of the mule was his almost invariable habit of stopping on a turn, taking a good look around the corner and then, often without further urging, continuing on his way. If the team was pulling a heavy load up a steep grade, this halting sometimes made it difficult to again start the load. But the built-in "stop, look and listen" characteristic of the mule kept many a skinner out of trouble!

Harold Weight, speaking of mules, has this to say: "You hear of mules being born mean. I never saw a mean mule that couldn't be traced to abuse. I've never been kicked by a mule who knew me long enough to have confidence in me. I think a mule appreciates kindness more than any animal in the world and gets less of it. . . . Tex Ewell told us he had checked journals of pioneer expeditions and 'you'll find twenty dead horses along the road before one dead mule.' Mark Twain, in *Roughing It*, describes how, in difficult country, the horses on the stage coaches would be replaced with mules. A lot of the success the army had campaigning against the Apaches in the Southwest is credited to the endurance of the mule pack trains. Tom Moore, famous army pack-

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master with General Crook in those campaigns, held Tex's idea about them, as Charles F. Lummis quoted him: 'Mules? Pardner, I want you to know that God made mules a-purpose!'

Samuel June Barrows, a student at Harvard Divinity School, spending a summer vacation in 1875 as a free lance newspaper writer on the Northern Plains, wrote the following: "The mule is not the stupid animal he is represented to be. His powers of observation and memory are sometimes wonderful. Old teamsters say that a mule always knows a man who has fed him once. Take a train of two hundred and eighty army wagons all alike and when it gets into camp let the train be parked, and the mules unharnessed and driven off together a mile or two away from the train. When it is time to give them their corn, if the animals are herded back to the train, with a strange instinct every mule will go right to his own wagon. I have heard old teamsters say that a good mule is a great deal more teachable than a horse, more knowing, and more affectionate. But I know of no animal whose moral education is so much neglected. He is the victim of his associates. When thoroughly corrupted there is no wickedness to which he is not equal. His hypocrisy then greatly helps him to succeed. I have seen him when he looked the perfect picture of meekness and humility; when it seemed that even Moses himself must defer to him in these crowning virtues. Yet if Moses or any other patriarch had ventured to approach him without a tribute of corn, the mule would have kicked him into the remotest antiquity. I have seen him deceive even the wagon master himself, pretending he could not go a step farther, but the moment he was released from harness, bounding off as fresh and as lively as a colt.

"The depraved mule rejoices in his heart if he can make someone miserable. It is a trait for which in the West they have a specific term. They call it "pure cussedness." When a mule devotes his life to illustrating this idea, he finds a thousand opportunities and achieves a remarkable success."

Of course, an important factor in the choice of the type of animal for use in freighting teams was its availability. In the northwest country, and to some extent also in the southwest where there were many wild horses and where no attention had yet been given to the breeding of draft animals, many teamsters used wild stock. These animals were very plentiful and could be purchased for relatively little from the Indians in the region and, while they were distinctly inferior in quality, cheapness recommended them. A few teamsters of the Northwest, particularly the Oregon Country, combined their freighting activities with the breaking and training of teams which they sold at considerable profit to others in the business. A training freighter with a smart pair of leaders

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and a well-schooled pair of pointers might fill out his team with wild ones which had been brought in off the range, kept in a dark barn for a few days with little to eat, and hooked into a team without any previous training whatever. In a surprisingly short time, perhaps only one long haul, through the generous use of the black-snake, these animals learned what was expected of them. And while they might certainly never compete with the well-trained teams of mules so common in California, Arizona, and New Mexico country, they were rarely called upon to do so.

A word about the hame bells or team bells which the leaders wore. In the mountain country, they were an invariable part of the equipment of the old jerk line team. These little bells were made in Switzerland and were tuned in thirds so as to create a musical chime. The notes were usually C,E,G,C, which, of course, constitute a major chord. A steel bow, hammered out by a local blacksmith and made somewhat in the shape of a jew's harp, fitted into sockets on either hame. Mr. Gene Booth, a friend of many years, one of the first citizens of Paso Robles, has perhaps one of the largest and finest collections of these bells. I quote from a short article he wrote about them: "The bells were fastened on the hames of the leaders and served several purposes: first, they served the same purpose as the automobile horn does today. The constant ringing of the bells warned all smaller outfits that a big team was coming and allowed them to find a place to pass. Second, when a team became accustomed to the ringing of the bells, they worked, or rather pulled, together better. They would time their steps to the ringing of the bells. If the driver was asleep, as often happened, the leaders slowed down so that the whole team would slow down with the slower and softer ringing. Let the driver throw a rock at the leaders and, as they stepped up, the entire team would again follow the faster and louder ringing. Good drivers, next to their teams, prized their bells the highest and never gave them up except by the 'rule of the road' which was: if you found a team stuck and you hooked on with your team and helped him out, you were entitled to his bells and he had to let you take them. Many bells changed owners in this way, for in those days roads were not so good and a wagon wheel could easily drop in a hole deep enough to stick the team."

It can easily be seen from the above that when a teamster arrived in the next town minus his bells, he immediately lost face which he might be a long time regaining; hence the significance of the phrase, "I'll be there with bells on."

Different teamsters, of course, might give further reasons for belling their teams. Some claimed that the cadence helped the teamster to know what his team was doing when he had his eyes shut. Others, that the sound kept the

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driver from going to sleep. Still others, that they gave class and a bit of ceremony to the business of freighting. The use of team bells goes back to the earliest recorded accounts of freighting in the East.

Ed Bermingham's family still has the original set of bells which he used throughout his teaming career. Many people tried to buy these bells from Ed and some time ago, an enterprising gentleman attempted to trade him a new set for those which were almost worn out. There was no deal!

Ed told me recently, "I almost lost my bells years ago on the Wiggle Tail grade to New Idria. One wheel of the wagon went off the road on a turn and if I'd kept on going, the whole outfit would have piled up in the canyon. A fellow came along and offered to pull me out. But I was stout in those days and I could lift pret' near anything on my back; so, since my wagon was empty, I got down on my back underneath the rear axle and lifted the wagon back on the road with my feet and he didn't get my bells."

The number of these little bells attached to the bow varied somewhat according to the whim of the teamster or the designer. The number was usually four, and they hung down from the top arch of the bow, being securely bolted to it. Five, six or even eight bells on each bow were not uncommon; two or more occasionally being placed on the outside of the bow. Perhaps pride on the part of the teamster played some part in the arrangement and number of bells used, since one occasionally encountered a team whose bells had been polished until they shone like gold in the sunlight. Now and then a teamster used them, as J. S. Tuley of Lompoc did, on the first three pairs of mules. (Figure 7.) And what a charming and friendly greeting came from these little bells to the traveller, in measured cadence, through the stillness on a lonely mountain road.

The wagons, as used in the western country, were of heavy construction, usually twenty feet long, with a bed sixteen feet long, four feet wide, and approximately four feet high, made of hard wood because of its strength and durability.

The number of wagons depended upon the weight and bulk of the load hauled and the number of animals in the team. While many outfits used just a lead and a trail wagon, it was not at all uncommon to hook two or even three trail wagons behind the lead vehicle. In Figure 8 there are *four* trail wagons. From the axle of the lead wagon, extending backward, there was a long, heavy steel rod to which a trail wagon was attached by means of a toggle.

Many, if not most, freighters purchased the running gear only and had their wagon-beds or boxes made to their specifications by a local blacksmith

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and wagon-maker. In this way, a wagon was obtained completely suited to the job at hand.

The wheel is, of course, the most important part of any vehicle and since its invention many centuries ago, it has undergone countless improvements and refinements. The wheels of the western freight wagon capable of carrying a load of many tons were masterpieces of the wheelwright's artisanship. The wood of which they were fashioned was seasoned for three or four years in order that it be thoroughly dry. Several varieties of wood were used: black or sour gum for the hubs, because its fibers ran in several directions and prevented it from splitting; hickory or oak for spokes and felloes. The spokes were hand-fitted into sockets, chiseled into the hubs and the fit had to be absolutely perfect. These sockets were not at right angles to the long axis of the hub, but were so placed as to produce a moderate amount of "dish" to the finished wheel. This dish not only gave a slight amount of spring to the wheel, but took up the side thrust and thereby prevented collapse of the wheel. The tires were of heavy steel from five-eighths to three quarters of an inch in thickness, the width varying somewhat depending on the type of terrain over which the wagons were to be used. In the desert country, for example in Death Valley, the tires were considerably wider than those used in the mountain country. These tires were put on hot and immediately cooled by sprinkling with water, causing them to "shrink" and thereby "squeeze" the various parts of the wheel into one fairly solid unit. The wheels of the famous Borax wagons used in Death Valley were, like the wagons themselves, perhaps the largest in the world. They were seven feet in diameter, with tires eight inches wide and one inch thick.

In the early days of freighting in the East, the few good roads were toll roads, and the toll collected depended on the width of the tires, since a wide tire cut up the road less severely than a narrow one. Earle R. Forrest recounts that the law in Pennsylvania in the early part of the Nineteenth Century provided that the toll for a wagon with two-inch tires was twelve cents at each gate of the road; for a tire two and a half to four inches, and not exceeding five inches, the toll was three cents. During the heyday of freighting on the National Pike, between 1820 and 1853, by far the finest wagons were made in Lancaster County, Pennsylvania. These were the famous Conestoga or Dutch wagons.

Perhaps the most famous of the later wagon-makers were the Studebakers. J. M. Studebaker, who headed the firm, learned his trade from his father, who had been a wagon-maker in Pennsylvania. J. M. crossed the plains to California in 1853 in a wagon of his own manufacture. Instead of seeking gold, he worked as a blacksmith in Hangtown (later Placerville), California, where he made

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wheelbarrows. After several years he returned to South Bend, Indiana, with his savings, some \$8000; and with his two brothers, Henry and Clem, founded the Studebaker Brothers Manufacturing Company, an organization which continues to this day. The Studebaker wagon became a standard and Studebaker's only serious competitor for many years was Bain of Wisconsin. The company later was to add the automobile and motor truck to its line of rolling stock.

Brakes were made of heavy wood blocks curved to fit the heavy steel tires of the wheels and on most wagons were on both the front and back of the wheel. These brakes were activated by a long brake lever at the front of the lead wagon to the top of which was attached a rope, handled by the teamster who rode the near or left-hand wheeler. A ratchet on the side of the wagon enabled the teamster to lock the brakes in position; but to keep from sliding the wheels, he often "pumped" his brakes instead of locking them. The swamper usually handled the brakes on the trail wagon.

Many freight wagons were equipped with large, wooden, somewhat wedge-shaped blocks attached under the bed of the wagon by a piece of chain, which dragged immediately behind the rear wheels. When a team was halted going uphill, the wagon could roll back a short distance when it encountered these blocks and so was prevented from rolling downhill. (A few years ago, some of our automobiles were equipped with a "hill hold," a refined version of this primitive device.)

As an additional aid in controlling the heavy freight wagons on a steep downgrade, steel skids or "shoes" were provided. These shoes were made of heavy steel in the form of a short ski; and in the turned-up toe of the ski there was an eye to which was fastened a short chain bolted to the bed of the wagon directly in front of the rear wheel. This shoe was a little wider than the tire of the wheel and on either side were a pair of guide bars which kept the skids in place. Just before starting down hill, the teamster placed these skids in front of each of the rear wheels of the lead and trail wagons and as the wagons rolled forward onto them, the rear end of each wagon became, in effect, a bob-sled. By this means, the skilled teamster safely controlled the tremendous inertia of a load of twenty to thirty tons down a steep mountainside.

Another primitive method of braking on a steep grade was known as the "roughlock." There were several versions of this device. A common method was to wrap a chain several times around the rims of the rear wheels, take a hitch around a spoke and then attach the long end of the chain to a hook on the wagon-bed. The length of the long end was adjusted in such a way as to bring the wraps just beneath the wheel where they could bite into the roadbed.

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There were times when even these methods of controlling a heavy outfit on a steep hill were inadequate, and on these occasions the teamster might cut down a sizable tree and chain it to the rear end of the trail wagon, using it as a drag. The tree not only acted as an additional brake, but tended to keep the wagons from skidding sideways, going off the road, and piling up in the canyon below, a much too frequent happening in the rough days of freighting. Few of us realize, as we buzz along at sixty or more miles an hour down the present Conejo grade toward Camarillo, that a few short years ago this was perhaps the most treacherous road in the southland, and accounted for the smashing up of quite a number of large freighting outfits with death to teamsters and animals. Indeed, many experienced teamsters chose the Gardner grade south of the present Camarillo State Hospital or traversed Santa Susanna Pass rather than take the more direct route over the Conejo.

Sometimes on the steepest places, the team could pull their load only forty to fifty feet. Then they would stop to rest to get their wind back. One of the rules of the road was that teams going up empty had to pull off the road and let the loaded team go by. That is, the loaded team had the right of way.

Many of our western towns, like Topsy, "just grewed" from the original Spanish or Mexican pueblos; and while the land on which they were established had no great value at the time, traffic was so minimal as to make wide streets unnecessary. The saddle horses which most everyone rode, the pack horses, the narrow carretas or even the carriages of that earlier day found ample room. But when the jerk line team appeared these narrow streets presented one of the early traffic problems. In order to reverse his direction, a teamster with a long outfit found it necessary to go around an entire block.

My friend Herb Beattie of Lompoc, an old-time jerk line driver, told me years ago how it happened that Broadway in Santa Maria is perhaps the widest main street of any town on the coast. Santa Maria, of course, was laid out somewhat later than the earlier Spanish towns, and after the advent of the long jerk line team. The "City Planners" at that time used as their guide for the width of Broadway that width in which an eight-mule team and two wagons could make a U-turn with ease. A skilled teamster, it is true, might carry out this maneuver with a considerably longer team and in a narrower street, as Ed Bermingham demonstrated on Spring Street in Paso Robles many years later. This latter street is eighty feet wide and the incident occurred at the time it was being proposed that some sort of pylon be set up in the center of one of the main intersections. A number of teamsters complained that this obstruction would make it difficult, or impossible, to make a U-turn with



Three eight mule wheat teams, near Paso Robles, about 1905.
Courtesy of Gene Booth

Fig. 12



Fig. 14 WILLIAM ARCULARIUS



Fig. 13

William Arcularius and his twenty-mule hitch hauling borax in Death Valley, about 1882. Courtesy of Mrs. Newell Clement

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the teams then used to haul grain in that area. Ed was called upon for his opinion, but he preferred to demonstrate, so with fourteen mules and two wagons and, of course, his great skill and experience in handling such an outfit, he not only completed a U-turn, but came around full circle.

The pride of the skinner in his team was centered primarily upon the perfection of their training and their ability to execute the many maneuvers with a minimum of effort on his part, and pull just a little bit heavier load than the next fellow's. However, in addition, many skimmers gave considerable attention to the appearance of his team. Not only did he pick animals well-matched and of superior conformation, but he might even have their harnesses decorated with brightly shining nickel or silver plated studs or even silver conchas, hame knobs, and spreader rings, as mentioned earlier.

The manes of the mules were frequently carefully roached and the tails were clipped in a characteristic fashion, resembling a series of round brushes, one on top of the other, and giving the general appearance of the peak of a Chinese pagoda. To many serious freighters, concerned primarily with the job at hand, this "foofaraw" had no place. It was, nevertheless, eye-catching.

Harking back now to the truck and trailer which we spoke about in the beginning, how does it compare with the heavy freighting teams of bygone days? In speed, of course, it wins hands down—but we are in a much bigger hurry than people were seventy-five or a hundred years ago. What about the load it carries?

Even with our modern, deeply paved super highways, the legal weight limit, although it varies somewhat in different states, is usually not greater than thirty-eight tons. Subtract from this the weight of the truck and trailer and the "pay load" amounts to some twenty-five or twenty-six tons. In the days of the jerk line team, the load per animal usually averaged one ton and often more; so that a team of twenty husky mules could account for about the same load which we see today. And this over roads well nigh impassable for our modern transportation facilities! The types of cargo carried by these heavy freighting outfits varied so greatly that to list them all would be to weary you. The resourcefulness and ingenuity of those iron men was such that they would agree to haul anything that could be loaded onto their wagons. Perhaps it would be a huge boiler, an engine or a piece of heavy milling machinery. In this case, they would remove the wagon-bed and somehow manage to roll or skid the load up onto the running gear, lash it in place, and then hook up a team large enough to haul it. (See Figure 9.)

On one occasion a locomotive was hauled into the mining town of Bodie,

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a feat unprecedented up to that time. A team of thirty mules is said to have been used on this occasion. And if one ponders a moment, this outfit would have stretched the length of a modern city block.

Those who have visited Furnace Creek in Death Valley have probably seen the exhibit of wagons used to haul borax out of the valley, and the "Twenty-Mule Team Borax" is on sale everywhere. When the company was first started, it hired as freighter Charles Bennett and his eight mule team to haul borax from the Furnace Creek area. Later a twelve mule team was added and when it was found that this team could haul twice as much as the original one, an idea was born: if twelve mules could haul twice as much as eight, then twenty mules in one team could haul a real load.

William T. Coleman is credited with initiating the famous twenty-mule teams. He wanted a freight line which could haul his heavy loads of borax economically enough to meet all competition. It fell to J. W. S. Perry to meet this challenge. This meant not only wagons, but teams, teamsters and a road! Perry was equal to the job. The road was built—165 miles of it—divided into more or less day's journeys. Water supply was, of course, all important, so where no springs or wells were available tank-wagon trailers were used. Perhaps the most important evidence of Perry's resourcefulness was the development of the great wagons which perhaps more than any other item made the project a success.

Perry studied the specifications of all the big wagons which had been used by Pacific Coast freighters; and believing that the best of these was inadequate for the job which faced him, he set out to design a freighting vehicle, the like of which had never been heard of! Each of these was planned with a capacity of at least ten tons. Two of them, and they were pulled in pairs, had the carrying capacity of a modern well-built freight car. A full load of a lead and trail wagon plus a twelve hundred gallon water tank to supply the team in that almost waterless desert, weighed about thirty-six tons! This figures out to over one and three-quarters tons per mule. The one hundred and sixty-five mile haul to Mojave took ten days.

As one travels from Saugus toward Mint Canyon on the way to Palmdale and Mojave, a section of the huge Los Angeles aqueduct can be seen coming down off the mountain and crossing the Santa Clara River. This aqueduct was built years ago to bring the water from far-away Crowley Lake on the Owens River, some thirty-five miles north of Bishop, California, over mountain and through desert to the thirsty San Fernando Valley. These massive sections of heavy steel conduit weighing many tons, together with the cement and

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gravel for the dam and canals, were all carried from the railheads over desert and rugged mountain terrain by jerk line team.

The late Thomas Bard, a long-time friend and prominent engineer of Santa Barbara, and a member of the distinguished Bard family of Ventura County, recalled this to me. Tom learned about jerk line teams first-hand on the vast family ranches, and it was a joy to see his eyes light up as he recalled his experience as a boy, driving one of their many splendid jerk line teams. Later, in the Sacramento Valley, he was superintendent of a large farming operation.

Gene Booth has kindly furnished me with some of the photographs which appear in this article from his collection of pictures of jerk line teams. (Figures 10, 11, 12.) One of the most interesting of these pictures (Figure 10) shows a team belonging to Jack Matney. This is a mixed team of twenty-four mules and horses hauling a huge boiler, a load weighing over twenty tons, into the oil fields near McKittrick in 1911.

My friend Judge Clark W. Guild, for many years a noted jurist in Nevada and now director of the Nevada State Museum in Carson City, recalls the freighting days in the mining region around Virginia City. The Judge was born in Dayton, Nevada, a village which had its beginning in the days of the Comstock Lode activity. It was in Dayton that much of the ore from famous Virginia City and the mines of the surrounding territory was milled.

All wood and timber for the mines had to be hauled into Virginia City since there was no local supply. The timber was cut on the east slopes of the Sierra, floated down the Carson River to Dayton, where it was hauled by jerk line teams up the steep, twisting Geiger Grade to the mines. On the return trip, the ore was hauled down to the mill. Judge Guild's father was in charge of this wood and timber operation back in the '70s. He was an expert at estimating the number of cords of wood loaded on the huge wagons—extremely important considering the value of this most necessary item of mining procedure.

In those days E. G. Ruby, of Dayton, and Jim Millsaps gained lasting fame in the region through their skill and resourcefulness as masters of their great jerk line teams. Another famous driver of the early '70s was Thomas Dick, whose son, a friendly soul, still lives in Virginia City, and recalled to me with pride his father's prowess as a teamster. Thomas Dick, Sr., began freighting at age seventeen, and one of his first jobs was driving a fourteen mule team up the then almost impossible grade with a piece of heavy machinery weighing over nine tons. On other occasions, he hauled in a ball mill weighing an equal amount, then a tube mill and gear wheels, a load of twelve tons, to Butler's plant near Virginia City. To this same plant he also hauled a seventeen and a

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half ton Cornish pump. Each load brought to this intrepid youngster seemed to be heavier than the last one. One shipment of heavy machinery he took in two wagons, and its total weight was twenty-seven and a half tons! His biggest job, although not the heaviest single load, was moving a huge dredge. This tremendous machine was dismantled into twenty-ton sections and Dick managed somehow to get them all safely through to Silver City, where they were reassembled.

Lumber, because it was the chief building material used in the suddenly demanded housing, early became an important cargo for the teamster. While the ox team might slowly and laboriously drag the saw logs down the skid-way to stream or even to the saw mill, the demand for speed in many cases brought the mule and horse into this lowly activity. The finished product, however, was loaded on the running gear of the wagon to be delivered to its destination by the skinner and his jerk line team. Lumber hauling was, as a rule, a seasonal pursuit, being limited because of the weather and its effect on primitive roads to the dry months of the year. The timber from which our western lumber was milled grew at reasonably low altitudes in most of northern and upper central California. In Southern California, however, good timber was not usually available below five thousand feet, so that freighting it out required the teamster to negotiate frighteningly steep, rough, and twisting mountain roads. This, in turn, meant that if the teamster were to bring out of the mountains a satisfactory pay load, he must use a wagon and team capable of hauling at least three thousand board feet per wagon.

Another colorful jerk line driver of the '70s in California and Nevada was William Arcularius. Alkali Bill, as he was later known, came to America from Germany as a young man. He worked his way west and settled in Bishop, California, in 1872, taking up land in Round Valley near that town. Mining was the biggest enterprise in eastern California and western Nevada at that time; so, after a somewhat fruitless struggle on the ranch which he had homesteaded, Arcularius secured a team of eighteen mules and two horses and went into heavy freighting. His two lead mules, Rose and Mary, were his pride and he felt that they understood every word that he said to them. The rest of his team might get regular rations of attention with the black-snake, but never Rose and Mary. The Arcularius outfit consisted of a wagon, trailer, water tank, feed wagon or feed box, and twenty animals. The first freighting which Alkali Bill carried out was to and from the mining town of Bodie. Sometimes his route was from Bodie north and west over the Sierra and into the town of Placerville. Goods, supplies and lumber were hauled to the mine, and ore from the mine to the mill. Later Arcularius hauled borax from Calico as one of the

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original twenty-mule team skimmers; lead from Keeler to Darwin; and then ore and trade goods from Sodaville and Tonapah in 1901 and 1902. (Figures 13, 14.)

Arcularius was a very strict person, always wanting things done right. He took excellent care of his stock; but they knew he was boss, and he believed in correcting any misbehavior on the part of his animals on the spot with a black-snake. One story goes that he was stopped outside of Darwin a few miles, using the black-snake on a mule which he felt needed disciplining, when a man confronted him as to his abuse of the animal. Bill paid no heed and the man kept on tantalizing him so that finally Bill took out after the man with his black-snake and chased him all the way into Darwin, where he sought refuge in a saloon.

In the files of the Inyo *Independent* of 1877, we read: "William Arcularius, the teamster, the other day had a lively time with his pet mules at Cerro Gordo Landing. The gentle mules started to run him a race and after smashing the wagons, won the race, and of course, the "stakes" consisting of a shower of black-snaking."

Bill's son Frank, an old friend of mine who lives in Bishop, often accompanied his father on his freighting trips while he was in his teens. Frank worked as a "swamper" for his dad and still speaks with great pride of the outfit. One thing Frank recalls which seems of particular interest is a trick that the pointers on that team either learned or were taught. When negotiating a steep grade or crossing a sharp dip in the road with a turn, the fifth chain was frequently quite a few feet above the ground. It was often so high that it was actually impossible for the mules to jump over it. Frank insists that his father's pointers knew when to go over and when to go under and that whenever the chain was a bit too high, they ducked under it, still performing the proper function in keeping it stretched in the midline of the roadway. Alkali Bill was a colorful character from Daggett to Barstow and Placerville to Bodie. There was a song written about him in those early days entitled "Ol' Bill was a tough ol' pill," and whenever Bill showed up with his outfit at a freight camp, he was greeted with this song—sort of Number One on the Hit Parade of those early days.

Speaking of runaways, they were an ever-present hazard of those days of teaming. These situations called for the greatest skill and resourcefulness on the part of the teamster. No one has ever been able to fathom the reason for an animal's sudden decision to run away, whether it be a single driving horse hooked to a buggy or a jerk line team of twenty or thirty animals. Whether the animals spooked because of fear or just plain orneriness, the problem was

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always the same. And the result might well be death both to the teamster and his outfit. When on relatively flat land with space in which to maneuver, the teamster could often guide his team skillfully into a circle and keep it circling until the run had gone out of them. It was a different matter when he was coming down a steep and twisting grade, and here he often met with disaster. It was under these circumstances that the careful choice and schooling of a team of leaders was most likely to pay off. It also helped a little if a few of the animals had learned "whoa!"

Before the coming of the railroads to the west coast, California received most of its supplies through two principal sea ports, San Francisco in the north and Wilmington, near Los Angeles, in the south, with Monterey and San Diego coming in for their share. Sacramento, because it could be served by river boat and because of its nearness to the mining country, became one of the most important inland centers of transportation. To and from these ports moved the long columns of jerk line teams bearing heavy loads of every imaginable type of goods. Even with the arrival of the railroad there were many communities not served by branch lines. The same situation presented itself in the Eastern Oregon Country, and long freighting teams were like a steadily flowing stream hauling wool to market and supplies of every description to the settlers in that primitive area.

The mines discovered in the rugged Mogollon Mountains of New Mexico presented the teamsters of the '80s with one of their greatest challenges in moving the endless string of ore wagons from mine to mill and back to the mine with all manner of supplies and machinery. To these, the regular arrival of the freight teams was a big event to young and old alike. To the kids it might mean a new calico dress for Susie, new boots—just like Dad's—for Johnny, and on this trip they might even have real luxury items like soda pop, oranges or even bananas. No less important to their elders were the treasures carried by these caravans, especially when they came at the end of a long winter.

The freight camp outside each little town was an exciting scene, each night and morning, as the freight teams moved in or prepared to move out. The jingling of the many bells, the clanking of chains, the strident cries of the small boys of the town, the shouts of the skimmers, the brays and whinnies of mules and horses, the chuck-luck, chuck-luck of the wheels of the heavy-laden wagons, the squeal of the brake blocks, added up to a volume of sound which might be difficult to measure in decibels. In the evening after the animals had been fed, watered and picketed and the teamsters had cooked and eaten their bait of coarse grub, they would gather around their little fires, the ever-

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present bottle of "tonic" would be passed around and perhaps one of the skimmers would break out his fiddle or guitar, and seated on a wagon tongue strike up "Buffalo Gal" or some other of the old-time tunes, in which all his fellow skimmers would join with voices making up in power what they lacked in beauty or tonality. There would be exhibitions of strength, old-fashioned "wrestlin'" matches, and bare knuckle fights which, for sincerity and downright fighting ability would push all of our present powderpuff boxing contests right off T.V. These important pieces of business concluded, the skimmers would roll into their tarpaulins and blankets under the wagons to sleep until just before dawn, when the new day began.

In the morning, while it was still dark, they would roll out and with the aroma of coffee and bacon still hanging in the moist air, the feverish activity of the new day would begin. The animals already caught up, "cuffed off," harnessed, fed and watered, would be led out and hooked up to the long fifth chain, the cooking gear and bed-rolls stowed away in the wagons and then the skimmers would mount the near wheelers; and amid shouts, the jingling of bells, the barking of dogs, and a bit of cussing, of course, the teams would swing into line for the long trek to the next stop. Such was the day of those fabulous characters, the drivers of the jerk line teams.

As freighting became established in the West, feed yards were developed in the towns which were stop-overs. (Figure 15.) These made the outside freight camp unnecessary. The feed yards were usually large enclosures and, as the name suggests, had ample hay, grain, and water for the animals. Here the teams congregated at the end of the day; and if the yard was in a town which catered to these caravans—and most of them did—the freighters could find ample facilities for drinking, gambling, and amorous pursuits, should they fancy these activities.

The crew of a freight outfit usually consisted of the teamster or skinner and a swamper. The teamster's duties should be understood by now. The swamper had a multitude of activities. He helped with feeding and watering the animals and the harnessing and unharnessing of them. Since they often didn't understand or perhaps resented him—the feelings were usually mutual—he might be the recipient of sly but accurate and painful kicks especially if his charges were mules. And unfortunately for him, he was rarely allowed to strike back. At feeding and watering time—you guessed it—it was the swamper. When it was decided to make camp, unharness, feed, set up a picket line, build the supper fire, get out the grub box and bed rolls, cook, load or unload the wagons—these were all part of the swamper's duties. Of course, if he possessed

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that subtle kind of skill with animals he might eventually graduate to the noble job of skinner; but often he simply defected to some easier pursuit such as tending bar or as a "pilot" in a livery stable.

As I have suggested, the good teamster possessed something more than mere nerve and courage; he had an inborn quality which at once made animals, as well as men, respect, follow him, and obey his commands. It was a strange quality which distinguished the great jerk line drivers of their day; but I feel in greater or lesser degree, it was the same quality which has always characterized leaders, be they corporation presidents, or generals of our military.

Much of my boyhood was spent in the mountain country of California, both Sierra and Coast Range, and whether on horseback, in a buckboard or spring wagon at a turnout on a mountain road, I never ceased to watch with big-eyed fascination these heavy freighting outfits as they passed! The teamster who guided these long strings of animals so skillfully became a sort of boyhood hero, and it seemed for a time that my life's ambition was to climb into the saddle of the near wheeler as master of a jerk line team. This ambition was realized in my teens on one unforgettable occasion in the San Joaquin Valley.

The skinner and I got up before dawn, fed and watered the mules, "cuffed them off," harnessed them and then went into the little ranch house for breakfast. The teamster was a kindly soul, and when I shyly told him what I had been dreaming about since I was a little boy, he asked quietly, "Do you think you could handle them, son?" I said, "Sure." I climbed into the saddle, grabbed the jerk line and brake rope, "threw my rock," and with as big a voice as I could muster, yelled, "Babe, Prince, Geeeeee-up!" and we were off. I can still hear the rhythmic jingling of the bells as we started down the road.

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