

## PRESIDENTIAL ADDRESS.

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*Delivered before the Institution by E. KITSON CLARK  
on 27th October, 1921, in London.*

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### THE TRANSLATION OF THE LOCOMOTIVE.

For a third of a century I have been in the service of the magnificent machine to which our Institution is dedicated, and I value very highly the great honour of the distinguished position in which our members have placed me.

It is to our generation that the locomotive has been an expression of graceful power, an embodiment of the spirit of movement and adventure—and we are of those who are old enough to hold that the wonder, admiration and affection which we have bestowed upon the titular personage of our Institution is an episode of our epoch alone. Whereas my father looked in his childhood at the hills far away across the plain of York where he was born, and dreaming of a world beyond, set forth to explore with a brace of greyhounds *on foot*, I was always drawn as a boy to a railway bridge at Cambridge, to note and watch the locomotives at the station and wonder about the scenes they passed away to visit *on rails*. It was 45 years ago that I spent long evenings taking the numbers of the locomotives, and only this year, as I was passing this same bridge, I saw three small boys with notebooks, and discovered that they were devoting their important hours of leisure to the same attractive work.

I could not help wondering if, when he has added 45 years to his age, and to our age as well, I fear, gentlemen, one of those boys will be honoured in the same way as I have been to-day. He will have to address an audience. What will be his subject, and what his treatment? It would be unfair, I feel, to take the words out of his mouth, and consequently will not make the prophecies which the lapse of time would make safe for me. I can only draw from the reference the hint that locomotives are changing, and venture to touch upon the ideas that arise in a somewhat unsystematic way.

The skilled in manufacture, the expert in service, the designer, the historian, have employed the pages of our admirable JOURNAL; the instructor, the learner, the eloquent and the critic have been heard in our excellent meetings, but I do not think any one has recorded the reflections of our great subject in literary or artistic work. I shall ask your kind indulgence for an Address which reminds you of what the lay world has said and drawn, and if I have chosen therefore the ambiguous title "The Translation of the Locomotive" you will perhaps allow me to add certain translations of my own to those of the writers and painters.

The locomotive has appeared to many people in different ways since 1784, when William Murdock, friend of James Watt, invented and tried his engine one quiet and dark evening on a secluded and level church path at Redruth in Cornwall. The engine escaped from the experimenter, and the worthy vicar, passing by this road on his duties, encountered the animated machine; he was heard to cry for assistance, in that on this lonely road he was encountered by a fiery monster which he took to be the Evil One himself, *in propria persona*.

White and black people have recorded similar emotions on first seeing a locomotive, though they were not perhaps sufficient specialists to make such an exact identification as the English clergyman of the 18th century.

Coming to the 19th century, I take up first the search for artistic representation, and I would ask my audience if they can help in a collection of good reproductions of pictures of the subject. I begin with Turner's "Wind, Steam and Rain," and I add Frith's "Railway Station," but further than that I do not go in this direction. It may be considered a remarkable thing that while the great expansion due to the industrial revolution in the beginning of the 19th century has been the chief factor in the change of conditions of life, literature on the whole has disregarded the detail of machinery. But Dickens, Bret Harte, R. L. Stevenson, W. C. Monkhouse, Harold Munro, Oswald H. Davis, and especially Rudyard Kipling have referred to the locomotive in terms which I will quote at the end, if time and your patience permit.

#### TRANSLATION OF ITS ESSENCE IN TERMS OF ACTIVE LIFE.

Before that we may pass to the consideration of the locomotive on the analogy of a human being. In 1860 I find that great engineering author, D. K. Clark, with whom

I regret I can claim no connection, himself gave to two of the chapters of his admirable treatise on the locomotive the names respectively of "Physiology," "Anatomy," and called a third by the very human characteristic, "Resistance."

And we, I think, may as locomotive men, define a human being as a double-sided piece of machinery with a tubular structure composed of two identical frames reversed, on which the mechanism of hands, legs, eyes, and ears work, while in the centre are placed the power and directing units. And we may find the design well conceived, for a locomotive is no less double-framed, double-sided, with a single central motive and directing force. This somewhat fantastic parallelism is not without significance in the exact material sense, and one who takes it as his text might evolve therefrom an ingenious mechanical sermon, as to method of action, process of application, and the rest; but I want to translate it altogether into a psychological sphere as follows:—

The one great movement of the present industrial world is reflected as much in the development of the locomotive as in that of the artificer. Both are being devoted more and more rigidly to specialised action.

The machine with unexpected latent powers, whose very inexactitudes assisted it to extraordinary achievements, may have to give place to a more efficient, more completely organised, more exact instrument, framed to conquer definite conditions, but likely to stop in unforeseen emergencies. So are men endeavouring to alter the human, illogical, and kindly constitution of the past, into the direct *ad hoc* organisation that an idealist proposes, and is fortunate enough not to have to practise.

To extend these premises, it is apparent that the official world has decided to promote this *ad hoc* specialist movement. I find on notice boards posted about in a not unprogressive city of Yorkshire, "Education now needed more than ever"—and I ask you to note that the "education" so much needed is in *technical* subjects.

The student then has to increase his specialised knowledge, he has to make himself remarkably efficient in one class of production, and as I suppose that what is good for one is good for all, every individual, without distinction, is bound to aim at specialisation. When this education is complete everyone is to produce an amount of value to the world that has not been customary before, and everyone's

reward has to be increased at least proportionately. This work where it is well organised and well calculated beforehand is worthy of the reward. If, on the other hand, the tackle, the co-operation and the preliminary calculations cannot be made and we cannot put a sub-expert at a lower standard to undertake the work (that is barred by a system of professional self-protection), then the work desired must be left undone.

Might I extend this in a simple illustration, far away from the subject?

I have a friend who owns woods of splendid timber in deep and difficult valleys. In earlier days, under the easy-going principles of the industry, it paid the world to cut this timber, remove it and use it. But while the efficiency of both mechanical and human agent has increased, so also has the cost. The expense of the perfect human and mechanical instrument in these rather complicated localities has become too great—the less costly and imperfect instrument is not admissible—so that the timber cannot be removed, and is going to waste.

This is an example of the extension of education or manufacture *ad hoc*.

And so in matters of state, the unpaid worker is disappearing before the paid official, the amateur is considered of no account by the professional. It seems our people would have it so, and they may be right; without doubt in a degree the best use is made of much definite power, but whether the sum total achieved is the best which is imaginable is a question I do not attempt to answer.

And now we come to the locomotive.

The education of the locomotive has made it into a very efficient, very expensive agent. Of its driver and fireman highly qualified and highly paid work is required. It must therefore be always appointed to tasks which demand its full power, and this entails an amount of administration and pre-arrangement which add to the overall cost of its service.

If we assume that what is good for one machine or man is good for all, then the ideal is that every individual machine or man should be expert at one process, and so we arrive at efficiency. But I sometimes wonder if Efficiency—now spelt with a capital E—is really the be-all and end-all of everything; it is a great minister in our modern materialistic life, but its lines are hard, and its economics sometimes expensive. I might put perhaps a

rider to this chapter of our translation, that there is still a place in man's policy for the handy man, and in the locomotive world for the old simple six-wheeled coupled goods engine; both can go anywhere and do anything.

The translation of the general into the special is, however, undoubtedly necessary in a very large measure, and we may consider briefly the essential factors.

To save water and fuel double expansion has been introduced, feed water heating has been employed, superheating has become universal. It may be possible that steam storage may be substituted for the waste at the safety valves. It is certain that inaccurate balance will be minimised by the use of skeleton details of the highest tensile material, but the difficulty of proper coal supplies, the deficiency of suitable water, the sacrifice of power whenever a brake is applied, point us to the extension of electric machines where capital is abundant, to the development of an internal combustion engine where water is deficient. Even now, too, a system is being worked out in which the elasticity of our old and proved friend, steam, is to be made available, but coupled with the high economy of the internal combustion engine. The traditional shape of the locomotive, which, I am sure, we regard with affection, has already been modified in one system to a hull that sinks fore and aft, it may come in another to a longitudinal box, and the "translation" will be complete.

Under these circumstances the absolute efficiency of the machine becomes the object of the user, the aim of the designer; this is in distinction to what may be called the relative efficiency—or general applicability in varying circumstances. The elasticity of the machine is lowered in value in face of the economical use of the power unit. This is the translation which is before us now, and in the rising generation are those who shall decipher it.

Like a human being the locomotive has had *les qualités de ses défauts*.

When Tennyson asked whether—

" Had the wild oat not been sown,  
The soil left barren, scarce had grown  
The seed by which a man may live,"

he thought, it is possible, that by a process of moral trial and error a man finds his proper function, and it is certainly true that by its slips the old-fashioned steam engine has passed through many a difficulty. I defend neither. But note that we are approaching another practice, when there

is no margin for slipping, and the force must be proportional to the exact output.

### TRANSLATION OF DETAIL IN TERMS.

One of the earliest essays in translation of the locomotive was devoted to the expression of its width in dimensions. The battle of the gauges which raged in 1842 divided engineers in a vigorous controversy. The first engine drew wagons on a cart track, and as the wheels of a cart were placed outside the shafts, which were themselves divided by a horse breadth, the gauge which we have now was established. It is no new measure, we see it in the ruts of Roman Pompeii, our descendants will probably use it till the track of the last engine is superseded by an air gauge. But it was not finally installed on all British railways until the year 1862.

The battle of the gauges forms an interesting chapter in Zerah Colburn's admirable book on locomotive engineering. The belligerents did not consist wholly of engineers; laymen took a part in and out of the newspapers, and protagonists were to be found in parliamentary committees, inspired no doubt by conviction, not uncomfited by recompense. In 1847 the broad and narrow gauges met rail to rail, and while the Great Western with 7ft., the Ulster with 6ft. 2in., the Dundee and Forfar with 5ft. 6in., the Irish with 5ft. 3in., the London, Blackwall and Eastern Counties with 5ft., the Liverpool and London with 4ft. 8½in., the Bollockney in Scotland with 4ft. 6in., were all in the struggle, the main contest was between the first and the penultimate, between the 7ft. and the 4ft. 8½in.

With regard to the battle of the gauges, it is difficult for us to carry ourselves back to the atmosphere of this great discussion.

The fine proportions of the broad gauge engines were the subject of great eulogy from its supporters, who described other early railways as servilely following the dimensions of horse traffic; who cried out against that which the obstinacy of Stephenson had imposed for all time on this and other countries, and declaimed that the costly extravagancies of the Engineer of Kilsby, whatever his triumph at the time, took no account of the future requirements of transit; that accidents which had occurred on the broad gauge had not caused the loss of life or injury which would have taken place had they occurred on the 4ft. 8½in.

There were by-products in the inquiry that add to the text of locomotive documents, and I cannot refrain from adding to the story a quotation from the life of the philosopher Babbage, who played a hand in the trials. He records that on one occasion, on a Sunday, the only day available for experiments, he arrived at the terminus a few minutes before the time appointed, and was told by the official placed at his disposal that he was to travel on the north line, *i.e.*, the up one :—

“ As this was an inversion of the usual regulations, I inquired very minutely into the authority upon which it rested. Being satisfied on this point, I desired him to order out my train immediately. He returned with the news that the fireman had neglected his duty, but that the engine would be ready in less than a quarter of an hour. The officer took pains to assure me that there was no danger *on whichever line* we might travel, as there could be no engine except our own on either line until five o'clock in the evening. A messenger arrived soon after to inform me that the obstructions had been removed and that I could now pass upon the south, which was the proper line.

“ While we were conversing together, my ear, which had become peculiarly sensitive to the distant sound of an engine, told me that one was approaching. I mentioned it to the railway official—he did not hear it, and said, ‘ Sir, it is impossible.’ ‘ Whether possible or impossible,’ I said, ‘ an engine is coming ; and in a few minutes we shall see its steam.’ The sound soon became evident to both, and our eyes were anxiously directed to the expected quarter. The white cloud of steam now faintly appeared in the distance ; I soon perceived the line it occupied, and then turned to watch my companion’s countenance. In a few minutes more I saw it slightly change, and he said : It is indeed on the north line.’

Knowing that it would stop at the engine house, I ran as fast as I could to that spot. I found a single engine, from which Brunel, covered with smoke and blacks, had just descended. We shook hands, and I inquired what brought my friend here in such a plight. Brunel told me that he had posted from Bristol to meet the only train at the furthest point of the rail then open, but had missed it. ‘ Fortunately,’ he said, ‘ I found this engine with its fire up, so I ordered it out,

and have driven it the whole way up at the rate of 50 miles an hour.'

"I then told him that but for the merest accident of delay, I should have met him on the same line at the rate of 40 miles, and that I had attached to my engine my experimental carriage, and three wagons with 30 tons of iron. I inquired what course he would have pursued if he had perceived another engine meeting him upon his own line. Brunel said in such a case he should have put on all the steam he could command with a view to driving off the opposite engine by the superior velocity of his own."

And I add as complement an extract from a letter from Sir Daniel Gooch in 1838-9, when he expressed surprise that he had escaped serious accidents :—

"It was no uncommon thing to take an engine out on the line to look for a late train that was expected, and many times have I seen the train coming and reversed the engine, and ran back out of its way, as quickly as I could. What would be said of such a mode of proceeding now?"

*From FRAZER'S MAGAZINE of June, 1846.*

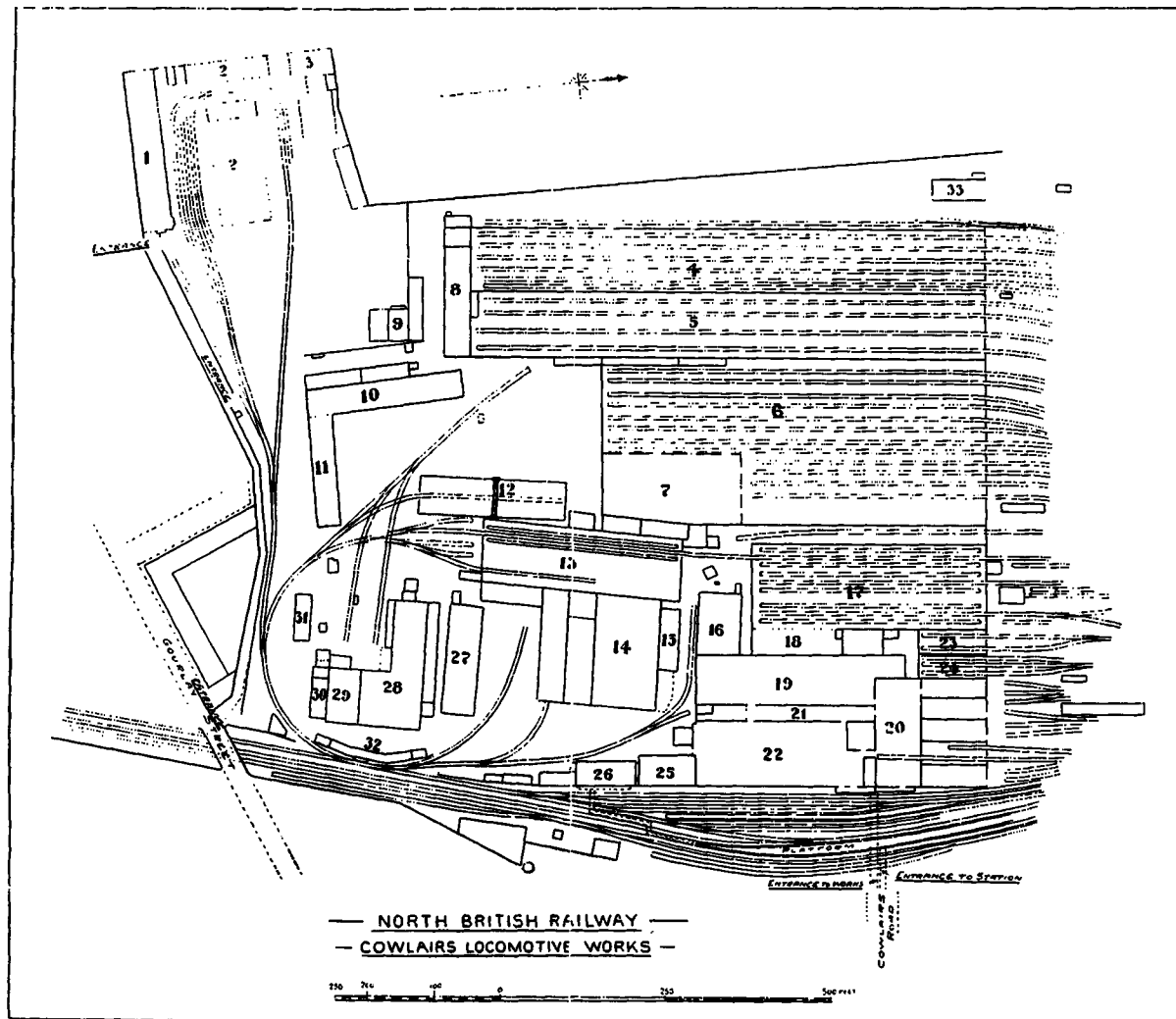
"We have before us 'A Railway Traveller's Reasons for Adopting Uniformity of Gauge.' He takes a rapid and pathetic view of the luggage and umbrella question.

"'Jeames of Buckley Square' has published a little pamphlet in 'Punch' upon the same side. Jeames says he lost his infant at Gloucester, and until he acknowledges the recovery of that interesting child, leaves the world to suppose that Mr. Brunel, in a manner, is guilty of its abstraction.

"The engineer, Mr. Braithwaite, is quoted :—

'The locomotive of this day is not the locomotive of 1836; for all the purposes for which railways can be wanted, there is additional space to crowd in as much power, and more than ever can be commercially beneficial.' And again, 'A boy may now with facility clean an engine in an hour which would formerly take a man a day.'

"The swiftness of the broad gauge so enchanted a brilliant advocate of its merits that he found in it an equivalent to the creation of time. He therefore held up that gauge as the sign of human advancement, and the narrow, by consequence, as the type of the degradation of mankind—a



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|-----------------------|-----------------------------------|-----------------------------|
| 1. Stores Department. | 12. Goliath Crane.                | 23. Valve-setting Shop.     |
| 2. Stores Sheds.      | 13. Tender Shop, new Boiler Shop. | 24. Engine Paint Shop.      |
| 3. Laboratory.        | 14. Wheel Shop.                   | 25. Tinmiths' Shop.         |
| 4. Paint Shop.        | 15. Millwrights.                  | 26. General Offices.        |
| 5. Carriage Shop.     | 16. Forge.                        | 27. Moulding Shop.          |
| 6. Wagon Shop.        | 17. Erecting Shop.                | 28. Foundry.                |
| 7. Saw Mills.         | 18. Finishing Shop.               | 29. Brass Foundry.          |
| 8. Cabinet Shop.      | 19. Smiths' Shop.                 | 30. Pattern Shop.           |
| 9. Ambulance Hall.    | 20. Boiler Shop.                  | 31. Pattern Shed.           |
| 10. Wood Shed.        | 21. Boiler Machine Shop.          | 32. Casting-dressing Sheds. |
| 11. Pattern Shed.     | 22. Turnery and Machine Shop.     | 33. Electricians.           |

deliberate re-establishment of a lower standard for every benefit which railroads confer on mankind.

"But a period is, perhaps, says the writer of this article, at hand when large and small engines shall disappear altogether; when Mr. Stephenson's new galloper, backed at £10,000 against twice his weight, when the mammoth engines, big and beautiful as they are, splendidly rushing down their broad streams of iron, shall give place to something still more rapid and powerful—the atmospheric principle, which Mr. Brunel believes in. Then let them be rolled to the National Museum and take their places beside Henry VIII.'s gun, or the figure of the dethroned Jupiter, or the statute of the repealed Corn Laws."

We are now entitled to wonder if our engines of the present day would have developed different characteristics had they been designed for travelling on rails attached to longitudinal baulks of timber, instead of the vibratory cross-sleepers now employed, as someone complained, "to the fatigue and detriment of health of persons sensitive to the jarring action."

The Committee which settled the dispute was appointed in 1865, and consisted of Sir G. B. Airy, the Astronomer Royal, Lieutenant-Colonel Sir F. Smith, Royal Engineers, and Professor Barlow, C.E. In the trials that took place the Great Western chose 53 miles from Paddington to Didcot, the narrow gauge champions 45 miles from York to Darlington. Gooch's train, on the former, drew 80 tons at a speed of 48 miles an hour. Bidder's on the latter drew 30 tons at 45 miles an hour. This bad result was attributed to the strong wind then prevailing, and Brunel, upon hearing the excuse, exclaimed "that that was caused by the presence of Hudson, the Railway King, who was engaged as usual in 'raising the wind.'"

The arguments are lost by now and the decision has been made.

The high smoke stack has been swallowed up by the modern monster, and a stump alone remains to mark (so cynics say) by its form the individuality of a locomotive designer, a stump about to disappear perhaps, when perfect combustion and the scientific use of all the steam has rendered it no more than a rudimentary relic. The dome has passed between the barrel and the firebox top, it has in some engines passed away, but now seems fairly enthroned in the centre. The working parts, so exposed in the earliest forms when the cylinders were vertical, have been cased in

to suit the proprieties demanded by the Victorian age. But now the nerves and muscles are appearing again, and the modern engine is embroidered with pipes, and rods, and wires, and links.

Now, too, our measurements may have to change. Some more lengthy notice of this probability will be pardoned I trust. Many of us here can remember how the practical man, undisturbed by the blessed word "duplication," concentrated his thought on making the job a *working* job, and was content to range dimensions from a "bare eighth" to "two bits of paper." Now we are touching implements of precision, we are in the period of tolerances of so many "thous.," and before long we shall, I feel no doubt, be transferred to the sphere of scientific instruments and deal in the figures of the metric system. Gone will be the unit which is constantly divided by half,  $\frac{1}{2}$ ,  $\frac{1}{4}$ ,  $\frac{1}{8}$ ,  $\frac{1}{16}$ , a device so well fitted to a machine that is built on two planes equidistant from a basic centre line, so useful for visible comprehension and for oral explanation. Gone will be the unit which includes the divisions of 2, of 3, of 4, and of 6. Gone will be the dimension which we have learnt to visualise, whether we get it from the measure of finger joints or the length of a foot. Gone the wonderful monument of a system which preserves the age-long history of man's measurements.

It may be that the first Three was an important number, because a man learnt to reckon by placing an object on each side of the unit he was observing. It may be that he divided his circle by as many degrees as the sun appeared to move in days through the year. It may be that the relations of angles in equilateral triangles seemed to confirm the principles of trisection. But it is certain that he found the value of bisection and the repetition of bisection.

The locomotive was born and bred under these rules. But its servants had ten toes and ten fingers, and these dictated the notation of figures. The comptometer has arrived, and demands conformity in numbers, in measures, in weights. And if I may make a suggestion I would ask one of our members to devote some time to this subject, and favour us some day with a paper on the translation of the locomotive in metre. Now brought by my title phrase back to literature, I will put before you such quotations as I hope may be found interesting, and I add one more request, that every literary or artistic reference to locomotives may be recorded and stored and indexed in our Journal.

## TRANSLATION IN LITERATURE.

*Extract from DOMBEY AND SON, Charles Dickens.*

“How long he sat, drinking and brooding, and being dragged in imagination hither and thither, no one could have told less correctly than he. But he knew that he had been sitting a long time by candlelight, when he started up and listened in a sudden terror.

“For now, indeed, it was no fancy. The ground shook, the house rattled, the fierce impetuous rush was in the air. He felt it come up, and go darting by; and even when he had hurried to the window, and saw what it was, he stood, shrinking from it, as if it were not safe to look.

“A curse upon the fiery devil, thundering along so smoothly, tracked through the distant valley by a glare of light and lurid smoke, and gone. He felt as if he had been plucked out of its path and saved from being torn asunder. It made him shrink and shudder even now, when its faintest hum was hushed, and when the lines of iron road he could trace in the moonlight, running to a point, were as empty and as silent as a desert.

“Unable to rest, and irresistibly attracted—or he thought so—to this road, he went out and lounged on the brink of it, marking the way the train had gone by the yet smoking cinders that were lying in its track. After a lounge of some half-hour in the direction by which it had disappeared, he turned and walked the other way—still keeping to the brink of the road—past the inn garden, and a long way down, looking curiously at the bridges, signals, lamps, and wondering when another devil would come by. A trembling of the ground, and quick vibration in his ears; a distant shriek; a dull light advancing, quickly changed to two red eyes, and a fierce fire dropping glowing coals; an irresistible bearing on of a great roaring and dilating mass; a high wind, and a rattle—another come and gone, and he holding to a gate, as if to save himself.

“He waited for another, and for another. He walked back to his former point, and back again to that, and still through the wearisome vision of his journey, looked for these approaching monsters. He loitered about the station, waiting until one should stay to call there; and when one did, and was detached for water, he stood parallel with it, watching its heavy wheels and brazen front, and thinking what a cruel power and might it had. Ugh! To see the great wheels slowly turning, and to think of being run down and crushed.”

From *Bret Harte*, commemorating the opening of the Pacific Railroad, the details refer rather to the experiences of the different latitudes and longitudes, temperatures and conditions in America, than the pictures of them:—

“What was it the engines said,  
Pilots touching, head to head  
Facing on the single track,  
Half a world behind each back?  
This is what the engines said,  
Unreported and unread.”

And I think we can turn at the end of any long day with happiness, to read again what *Rudyard Kipling* had heard the engines say in “. . . 007,” that charming and vivid engine story that is very dear to the heart of at any rate one member of the Institution of Locomotive Engineers.

*Extract from RECORD OF A GIRLHOOD, by Frances Ann Kemble, Vol. 2, page 160, dated Liverpool, August 26th, 1920.*

*A Description of the First Journey on the Liverpool and Manchester Railway.*

“We were introduced to the little engine which was to drag us along the rails. She (for they make these curious little fire-horses all mares) consisted of a boiler, a stove, a small platform, a bench, and behind the bench the barrel containing enough water to prevent her being thirsty for 15 miles—the whole machine not bigger than a common fire-engine. She goes upon two wheels which are her feet, and are moved by bright steel legs called pistons; these are propelled by steam, and in proportion as more steam is applied to the upper extremities (the hip-joints, I suppose) of these pistons, the faster they move the wheels; and when it is desirable to diminish the speed, the steam, which unless suffered to escape would burst the boiler, evaporates through a safety-valve into the air. The reins, bit and bridle of this wonderful beast is a small steel handle, which applies or withdraws the steam from its legs or pistons, so that a child could manage it. The coals, which are its oats, were under the bench, and there was a small glass tube affixed to the boiler with water in it, which indicates when the creature wants water, which is immediately conveyed to it from its reservoirs. There is a chimney to the stove, but as they burn coke there is none of the dreadful black smoke which accompanies the progress of a steam vessel. This snorting little animal, which I felt rather inclined to pat, was then



**RAIN, STEAM AND SPEED.**

“ Rain, Steam and Speed,” appeared in 1844 in the Royal Academy, painted by J. M. W. Turner, a picture of the Great Western Railway. The picture, which is full of mysterious inspiration, is very difficult to reproduce. The scene appears to be a bridge over the Thames in the neighbourhood of Maidenhead. The engine is passing over it in a storm of rain ; its fire visible in front of it. Its details are imaginative and it is catching up a hare that is running before it in the foreground.

harnessed to our carriage, and Mr. Stephenson having taken me on the bench of the engine with him, we started at about 10 miles an hour. The steam-horse being ill adapted for going up and down hill, the road was kept at a certain level. When I add that this pretty little creature can run with equal facility backwards or forwards, I believe I have given you an account of all her capacities."

*In THE THOUSAND-AND-SECOND TALE of Lady Scheherazade  
by Edgar Allan Poe*

Is to be found a ready parody of the Arabian knights, out of which I quote part of the story which the beautiful Scheherazade related to her husband.

"Among the magicians were domesticated several animals of very singular kinds; for example, there was a huge horse whose bones were iron and whose blood was boiling water. In place of corn, he had black stones for his usual food; and yet, in spite of so hard a diet, he was so strong and swift that he would drag a load more weighty than the grandest temple in this city at a rate surpassing that of the flight of most birds."

"Twattle!" said the king.

He shows his intellectual appreciation in these things by comments such as "Humph," "Fiddle-de-dee," "Pshaw," "Absurd," "Preposterous," and I regret to say that this last tale was finished in the following way:—

"Stop!" said the king, "I can't stand that, and I won't. You have already given me a dreadful headache with your lies. Do you take me for a fool? Upon the whole you might as well get up and be throttled."

*Extracts from letter of Mr. J. R. Mozley.*

"I find that my uncle, Frank Newman's 'Personal Narrative' of travels in the East. He entered Aleppo in January, 1831, and wrote thus:—

'We entered Aleppo with much satisfaction, and heard the sounds of French almost as if it were our dear mother tongue. All Europeans here seem to be freemasons to one another. . . . There is lively interest about the Liverpool to Manchester Railroad, and we gave great satisfaction by the positive assurance that the success of the self-moving engine and the speed of the trains are realities, and no rhodomontade of the French journals. . . . This discovery has invested



We are Berserkers loose with mad fury ; our lust is to shatter  
and slay ;  
We rend broad crossings and spurn them, we strike at each  
form on our way ;  
We pierce like a spear and sunder, we cleave as the axe  
drives through ;  
We slice off the corners and ridges, we split the wide meadow  
in two.

We founder and splash over points, in a flash we forget  
and are gone ;  
Quick as trail of a star shooting heaven, once more through  
the dark we run on.  
The crouching wheels moan low ; dusk of trees upon air is  
traced ;  
Then with steel knit like cordage of ships the screen of the  
sky is laced.

We have slavered the last pits of water. Leeds in our path  
is a bar.  
Through bridges we whisk with a toss. Like jewelled dice,  
afar,  
Glitter faintly-lit cubes of the city strewn under the vault  
of space . . .  
Braked, we drag hard as a glacier, with slow and shuddering  
pace.

The long train for the North has come up superbly riding  
the Earth.  
Slowly trundling huge wheels she makes clangour like bell-  
buoys seas roll at their berth.  
Like a crouching mastiff, the engine, jet-flanked, brow  
massive and blunt,  
Brute majesty throned on a plinth, reclines her puissant  
front.

Like an idol men make, then in fear to the terrible excellence  
kneel,  
This god of a century's shaping, this flawless body of steel,  
Overtowers her haggard keepers, disdains them and sleeps  
in her power.  
Yet a goad and a curb they will ply for her yoking in  
haughtiest hour.

*Extracts from Harold Munro's RHYMES OF A JOURNEY.*

" The great blue engine, panting as it takes  
The final curve, and grinding on its brakes  
Up to the platform edge.

" They ramble through the country-side,  
Dear, gentle monsters.

" And, having settled to an equal rate,  
They swing the curve and straighten to the straight.  
Curtail their stride and gather up their joints,  
Snort, dwindle their steam for the noisy points;  
Leap them in safety, and, the other side,  
Loop again to an even stride.

" Oh the wild engine ! Every time I sit  
In any train I must remember it.  
The way it smashes through the air, its great  
Petulant majesty and terrible rate  
Driving the ground before it, with those round  
Feet pounding, eating, covering the ground.  
The piston using up the white steam so  
You cannot watch it when it come or go.  
The cutting, the embankment, how it takes  
The tunnels, and the clatter that it makes ;  
So careful of the train and of the track,  
Guiding us out, or helping us go back ;  
Breasting its destination ; at the close  
Yawning, and slowly dropping to a doze.

*Extracts from THE NIGHT EXPRESS, William Cosmo Monkhouse.*

" Little I know or care  
What be the load I bear,  
Why thus compell'd, I seek not to divine.  
At man's command I stir,  
I, his stern messenger.  
Does he his duty well as I do mine ?

" Faster and faster still  
Dive I through rock and hill,  
Starting the echoes with my shrill alarms.  
Swiftly I curve and bend ;  
While, like an eager friend,  
The distance runs to clasp me in its arms.

“ O ’tis a race sublime !  
 I, neck and neck with time—  
 I, with my thews of iron and heart of fire—  
 Run without pause for breath,  
 While all the earth beneath  
 Shakes with the shocks of my tremendous ire !

“ Sudden my speed I slack,  
 Sudden all force I lack,  
 Without a struggle yield I up my breath.  
 Numb’d are my thews of steel,  
 Wearily rolls each wheel.  
 My heart cools slowly to the sleep of death.

“ Why for so brief a length  
 Dower’d with such mighty strength?  
 Man is my God—I seek not to divine.  
 At his command I stir,  
 I, his stern messenger.  
 Does he his duty well as I do mine?”

*Extracts from James Thomson’s IN THE TRAIN.*

“ As we rush, as we rush in the train,  
 The trees and the houses go wheeling back,  
 But the starry heavens above the plain  
 Come flying on our track.

“ We will rush ever on without fear.  
 Let the goal be far, the flight be fleet.  
 For we carry the heavens with us, dear,  
 While the earth slips from our feet.”

*J. K. Stephen* indeed gives us a few smiling stanzas in a poetic lamentation of the insufficiency of steam locomotion in the Lake District.

“ Wake, England, wake ! ’Tis now the hour  
 To sweep away this black disgrace—  
 The want of locomotive power  
 In so enjoyable a place.  
 Nature has done her part, and why  
 Is mightier man in his to fail?  
 I want to hear the porters cry,  
 ‘ Change here for Ennerdale.’ ”

We will agree, gentlemen, not to invade our garden of the English Lakes, and we will end with two most charming verses of all which brings us back for our last thoughts to the gentlest poetry of our subject.

*R.L. Stevenson's* FROM A RAILWAY CARRIAGE.

“Faster than fairies, faster than witches,  
Bridges and houses, hedges and ditches.  
And charging along like troops in a battle,  
All through the meadows the horses and cattle.  
All of the sights of the hill and the plain  
Fly as thick as driving rain;  
And ever again, in the wink of an eye,  
Painted stations whistle by.  
Here is a child who clambers and scrambles,  
All by himself and gathering brambles.  
Here is a tramp who stands and gazes,  
And there is the green for stringing the daisies.  
Here is a cart run away in the road,  
Lumping along with man and load;  
And here is a mill and there is a river;  
Each a glimpse and gone for ever.”

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