

Inverness, so, by making an early start, there was an opportunity for a run from Fort William to Mallaig with the preserved K1, No 62005. I reached 'the Fort' in good time – the train was full! However, seeing that there was a booked public stop at Banavie, I slipped round in the car and boarded the train, legitimately, although the guard was not too pleased when he came for my ticket!

The following year we stayed at Drumochter Lodge, which is on the right as you go north on the A9, just after Druimuaichdar Summit. Although the A9 had been used on previous journeys to the north, this year I was able to really picture the late A E (Bert) Hooker on his firing exploits to Driver Swain with No 34004 in the 1948 Locomotive Exchanges ... coming over the top northbound (a well-known photographic location), those vigorous efforts on the restart, southbound from Dalwhinnie ...

In 1994 we stayed on the Rhiddoroch Estate, north of Ullapool. This was an occasion when, during the course of a walk in the Braemore Junction area (this is a road junction) we were invited into the Braemore Estate. Here, we were shown the test tunnel for the London Underground system, made by the late Sir John Fowler, an engineer well-known in the area – the Lael Bridge, which is an iron bowstring girder bridge off the A835 south of Ullapool, is another example of his work. As it happened, a week or so later I was walking in the Kettleiness area, near Whitby, and so explored the tunnels of the former Coast route from Whitby to Middlesbrough.

In 1998, at Taynult, there was a good walk over Ben Cruachan and then along to the east and down to the railway line in the vicinity of the halt at Falls of Cruachan. Here it was impossible to coincide our arrival with the time of a convenient train, however the long walk along the main road (A85) was enlivened by a look at the 'boulder signals' on the railway – something not easy to do

when car-borne.

Next year, 1999, we stayed at Killin. On the first morning, one of our group says: "We are going to Kings House – do you want to come?" "Of course!" So, into Killin, then left at Lix Toll (on the A85 again), over Glenoglehead and so down to the Kingshouse pub at Balquhider. I was still a little surprised when we walked back up the main road – we had a look at the station – then on to the formation of the old railway line, all the way up to Glenoglehead (noting the site of the washout in 1965), down to Killin Junction and so back past Acharn Siding to Killin. Later that same week we walked all the way from Killin as far as Luib Burn, on the way to Crianlarich. In the opposite direction, it is still possible to walk from Killin to Loch Tay along the old railway. Although there was very little to see of railway interest – and at Loch Tay the houses there are all private residences – on one of our outings we went up Glen Lochay. This is a by-road, off the A827, leading to Kenock ... just as a passenger in a car, I noticed cast iron posts along the roadside, every now and then. Later investigation revealed that they were mostly unpainted, but in good condition, and bearing a legend e.g. Killin 2, Kenock 5 1/2. Some were missing. But, further up the glen, there was one that *had* been painted – a green background with white lettering.

In February 2000 an attempt at some winter walking was foiled by rain and strong winds. Sad to relate, the SE&CR milepost in Glen Lochay had gone missing. However, we did go by train from Crianlarich to Tyndrum and walk back from there along the West Highland Way, watching out, at about 2.30, for the train descending Strath Fillan on the way back from Fort William. In May 2000, as it happened, an overnight stop was made at Bridge of Orchy – so I walked up the West Highland Way, as far as possible, towards Tyndrum – the photograph in the NRM display duly noted!

THE BOTTOM LINE ON TOPS

SHUNTING OR SWITCHING – WHAT'S IN A NAME?

Bob Wolfe

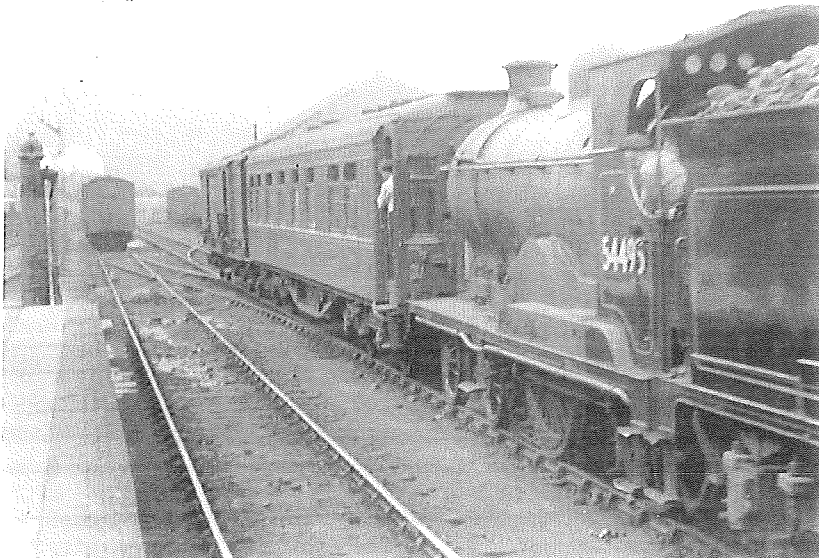
[Before retirement, Bob Wolfe worked at the San Francisco headquarters of the Southern Pacific Transportation Co. He was the architect of the empty wagon distribution system using the TOPS computer introduced by BR in the 1970s.]

My entrance to the scene at British Rail in the early 1970s was related to the area of wagon distribution. However, my background covered many aspects of operations. The wagon distribution area considered both the philosophical as well as the mechanical aspects of TOPS. I was to work with Brian Scobey, who was assigned to the BR TOPS project, to acquaint him with the mechanics of TOPS programs and the wagon distributor's procedures, and discuss the implication of changes that could be implemented because of the TOPS system.

Brian was quick to pick up the capabilities of the computerised system and recognised that wagon distribution could be centralised and operated directly from the Central Wagon Authority (CWA). I have to admit that Brian successfully accomplished the centralisation of wagon distribution, while it would be another six years before I was able to accomplish the same thing on Southern Pacific.

Brian and I made many trips into the field to observe general operations and view the differences between UK and US rail operations and empty equipment handling. Brian also made trips to the US and observed our operations. During our trips around BR, I observed the hesitancy toward TOPS and later the outright fight against it by middle management that Harry Reed has described in his articles. I was not uninitiated to this condition. It was much the same on SP and observed on other railroads with which I was involved but not so severely as it was on BR. However, at the shunter/driver level it seemed somewhat different. In the US and Canada, train and engine crews were little affected by the introduction of the computerised system except as a different way of doing something. To the extent that they were affected, it generally reduced their paper work load so they were at worst neutral to it.

I recall some of the initial meetings with BR people such as Bob Arnott and being told that things were much different on BR from what they were in the US, that the distances are so much shorter on BR and that most traffic moves from origin to destination overnight. I was intrigued by this and curious how the operations significantly differed to accomplish the overnight moves. In our trips around BR, I began to look at dates on traffic that was in the yards and noted that most of the traffic did not move overnight. Brian tried to tell me in a matter of fact tone that the traffic did not move from origin to destination overnight. Of course, the parcels



At Helmsdale in June 1960 Class 5 No 45090 has drawn forward with a van from the 10.40 Inverness–Wick train to allow No 54495 to release the Royal Mail van and Pullman RB

A G S Davies

traffic, automotive parts movement and some of the coal movements (in other than unit trains), and specific origin/destination pairs were very organised and did move overnight.

During my trips around BR with Brian Scobey to observe operations and test whether TOPS wagon distribution would fit within the BR operating context at the several locations, Brian and I would discuss operations in general. On one occasion, I mentioned to him something that we were using at SP called geometric switching (shunting). The system was a method to minimise the number of switches and maximise the use of tracks used to make the greatest number of blocks. It works out that the number of blocks that can be made is the square of the number of tracks used, and the number of passes is equal to the number of tracks used. Example: with two tracks, four blocks can be made with two passes, three tracks will result in nine blocks with three passes, etc. By passes, I mean number of times that the tracks must be doubled together and switched back into the tracks.

The thing that made geometric blocking viable was TOPS and what we called tags. A tag was an arbitrary number that was output based upon the destination, route, type of wagon and other parameters, its purpose to describe the train and position in the train. It is similar to the route code that was used on BR prior to TOPS and applied to a wagon by the origin agent.

The use of tag in connection with geometric switching: each digit indicated the track that the wagon was to go into on each subsequent pass. For example, a tag "321" says, switch to track No 3 on the first switch. When all wagons are switched, pick up track No 1, double and pick up No 2, double and pick up No 3. On the second switch our wagon with tag "321" would go into track No 2. Again pick up track No 1 to No 2 to No 3, and our wagon would go into track No 1 on the third switch. Pick up the three tracks again and the train would have up to nine blocks in a desired order.

Without going into some of the problems that might come to mind in using such an approach, it is an interesting exercise in maximising tracks and switching. At SP we had several places where it served us very well and allowed us to reduce some movements by a day or more.

Brian and I continued to look at yards and their operations around BR. At some point we were at Exeter and we both noticed a greater than usual animosity on the part of the shunting crew toward us. We also

received a rather cool reception on the part of the local supervisor, whose title escapes me. Time was approaching for the cut over to TOPS and Exeter was one of the early locations to be affected. Brian and I finished looking around and returned to London.

I did not see Brian for several days until I received a call from him to take a look at something he had put together. We got together and he pulled out a dozen or two IBM cards and put them on a table. They were, in effect, TOPS cards with wagon numbers, destinations and tag numbers. He asked me to put the cards into three piles based upon the first digit of the tag number. He had me pick them up and again put them into three piles based upon the second digit and lastly by the third digit. He picked them up and showed that they were in destination station order. At the end of his routine he asked me to accompany him to Exeter the next day.

The next day upon arrival at Exeter we headed immediately for the shunters. They were just finishing up with some work as we approached. The foreman of the shunters headed for us and began shouting something along the lines that I didn't understand what it was like shunting wagons. All I knew was those fancy automatic couplers while all he had was a pole (which he was holding as he spoke) and pointed toward the links between two wagons. He asked whether I knew how to place or remove a link to which I replied that I did not but suspected that he could teach me. His voice increased a few decibels (and still holding the pole) said it would take someone larger than me. I recall looking at the links and thinking that he was probably right. At this moment there were some smiles and chuckles and all of the crew looking at all of my 5 feet 7 inches in height and weight not reaching nine stones. It broke the tension enough for Brian to tell the crew that coffee was on us.

We headed for the depot coffee shop and found a large table around which to gather. The conversation moved from one thing to another but the theme behind the crew was that they felt that TOPS was going to eliminate their jobs. Something or somebody was fermenting the ingrained Luddism in BR labour. I could not develop the source but it was very pronounced. I remember Brian kept trying to tell them that the computer was physically unable to accomplish the shunting or moving of equipment from one location to another. "Then what is the point of TOPS", said one of the crew. That was Brian's opening to

pull out the two dozen or so IBM cards he had prepared and said something to the effect that TOPS can make their work easier.

Brian had been practising his routine because the first thing he asked the foreman to do was to, "shuffle the cards."

Brian's routine with the cards went well until the foreman pointed out that their little loco couldn't handle that many wagons at once after making the third double over. I thought to myself that it was surely true. The shunting engine at Exeter was one of those little 0-6-0 looking affairs with 40 inch or larger drivers coupled with side rods. They seemed to be a fair loco but appeared to lack the weight for decent traction. It just came into my mind (as there is always an answer to every problem) to say, "get a bigger loco or put on another loco." The conversation stopped and the shunting crew looked at me for more than several seconds then looked at each other in a somewhat credulous manner. I broke the silence by asking just how many wagons would be involved in such a situation at Exeter.

The outcome of the conversation was about 30 wagons but there was one large block with four smaller ones. It worked out that one track could be used for the main block while two tracks could be used for the four smaller blocks. Considering that the first move of a wagon into the tracks used for the geometric switch during the course of the day is one 'switch' of the total required and only four blocks, only one additional switch was required to build the train, with the little loco.

By the end of coffee that morning, I saw smiles on the faces of the shunting crew. I asked if I could be shown how to handle those wagon coupling links and was told to return one day for a day of hard work. I never had the opportunity to take the crew up on their offer but, did learn how at another yard and at a different time.

I am not sure whether geometric blocking was ever used on BR but the description of it and what it might do may have contributed to a smoother cutover of TOPS on BR. My quest for an approach to operations where most of the traffic moved overnight was never satisfied. Brian had simply said from the beginning of our early conversations that most of the traffic did not move overnight. I had questioned several division superintendents about it while out in a yard and looking at dates but never received an answer and it made them nervous. However, there were those that still espoused the overnight theory.

A NOVICE ON THE NET

Brian Knowlman

To Internet or Internot – that is the question I debated for some months before finally succumbing to the Wonders of the Web. I realised too that if I acquired a new computer (mine was from the dark ages – 1994) I could send E-mails to my neighbour, and get a reply within a week, or however long it took him to check his incoming mailbox – a lot

more exciting than walking the ten yards of path which separate our two houses.

So I acquired the necessary hardware and software, several helpful manuals in Japanese and a basic grasp of Internet jargon, before setting off to explore the millions of pages of knowledge now within my grasp. And where better to start than with Railways, using

something called a Search Engine, which I had hitherto assumed was a locomotive which the railways used to send out when trains got lost in the snow at places like Bleath Gill. As I am probably the last person in the western world to be connected to the Internet, I will not insult you by explaining what a Search Engine is in today's IT terms,