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A splash of floral colour complemented the well kept tram and bus interchange at Wettsteinplatz where BVB 3-car set No. 681 was recorded with a Route 2 service to Binningen via Bahnhof SBB.

An immaculate BLT Be 4/8 No.240 in all-over white provided the lead unit on this Route 17 Wiesenplatz-Ettingen service seen entering Theaterstrasse.



'Live Young' is the slogan that I assume relates to drinking Evian. If only it was that simple, I ask! BLT Class Be 4/8 247 was leaving Bahnhof SBB on a Route 10 working to Dornach.

A classic combination in prestige condition comprised BVB Be 4/4 No. 457 and B4 low floor trailer No. 1489, seen leaving Claraplatz on Route 15 Bruderholz.



## TAKING A BRAKE (!)

s'Murmeli

Recently (whilst out on official business) I rode in the driver's cab of trains on the RhB and the MOB and was reminded of a curiosity. Both of these railways were among many Swiss (and other) narrow-gauge lines that adopted, not the compressed air brake that today we tend to assume is universal, but the Hardy vacuum brake. Of course, until the 1960s the vacuum brake was standard in Britain - the only European main line system to use it. The system was effective, but slow-acting, and the moving parts were heavy as a vacuum could only be at most one




atmosphere, and in practice was less (21" of mercury was the BR standard). The automatic air brake has normally a working pressure of 5 atmospheres and there are various refinements to obtain rapid, even application and release.

Leaving the technology aside, I had to recall that RhB and MOB both today operate mixed systems. This is all allowed for in the official FDV, the legally binding operating rules. While all the modern rolling stock is air-braked, many old cars, especially those freight cars that are also hauled about on some passenger trains, are vacuum



braked. Look carefully and you will see behind the engine that both sets of brake pipes are connected up. The driver has both a vacuum exhaustor and brake control, and an airbrake pump and controller. The fun comes in releasing brakes and conducting a brake test, for both must work, and on the road, for slowing, stopping and releasing. The two systems are usually linked automatically in practice, so that the whole train is braked; but the differences in characteristics, in reaction time and actual brake force, need to be understood and above all anticipated. Since freight cars can also be heavy (think of the trains of oil tanks, containers or cars of logs seen on the RhB), and as vacuum brakes release more slowly, a lack of care can lead to push-me-pull-you reactions which, if not dangerous, are very unwelcome, and a mark of a good driver is a timely smooth stop, at the right place, without that

terminal jerk at standstill - something many motorists might well learn!

Narrow gauge lines tend to be a long succession of speed limits, alternating steep gradients and sharp curves. It all works very well, but the driver (who can also use electric regenerative braking in most modern equipment) has on lines like the Arosa - Chur an almost continuous fall at 1 in 16, or the descent into Montreux at 1 in 14, to negotiate, may be using some skills we don't usually think about. In theory the RhB's new '*Allegra*' units have so much computer control equipment that they can almost drive themselves, once a train is moving and the route parameters set-up. However, sit in a cab of one and watch an experienced driver and you realise that there is still a need for hard-learned human skills to ensure the safe operation of a mountain railway. 

## SWISS NEWS

### SBB orders more ETR610s

*Swiss Express* has frequently carried the sad story of the 'Pendelinos' on the Gotthard route to Italy. The fleet of ETR470 tilting trains, purchased for their joint Cisalpino operation formed in 1993 by SBB and TrenItalia, comprehensively failed. Cisalpino started well, but soon the unreliable ETR470s rendered any serious service impossible, even when supported by locomotive-hauled trains. The delayed introduction of the ETR610s (the next generation of 'Pendelinos') on the Lötschberg line gave some relief, but disaster followed the continued use of the ETR470s on the Gotthard with life-threatening fires, breakdowns and non-availability leading to the liquidation of Cisalpino in 2009. Trenitalia withdrew their ETR470s whilst SBB have admitted publicly that they cannot assure quality of service with their remaining units. This led to the announcement in 2011 that their ETR470s, just at their half-life, would be withdrawn as heavy maintenance fell due, and at the latest by end-2014. This leaves SBB's fleet of seven ETR610s running Milano to Genève, and Basel services on the Lötschberg route. For the opening of the Gotthard base tunnel in 2016 SBB will need new trains - some 29 high-speed (but non-tilting) units for international traffic. They are out to tender, but this process is still open and will take time, so there will be a hiatus with no rolling stock able to fill the gap between 2014 and the entry into service of the new stock. To bridge this gap on the Gotthard route SBB have ordered eight new ETR610 'Pendelino' units from Alstom, for delivery in 2015 at a cost of CHF250m - there seems to have been no alternative course available. Ordering identical ETR610s to those now in service will avoid the lengthy proving trials needed for licensing in both Switzerland and Italy. This still leaves a gap of several months without cover; presumably the ICN500 class will soldier on between Basel/ Zürich and Lugano/Chiasso maintaining the domestic service (they cannot operate in Italy) as they do now. A further snag is that the ETR610s have still never been authorized to run in tilt mode, in-multiple, on the track geometry of the Gotthard route, as they do on the Lötschberg, resulting in a lack of capacity (they seat 430 passengers) and overcrowding. The teething troubles of the ETR610s that caused the original 3 year delay in delivery are now regarded as solved. This is not an ideal solution but it is difficult to see how else SBB could have extricated themselves

from the aftermath of the ETR470 debacle.

### Rail reopening

From the December timetable change trains will return to the metre-gauge line that once ran between Niederbipp and Oensingen and was closed and lifted in 1943. Major development in the area has prompted the ASm to re-lay 2km of track parallel to the SBB main line. We hope to have an article on the ASm, and the background to this project, in the March *Swiss Express*. The official ceremonies were on the 13th October.



The first train waiting to leave Oensingen for Niederbipp, the 'official' opening day.

Photo: Bryan Stone

### Internal Intermodal

Following the successful introduction earlier this year of a scheduled intermodal shuttle between Zürich Dietikon and Lausanne Renens, SBB Cargo has announced plans to develop a national network of intermodal shuttles that will cover the whole of Switzerland utilising terminals at strategic locations. SBB Cargo already operates eight intermodal terminals, and has recently invested in two new facilities at Rothenburg and Cadenezzo. It has commissioned new handling equipment at other locations and it also plans to upgrade terminals to accommodate 750m-long trains. The COOP has also started its own rail-based internal intermodal operation. See the article on P10.

### ETCS signalling moves forward

Last July representatives of Swiss Federal Railways, the Swiss Federal Office of Transport (BAV) and their partners Siemens and Thales ceremonially installed two ETCS balises