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Preface to Part 6

Studying L.T.C.Rolt's *Red for Danger* or Adrian Vaughan's *Obstruction Danger* makes the reader aware of the vital importance of controlling train movements. Railways cannot be operated safely without some form of control as the vehicles, unlike those on a road, cannot get out of the way of others coming in the opposite direction either quickly or easily, nor can they be stopped as readily.

Before the electric telegraph had been developed sufficiently to allow reliable communication along the length of the line, control by timetable and time-interval dispatch was the only available method. The early passenger main lines were built as double lines but it soon became obvious that intermediate checks on the running of the trains were needed and so each running line was divided into 'blocks' with a man guarding the entrance to each block. These men were called policemen and organised like their civil counterparts. In this system the policeman allowed a train to go forward into the next block after a predetermined time interval had elapsed. As the policemen could not communicate with one another, except by messages carried by the trains, it was possible for danger to arise if a train failed somewhere in a block out of sight of the policeman controlling entry to it.

So long as the rules were obeyed this was a safe enough system for the traffic of its day, but it could not cope when traffic density became high. Thus the first permanent signals appeared at junctions in 1841 and interlocking of points with signals in 1860. Crude forms of the electric telegraph also appeared in 1841 and by 1855 the South Eastern was using it to work the line to Dover by the block system. Intervals of space now separated successive trains, but it was not until the Regulation of Railways Act of 1889 that the block system was made compulsory and all main lines were so worked. The duties of the 'policemen' were now becoming confined to the operation of signals and points and they were renamed signalmen, though in some areas they are still nick-named 'bobbies'.

However, the actual signalling equipment tended to retain the character of the individual companies as they either continued to produce their own equipment or to purchase it from a specialist supplier. The variations in details of signalling practice, design of signals, posts, finials etc. between companies are considerable and are beyond the scope of this part. The notes (1.10) at the end of Section 1 give a general view of these variations but for full authenticity it is really necessary to study the practices of an individual company. As a first step, a guide to further reading is also included at the end of the section.

A model railway without signals lacks realism. Unless the area being modelled is an industrial siding complex where trains are under the control of a shunter, (and even here there could be an exit signal on the lead to the main line) signals are necessary to give an authentic appearance. Not only should they be located correctly on the layout but, if possible, even the smallest should be made operational, and operated correctly, to improve the overall air of realism.

On large layouts with several stations a proper service cannot be operated without some form of control. Although intercom sets allow operators to speak to each other, there is a strong argument for following full sized practice and using the block instrument and bells. The signals themselves can add to the safe operation of a large system if a short section of track immediately after a stop signal only receives power when the signal is pulled off. *(The penalty for overrunning a signal and skidding to an ignominious halt could be demotion to the shunting turn for the next three club operating sessions plus the job of making tea until the next culprit takes over.)*