

Passage 1 – Railways

- 1 The oldest form of railway, credited to Periander of Greece around 2,500 years ago, was an invention whereby carriages were pulled by slaves along grooves in limestone which provided the tracks. In the thirteenth century, railways started appearing in Europe; carriages then ran on wooden rails and were hauled by hempen ropes attached to men or animals. Through time, trains which ran on narrow wooden tracks became invaluable in mining, for the transportation of coal and other minerals to their final destination. In Britain, for example, this type of transport was used to move coal from mines to canals for further distribution. The use of railways increased when iron was placed on top of the wooden rails, which increased their lifespan. In their early stages, railways were limited in that trips could be made only by following the straight lines of inflexible track. But the invention of moveable points in the track – mechanical devices fitted into the tracks which enable the train to be guided from one track to another – permitted a greater variety of journeys. 5 10
- 2 In the early days of railways many widths, or gauges, of track were used, which meant that travelling long distances was not possible without several train changes; for example, in the 1850s, the relatively short trip from Philadelphia to Charleston in the USA involved eight gauges and seven changes. The introduction of an international standard gauge was a major development and was soon used by more than half of the world's railways; within twenty years, Britain had more than 7,000 miles of track, a stunning technological achievement. 15
- 3 Rail transport blossomed further with the invention of the steam engine – which was driven by steam produced by burning coal and wood – because these engines could pull several carriages behind them. This resulted in the construction of mainline railways, and the transportation of goods became cheaper than via other methods. However, steam trains required large pools of labour to clean, load and maintain them, and became increasingly costly. By the middle of the twentieth century, steam trains were being replaced by diesel trains, popular because of their substantially lower operating and maintenance costs. A development in modern times has been the electric train, powered by overhead wires, an attraction of which is its relatively cheap running costs. Everyone loves the puffing sound of an old-style steam train and, in countries where they are no longer in use, many older people remember them with great nostalgia. However, electric trains are less noisy and create fewer pollutants, which is very much in their favour and has contributed to their increased use. 20 25 30
- 4 Nowadays, trains continue to be a popular form of transport. Although a plane from one part of a country to another may be quicker, train stations, unlike airports, tend to be conveniently situated near town or city centres. There are no tedious security checks in train stations, as in airports, and so precious time is saved and passengers do not become flustered and stressed. Most airlines operate a baggage allowance policy, thereby limiting what passengers are permitted to take on their journey. This is not the case with train travel. Moreover, passengers take their luggage on board the train with them, where they can keep an eye on it, knowing they will not lose it in transit or have to spend half an hour or more waiting for it to be unloaded from the train when they reach their destination. 35
- 5 Innovations in modern trains – for example the 'bullet' train in Japan, or the Eurostar linking Britain to Europe – mean that train travel can be astonishingly fast; in fact, France's high speed train has recorded speeds of 357 miles per hour. Many modern trains, unlike planes, offer flexibility in seating arrangements, with single or double seats available, or groups of four seats for families, making the journey an enjoyable and relaxing experience. Passengers' sense of well-being is further enhanced by the possibility of moving around the train, perhaps to have coffee or a meal in a restaurant carriage on a long journey. Many train journeys can be made overnight, which frees up time for business people who might otherwise have to pay for a hotel if they travel the day before to attend a meeting, or get up very early in the morning of the meeting to catch a flight. The provision of electrical power points on trains for charging phones or laptops can turn them into mobile offices, a further benefit for business people. 40 45 50

Passage 2

The writer, an animal photographer, tells the story of how he tried to film a shy animal called a chevrotain.

- 1 Over the years, I have learnt that there are several different ways of making an animal film. The best method – to employ a team of cameramen to spend about two years filming animals in their natural habitat – is unfortunately expensive and, unless you have plentiful time and resources behind you, it is out of the question. For someone like me, with only a limited amount of time and money to spend in a country, the only way to film animals is under controlled conditions. The difficulties of trying to film them in a tropical forest, where wild animals are rarely visible, are enough to make even the most ardent photographer grow pale. When you do manage to see an animal, it is generally only a momentary glimpse as it scuttles off into the undergrowth. I have found that the solution is to catch your animal first and establish it in temporary captivity, because to find an animal in proximity which is doing something worth filming would be almost a miracle. Inside an expansive netted area, like a film set, you create a scene which is as much like the animal’s natural habitat as possible and yet is, from a photographer’s point of view, suitable. That is to say, your undergrowth must be free of too many holes in which a bashful creature can hide, and thin enough to avoid awkward patches of shade. Then you introduce the animal to the film set and allow it time to settle down in order to obtain the results you want. 5
- 2 A prime example of the difficulties of animal photography occurred on the day my team and I attempted to photograph a cute type of antelope called a water chevrotain which is extremely photogenic. It spends most of its time in streams in the forest and can even swim for considerable distances under water. The second curious thing is that it has a passion for snails and beetles, and such carnivorous habits are most unusual in antelopes. 20
- 3 Our chevrotain was ridiculously tame and spent her time trying to bathe in her water bowl, into which she could jam herself only with considerable effort. To display her to advantage, I designed a film set incorporating a section of river bank. One morning, when the sky was free from cloud and the sun was in the right place for us to get the best result, we carried the chevrotain out in her cage and prepared to release her. We were worried that, given her nature, she would not move, but we got considerably more movement than we had anticipated. She stepped daintily out of the cage and paused with one slender hoof raised. I picked up the camera and awaited her next move, which was somewhat unexpected. She shot across my carefully prepared film set, went right through the netting wall as if it had not been there, and disappeared into the undergrowth in the distance. I uttered such a wail of anguish that all those watching, including Phillip the cook, dropped what they were doing and assembled on the scene as if by magic. 25
- 4 ‘Whoever catches her will receive a cash reward,’ I said. The effect of this lavish offer was immediate. Several members of the team descended like a swarm of hungry locusts onto the patch of undergrowth into which the antelope had disappeared. Within five minutes Phillip, with a roar of triumph, emerged from the bushes clutching the kicking, struggling antelope. We spent the rest of the day trying to film the wretched creature. She behaved beautifully in her cage, splashing in water and eating beetles and snails, but the moment she was released onto the film set she behaved as if she had a pair of leopards on her tail. At the end of the day, hot and exhausted, I had taken dozens of photographs, all of which showed her standing outside her box for a moment, before she dashed away. When we replaced her in her cage she was astonished at all the fuss. Sadly we carried her box back to the house, while she lay placidly on her banana-leaf and munched beetles. It was the last time we tried to photograph her, and soon we released her back into her natural habitat. 30 35 40 45

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