

HARAKEVET

הרכבת

ISSUE 40

APRIL 1998

ISSN 0964-8763

A Quarterly Journal on the Railways of the Middle East.
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NOTE NEW ADDRESS: from July 1998: c/o Judische Gemeinde zu Berlin,
Joachimstaler Strasse 13, D-10719 Berlin-Charlottenburg, Germany



40:1: DB VT611-type 2-car tilting diesel multiple unit on trial in Israel.

40:2. Editorial.

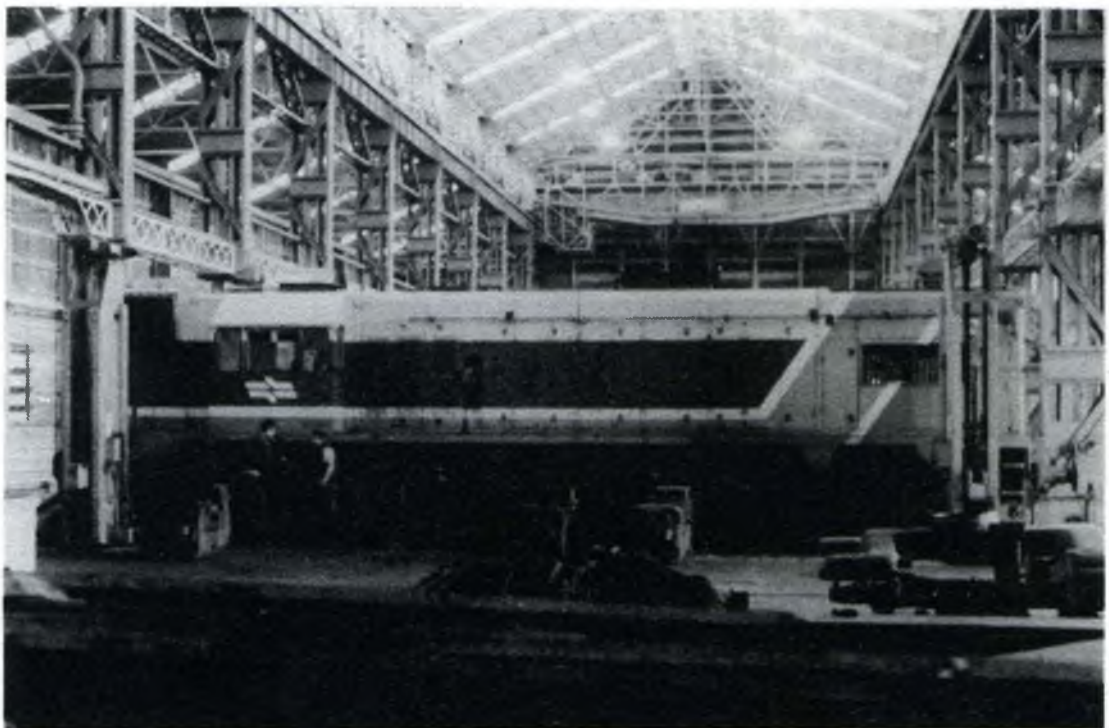
This issue - originally intended for March/April 1997 - is delayed a little bit by the exciting and complex issues that dominate the Editor's life - this time yet another move is on the cards, back to Europe - to Berlin ! The exact time, and the new residential address, are not yet clear, but it appears that after July 1998 any correspondence (and that includes faxes and e-mails) will have to go to a different address. I am hoping to get issue 41, with a lot of material that has been "on file" for a while, out in June/July before packing up here. So - On the masthead of this issue and on the Subscription Renewal Form for the next series I have placed my "Work" Address which can be used for correspondence. The current Setarnet e-mail address will close down around the end of June, and a new address will have to be advised later when I can open an e-mail account in Germany. In the meantime - there seems to have been a sudden spurt in the pace of change and number of improvement schemes in Israel, and I have received a lot more information on some other regional systems. For the railway enthusiast, at least, the Middle East is looking a lot better ! The Editor.

40:3. IR G12 Bo-Bo No. 121 under repair in the main Qishon Workshops, 10/12/97. (Photo: Paul Cotterell).

40:4. NEWS FROM THE LINE.

(a). SAFB Reprieve. SAFB Bo-Bo 102 had been reported in danger of withdrawal (See 36:5:c and 37:5:e). In fact, this loco was returned to service. During November 1997 it regularly worked the Haifa port traffic while T44 was undergoing a periodic check-up. With T44 given a clean bill of health and back on its usual port workings, 102 was noted on the Dagon trip turns by mid-December.

(b). Beer Sheba Light Rapid Transit. An agreement for the planning of a light railway system in Beer Sheba was signed 12/1/98 by Transport Minister Yitzhak Levy, Netherlands Ambassador Como van Hellenberg-Hubar, Beersheba Mayor David Bonfield and members of Logitech, a Dutch mass-transit planning company. Plans are expected to be completed within 10



months at a cost of NIS 5 Million (\$US 1.2M), and a new LRT system would be built and maintained by Ramta. The Beersheba municipality also commenced a three-day seminar on the subject of mass-transit in the Beersheba metropolitan area. Dutch planning experts, Beersheba municipi-

pal councillors, Transport Ministry staff, selected Israeli experts, representatives of Israel Railways, the Ministry of National Infrastructure and the Ministry of Housing are to study various aspects of a rail system in Beersheba. Public transport in the Negev, and relations between future urban construction and rail transport, will also be discussed. Levy praised the signing of the agreement, and said that the country is working towards mass transit in the Tel Aviv, Jerusalem, Haifa and Beersheba areas. He thought Beersheba would be the first actually to put the plans into effect. He said that by the end of the year the team will meet again with professional advisers to present the first plans for building a light railway in the city.

c). **Beersheba Line Developments.** On 13/2 Amos Uzani announced that the rail services from Tel Aviv to Beersheba (currently one train a day each way, plus an extra on Sundays and Thursdays) will be completely revamped as from April 1999. The new timetable to be introduced then will have 14 trains each way per day, and by the autumn of 1999 this will rise to 28 each way ! Improvement of services here is a central plank in the government's plan to create job opportunities for people living in the South, where unemployment is running as high as 14%. The route will remain single track at first, but I.R. will install four or five more passing loops and new electronic signalling equipment to allow for the more frequent services. (See below for more good news.) "Railway Gazette International" for March 1998, p. 139, adds that \$30M has been allocated to the upgrade of this route. Transit times for Tel Aviv - Beersheba will be reduced from 98 to 50 minutes (almost halving !); IR has awarded a contract to SEL-Alcatel for resignalling the 18km. section as far as Lod, with an option for the rest of the line.

d). **What a load of Rubbish!** Freight traffic on the Beersheba line is also set to grow with the decision to ship domestic waste from the Tel Aviv region for dumping in dis-used phosphate mines in the Rotem area. Up to 3,000 tonnes a day in 20ft. containers will be despatched by rail from Lod.

e). **Tilting at Windmills.** According to "Railway Gazette International" for 2/98, p.77, Israel Railways was planning to lease a DB VT611 tilting dmu for trials in March/April, and a double-deck push-pull trainset during May. ADtranz imported a two-car diesel set at the end of February - the first in the new "verkehrsrot" red DB livery, one coach bearing number VT611 527-3, an ABp (i.e. First & Second Class), with the slogan "Regioswinger" on the side and a destination blind reading simply "Sonderfahrt" - "Special trip". The other coach is 611-027-4. The set was transported from Germany to Rotterdam Waalhaven, hauled from Bad Bentheim by an NS 6400-class diesel, on the night 9-10/2/98; it arrived at Qishon around 25/2. The aim will be to reduce Jerusalem - Tel Aviv times from two hours to one hour..... presumably with the infrastructure changes noted below. According to Uwe Pietruck, this unit is ADtranz Works Number 22040/22041, delivered 25/7/97 to Kaiserslautern depot; the unit is meant to be in Israel 3/3/98-10/4/98, and two IR drivers (Jacob Moyal and Shalom Arditi) were trained at the Deutsche Bahn depot at Kaiserslautern from 9/2 to 20/2/98. Both drivers expressed great satisfaction with the unit. Sybil Ehrlich reports that there was a Briefing for journalists at Lod on 8/3/98; over subsequent weeks different demonstration runs will be made with various "top brass" in the hope of persuading them of the train's tilting abilities and to release funding for them. These will include Ariel Sharon, Prime Minister Netanyahu and Finance Minister Ne'eman. (The journalists quipped that any train would tilt when Sharon climbed on !) In her article in the "Post" for 9/3/98, Sybil added that Azi Feuchtwanger,

Chairman of the Board of the Ports & Railways Authority, has said it was absurd that the country's two largest cities had no proper rail link; for an outlay of only \$50M for infrastructure and \$50M for the new trains themselves, it would be possible to run 14 trains daily on the Jerusalem line - the alternative, costing \$500 Billion, would mean constructing a totally new line from Tel Aviv to Jerusalem. Travel time from Tel Aviv to Beersheba would also be substantially reduced, and theoretically it would take less time to travel by tilting train from Beersheba to Haifa than it would to drive on the new Cross-Israel Highway. Amos Uzani showed reporters a promotional film explaining the tilting-train technology; a computer in the train's control system senses curves on the track and causes the wheels to spread as the train takes a curve, at a maximum tilt of 8%; passengers do not feel the tilt and, according to the cartoon film - neither do their drinks ! See below: 40:5(b). for more details.

f). Jerusalem Line Tenders: IR is calling for tenders for upgrading the Jerusalem - Tel Aviv - estimated cost of the project is \$US 80M for basic upgrade, but \$300M - \$500M if the track is doubled..... and the aim would be to halve journey times from the current two hours to 55 minutes and increase ridership to 2.2 million passengers p.a. by 2000. (See many previous notes on this vexed topic !)

g). Valley Line Revival ? The Director General of Israel Railways, Amos Uzani, announced on 10/2/98 not only that Build, Operate, Transfer ('BOT') tenders will be issued for the Jerusalem line (see above), but also the Tel Aviv to Kfar Sava route and possibly the Haifa to Beit She'an line !

h). Privatisation Pronouncements. On the same day as (e) above, Uzani stated that new tenders would be issued under the auspices of the Israel Railways' successor body, to be known as "The Railways Company Ltd.", if the Knesset approves the establishment of the State-owned company. The current situation whereby Israel Railways is but one of four sections of the Ports & Railways Authority is not healthy, he said, and creating a new company will reduce the amount of time needed to implement new projects. However, Uzani opposes the total transfer of the Railways to the private sector. He is quoted in the "Jerusalem Post" for 11/2/98: "I don't think it is practical to privatise the railways, but [the government should] integrate the private sector much more and bring in private sector investment; there's nothing to privatise, no critical mass. I can't see anyone doing this. If we make it economically attractive, then people will be interested in investing." While Uzani praised National Infrastructure Minister Ariel Sharon for helping increase Israel Railways' 1998 budget from NIS 195 million to NIS 245 M, he fell short of welcoming the government's approach to the railway. "I only see government support in terms of the budget", he said; "I can tell you this year the government believes in us more than last year, but if they give NIS 500 M a year, then I'll believe in them even more." In order to complete the 'Railways 2000' Project, Israel Railways has asked the government for an annual NIS 500 M from 1998 to 2002. The aim of the scheme is to increase the number of passengers from some 6 million p.a.. now to 50-60 M at the turn of the century; the investments would also lead to 20-30,000 passengers entering or departing the Gush Dan region every hour. "This is not such a distant dream", Uzani said; "It can take as little as four to eight years and each year from now we'll move a little more in that direction. It's not going to take a lot of money". Effectively the changes mean a return of IR to its status before 1988 !

i). Doubling and Upgrading. Doubling of the Tel Aviv - Lod section and installation of

new signalling should be complete by the end of 1998. (See (c) above). On 22/2/98 traffic was moved to the new track over most of the route, to enable the old track to be refurbished. Apart from one km. of line under the Ganor Interchange the doubling was completed, but the new platform at Kfar Habbad was not yet in use. (The Tel Aviv - Haifa doubling should also be finally complete by the end of the year.) Stations will be refurbished at Kfar Habbad, Hof Carmel, Lod, Kiryat Gat and Pardess Hanna. (NB - there is no station here at present - only the overgrown remains of a 1950's platform.) Work will also begin on the Lod-Rehovot route and a new Lod - Rishon Letzion route. If time and resources allow, I.R. also intends to start construction of the stations at Tel Aviv University and Rehov Hahaganah, the northern- and southern-most stations that were originally planned along the new Ayalon route in Tel Aviv.

j). **A new Railway in the Golan!** At Moshav Avnei Eitan in the Golan Heights a company has been formed to build and operate a 60cm. gauge line as part of a new tourist attraction - "Ahuzat Habashan 1883". Latest news is that a land allocation of approximately 100 dunam is being processed; an American diesel mines loco has been purchased, negotiations are in hand for the purchase of some bogies on which passenger coaches can be constructed, and track will probably be purchased from the Czech Republic to make a 1 km. long line. The intention is to be open by summer season of 1999. Anyone wishing further details should contact Eliav Bar-Hai, the director, at fax (+972)-6-6762682.

k). **Gesher Tzar M'od.** Plans for a tableau of a Hedjaz Railway train at Kibbutz Gesher are progressing. On 13/2/98 three former HR bogie freight wagons (two box-cars and a flat) which had been restored at Qishon Works were delivered back to the Kibbutz; (their arrival was shown on Israel TV). They are to be placed on the bridge over the Jordan, but when visited by Sybil Ehrlich were not on rails. No numbers were visible - these may have been removed during restoration, but the Editor recalls finding these vehicles half-buried under rubble near the old Gesher Police Fort and very derelict over 18 years ago. The Hunslet 4-6-0T (60cm. gauge, of course, not 105 cm.) has gone to Kibbutz Ein Shemer for renovation (under supervision of Ran Hedvati) and will then be returned to Gesher as well. A series of five very nice postcards showing the former railway bridges and other installations around Naharayim (two of them black-and-white reproductions of pre-1948 shots) has also been produced. The only other item of railway interest is the station toilet building, which bears a blue plaque giving a history of the railway and the station.

l). **All's Fare.** The price of IR Monthly Season Tickets on suburban lines is being reduced by 7% from march 1st., to encourage train travel. Fares from Tel Aviv to Netanya, from Tel Aviv to Nahariya, and on the northern suburban lines will remain the same. Monthly tickets from Tel Aviv to Rehovot and Tel Aviv to Netanya will be NIS 280 (instead of NIS 300), from Haifa to the bay area towns will be NIS 224 (instead of NIS 240), and from Nahariya to Haifa NIS 336 (instead of NIS 345). Some rail fares will go up an average of only 1.3%, far less than last year's cost-of-living index. The fare from Tel Aviv to Haifa will rise from NIS 18.50 to NIS 19. Some 573,000 people travelled by train in January 1998, up 13% over January 1997.

m). **Aqaba Line Progress.** Further to 39:4(h): The "Jerusalem Post" in an article by David Harris noted on 18th. Feb. that work was starting that week on the private feasi-

bility study for the construction of a rail link between the Dead Sea and the Gulf of Aqaba. "The timing and decision to go ahead with construction depend very much on the outcome of the study", a "senior Ministry official" was quoted as saying on 17/2/98. The Japanese-based Nissho Iwai Corporation is funding and conducting the study, expected to last two months. If constructed, the new line would wind its way along the Rift Valley crossing the Israel-Jordan border several times; on reaching the Gulf, the route would split into two branches, one to Aqaba and one to Eilat. The link was expected to be discussed by National Infrastructure Minister Ariel Sharon and Jordanian Water and Irrigation Minister Munther Haddadin during a meeting in Jerusalem on 18th. Feb. Hadaddin is responsible for bilateral infrastructure projects along the border. The Jordanian Ministry of Transportation was, however, unaware of the commencement of the study. Secretary General Issa Ayoub said "The success of the line depends very much on the feasibility of potash transportation from one direction [i.e. southwards]; I don't know whether tourists would travel from Aqaba to the Dead Sea as Amman is now acting as the hub for our tourism....." The company believes it will take two to three years to complete work on the line, to carry both freight and passengers between the chemical-rich Dead Sea and the ports. The two governments are also jointly committed to increasing tourist numbers around the Dead Sea and developing facilities at both ends of the route. While no final figure has been set for the work, professional estimates suggest the line would cost around \$500M, which the governments hope would come from private investors ! A further possibility, according to the National Infrastructure Ministry, is a line transporting Jordanian Dead Sea chemicals to Ashdod for export rather than through Aqaba as at present.

(n). A New Cableway. "Yediot Aharonot" of 2/2/98 reported on a new cableway due to open later that month in the Galilee 'panhandle'. With a length of 1,895 metres the cableway, linking the town of Kiryat Shemona with the Menara Cliff, it is the longest in Israel, and is 850 metres above sea level. The cableway will have 12 passenger cars, each holding eight people, and three stations. It will offer unrivalled views of the surrounding area which includes the Lebanon mountains to the north and the Golan heights to the east.

40:5: ROLLING STOCK NEWS.

Although some comments has been made above, there is additional information on two vehicles that deserves separate mention: a). IR Bo-Bo diesels. Strangely, a lot of information has come from an article in "Rail" Magazine for Nov. 19 1997, p. 318, on the new "Class 67" Bo-Bos for use in the UK. These are going to be modelled on and use expertise gained in the construction of the ten locomotives for Israel, being built by GEC at Valencia, Spain. The locos incorporate a GM 12n710G3B 3,200 hp. 12-cyl. diesel engine inside a locomotive using GEC technology for high-speed operation. There are ten on order, weight should be 90 tonnes, to speed 90 mph., (to be upgraded to 100 mph. later) a Continuous Tractive Effort of 158 kN, fuel capacity 6,000 litres, D43 traction motors, and styling is with two cabs raked back, and a stressed bodyshell with corrugated bodyside. They are fitted for push-pull working with the new coaches (37 of which are now being delivered). They are part of an order which also includes eight Co-Co freight locos, which will also incorporate the 3,300 hp. "Megga" engines and have a top speed of 70 mph.

b). The Tilting Trainset. See above, 40:4(e). If the tests with the VT611 go well, it is

reported in "Eisenbahn Kurier" that IR will order 6 to 12 units of the Type 612 (the following series). Fuller details (from Steve Tish) indicate the trial set of 611-027/-527 was unloaded on the morning of 26/2/98 from the "Vegaland" at Qishon Port and transferred to Qishon Works the same afternoon. The first trial trip was next day, dep. Qishon approx 12.30 to the bay platform at Bat Galim, then at 13.05 to Hof Carmel, back to Bat Galim, then to Kfar Vitkin, and return to Qishon Works ca. 15.05. After around 6 weeks of tests it is due to leave Israel around 9th. or 10th. April. Car number 611-027 is 4 Bpd, EBA 95YO7Q527 HEN 22040, Car number 611-527 is 4 Abp, EBA 95YO7Q528 HEN 22041. Technical specification: Axles are 2'B' + B'2'; max. speed 160 km/h.; maximum loading gauge accords with UIC 505; min. curving radius 125 m.; length over couplers 51750mm., length of each car 25400mm., maximum width 2852 mm.; max. height above top of rail 4208 mm.; floor height above top of rail 1290 mm.; Distance between bogie pivots 17,500 mm.; wheel diameter - new / worn: 890 / 840 mm. Seating capacity 146, of which 24 1st. class, 110 2nd. class, 12 tip-up seats. Standing capacity 142 based on 4 persons per m². Maximum weight ready for operation: 116 tons. wheelset load 15 tons. Propulsion system: diesel hydraulic, diesel engine 2 x 559 KW at 2100 rpm, electronically controlled (Cummins QSK 19); Transmission through two hydrodynamic torque converters with fluid coupling (Voith T312br). Fuel tank capacity 1 x max. 1300 litres, per 2-car unit. Air operated disc brakes, with Knorr spring parking brake, hydrodynamic brake and magnetic track brake. Vehicle control through two MITRAC MVB modules. Carbody construction with aluminium extrusions, a central buffer coupling allowing a maximum of four units to run together; maximum angle of tilt is 8°, maximum tilting speed is 4° per sec. On 16/3/98 Sybil joined the trip with Ariel Sharon, and timings were: Tel Aviv 10.35. Lod (pass.) 10.47. Na'an 10.55. Kiryat Gat 11.09. Devira 11.19. Beersheba 11.28. Announced journey time was 51.5 minutes; they hit 160 km/h several times. Return: Beersheba 11.55, Kiryat Gat 12.14, Lod 12.35, Tel Aviv 12.48. On 7/4/98 Amos Uzzani announced that IR had started work on preparing international tenders for supply of tilting trains. Presumably all the politicians had been suitably impressed by a vehicle that could tilt to the left or tilt to the right at will, and still stay on the rails !

40:6: NOTES AND COMMENTS.

(a). **Last Train to Beersheba.** There has been some uncertainty in the past about the date when the service between Rafa and Beersheba was withdrawn. The April 1927 edition of the Official Gazette of the Palestine Government included an announcement by the PR General Manager that the line between Rafa and Beersheba would close on 31 July 1927.

(b). **Another Tour of Israel Railways.** The 'Deutsche Gesellschaft für Eisenbahngeschichte' (DGEG) are planning on organising a Study Tour of Israel Railways from Oct. 31st. - Nov. 7th. 1998. For full details, contact: Tomas Meyer-Eppel, Marienkirchstrasse 9b, D-53757 Sankt Augustin, Germany; Fax: (+49)-2241-21803. The intended itinerary is an Arkia flight from Cologne/Bonn; it is possible (subject to a group of 6) to take a connecting night flight from London. A special train for three days covering all main lines except to Nahariyya, which will be covered by an IC3 on the Wednesday; the Thursday will be spent linesiding, also visits to Qishon Works and Haifa Railway Museum. On Friday a bus will follow the Jezreel and Yarmuk valleys to explore relics there. Basic cost for Half-Board and all costs is under £1,000. It may be possible, depending on interest, to add an extra three days, to Nov. 11th., for around £250, and include a bus trip to the Dead Sea, Jerusalem, and linesiding the Negev lines. [Editor

adds - I wish this tour well - I'd love to go myself, but it clashes with a busy period for Rabbis ! It parallels one that TEFS and I were trying to put together back in 1992. The DGEG is a reputable and experienced organisation, and anyone wishing to cover "all the railways" in a brief period is recommended to try for this trip.]

(c). Re: 38:5 Rolling Stock Notes. (c) An Egyptian in Israel. From Alan Clothier.

Re: the captured ENR coaches mentioned by Paul - the number 1498 is the ENR stock number - it was one of a batch of 100 such third class open all-steel coaches Nos.1421-1510 & 1541-1550 in 1948-51 built by B. Martinelle (first 30) and Metropolitan Cammell. ENR Carriage Diagrams 112 and later 95 apply. No.1498 was one of the Metro built coaches. If Paul can quote other ENR vehicle numbers found in Israel I will be happy to identify them! The few which remain in use in Egypt (if any, by now) have long since been relegated to service duties. The ENR Diagram gives slightly different dimensions compared with those on the IR Diagram : 65'-6" length over headstocks; 69'-11/2" over buffers and 8'-10 15/16" as inside and 9'-53/4" as outside body widths (in this latter respect the difference of no less than 9" between inside and outside widths given by the IR Diagram is high as it makes the body thickness no less than 4 1/2"!). I could just visualise a draughtsman (or woman!) scrambling about over the vehicle with a steel tape-measure when making the new diagram! Seating as originally provided was for 102 and there was no guard's compartment. " And Paul writes: "A recently-discovered internal accounting report of IR dated March 1952 gives an outline list of locos and coaches on Israel Railways. Included is one ESR coach, shown as out of use but otherwise unidentified. Presumably this would have been a bogie passenger coach rather than one of those wooden-bodied six-wheel service coaches, an example of which is in the Haifa Railway Museum. Several of these service vehicles were around in Israel after 1948 (and for decades longer of course) but they would not have been included in that 19523 list, which showed coaches in public use. So what could that ESR coach have been, and what happened to it? Or was it merely an accounting error ?"

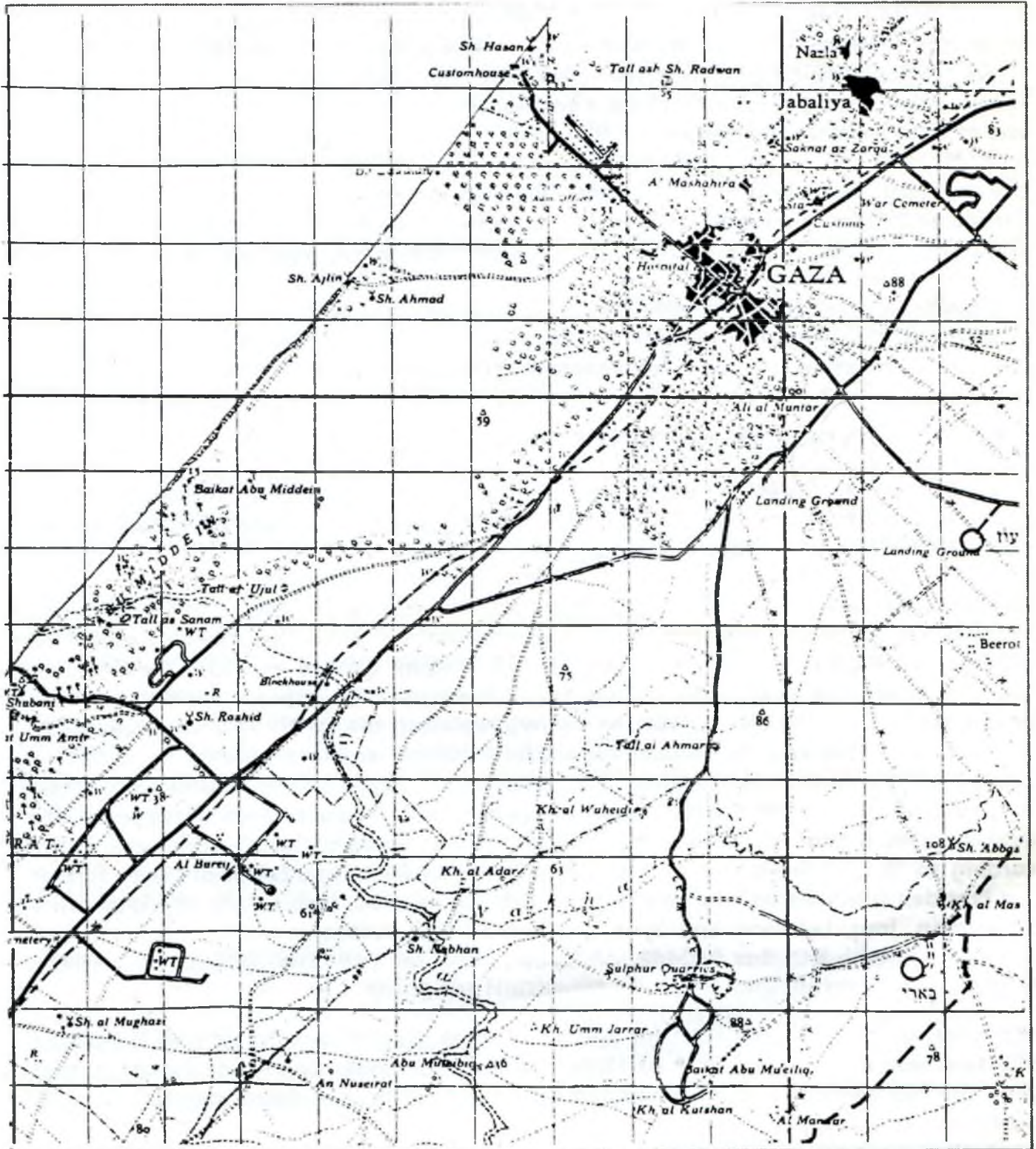
d). Hedjaz Film for Turkish TV. In January 1998 a Turkish television crew was engaged in filming relics of the Hedjaz Railway and associated lines, from Istanbul to Damascus and on to Medina. Paul Cotterell acted as a Guide within Israel. There is a possibility that an English-language version of the programme may appear on video in due course.

e). On 37:8: Iranian 2nd-hand Danish stock. From Hans-Henrik Landsvig: "The APO-Lyn are not real "diesel multiple unit" sets, but only trailers with a cab for the driver at each end. The idea was to let a diesel (or later an electric) locomotive push a set from Copenhagen to the Great Belt ferry in Korsøer, and right onto the deck of the ferry itself. On the other side in Nyborg another engine would haul the set from the ferry and haul it to its destination, then push it back to Nyborg and onto the ferry. In Denmark there were 60 first-class seats, 242 second class, length is 132 metres (fitting the ferry), weight 245 tons, max. speed 160 km/h. One coach in each set had a counter for selling food and drinks and a lift for handicapped passengers. Since they were prototypes, many details were different between the sets - amongst other things, two different bogie designs were tried."

f). On 38:13: the Trans-Iranian Railway. "This was built by two Danish engineering companies, Saabye & Lerche and Kampsax. Teheran station, described as "a minor triumph of railway architecture", is modelled on the contemporary station building in the

Danish city of Fredericia. The Danish companies were in a consortium with the Swedish company Nohab, which therefore supplied the rolling stock."

g). On 22:6:12: The Argaman Coaches. This is a roadside restaurant, and it was noted earlier (see also 21:4:8) that several ex-British Railways Mark 1 coaches had ended up here, presumably from the earlier "Apropo" stock. Sybil Ehrlich was able to visit in February and noted that the restaurant has been built between and above three former BR coaches, arranged in three sides of a square; they are painted pale blue with a 'jazzy' design, and resting on very short lengths of track only beneath the actual bogies. Two have been stripped of their contents and contained plastic chairs; the third, linking the



other two, cannot be entered as far as one could see.

h). Re: 39:13: "Cable-Worked Incline" - Correction: the second sentence at the top of p. 26 should read: "A couple of these show locomotives being used in tunnelling work."

i). On 39:10 - the "Sulphur Quarries" mentioned in the last line of that item. From Benjamin Ricardo comes a note, translated from a Hebrew book by Yosef Barslavi (Barslavsky) - "The Land of the Negev", Vol. 3, 4th. ed., 1956, p.188: "In the year 1930, Williams obtained a permit to exploit Sulphur South of Gaza. He founded an English-Arabian company by the name "The Palestine Sulphur Quarries Company Ltd." The company's capital was £P 37,000. 45% of the £P1 shares were in Arab hands and 55% owned by the English. In 1933 the company started to quarry sulphur; the site of the mine was fixed at Mushaba, near the K.K.L. (Jewish National Fund) lands in Nakhabin which belonged to Kibbutz Be'erot Yitzhak. The machinery, tools, engineers and various experts were brought from England. Local workers were recruited from among the Arabs of Gaza or from the Beduins of the vicinity. By 1936 the total output reached 5,767 tons. In 1938 output reached 1,225 tons. The mines reached a depth of 20 metres and the concentration of sulphur was 98%. The sulphur was marketed in England, Turkey, Greece and India, and some of it was sold in Palestine and Syria. Prices were between £P20 and £P40 a ton. During the Second World War production fell; the blockade of sulphur exports, rising labour costs, the non-availability of spare parts for the machinery, forced a total stop of production. It would appear that the quantities of sulphur available in these quarries was much less than had been earlier estimated by Blake." There is no mention here of "Steel Brothers". The accompanying map shows the mines reached by a road southwards from the Gaza Landing Ground towards Kh. al Kutshan.

40:7: OTHER MIDDLE EAST RAILWAYS.

I am grateful to Uwe Pietruck and others for sending information and extracts from "Railway Gazette International", "International Railway Journal" and "Rail Business Report 1998", from which much of what follows is taken:

a). SYRIA. (i). New Locos. According to the GEC-Alsthom "Web Page", this firm has won an order to supply Syrian Railways with 30 dual-cabin Co-Co diesel electric locos; the order is worth around 50 Million ECU, (FF 320 Million). Classed as AD33, the locos will have an operating speed of 140 kph and will be used to improve services on both passenger and freight trains, [but see below], replacing the existing Russian-built locos. The locos will have asynchronous drive, deliver 2,300 hp, and incorporate GEC-Alsthom's latest energy-efficient IGBT semiconductor-based electronic power control technology; they will be fitted with Ruston 12RK215 diesel engines. The finance package for the deal involves a counter-trade agreement for the purchase of Syrian merchandise. According to "R.G.I." for 8/97 this involved an inter-governmental Letter of Credit following President Chirac's visit to Damascus at the end of 1996. Incidentally, the local office for Jordan, Iraq, Lebanon and Syria is based at: GEC Alsthom, Fakri Center, 11, A'ab Street, Smaysani, P.O. Box 940442, AMMAN 11194; tel. (+962)-6-704760, fax. (+962)-6 704762.

(ii): New Wagons. The "R.G.I." for 8/97 notes that Wagon Pars Co. of Iran is building 500 tank wagons for CFS. I.R.J. of 11/94 had noted a tender by CFS for December that year, for 360 bogie wagons for carrying cereals and bulk granulated materials, and 45 bulk cement wagons.

(iii): Passenger Traffic Reductions. From "Fahrplancenter News" No. 27, p.21f: "The Syrian State Railways find themselves in a declining situation with passenger traffic. Already forced onto the margins by fierce bus competition, the CFS has begun to reduce its train services drastically. In January 1998 the situation looked as follows: The local train between El Yaroubieh and Al Qamishli on the legendary Baghdadbahn has been given up. Between Al Qamishli and Halab (Aleppo) the train service has been reduced to a single pair of night trains. (Formerly there were four train-pairs here). From Halab to Al Ladhqiyyah there are still two year-round trains plus one additional Summer Only pair (formerly four); Between Halab and Dimashq (Damascus) only one train-pair remains; formerly there were three. On the coast line Al Ladhqiyyah - Tartus including the extension to Dimashq the Summer-Only service has been withdrawn, leaving therefore just the solitary daily year-round train pair which, for some unknown reason, does not stop at the station of the city of Hims (Homs). All trains are formed of coaches built in the DDR. Freight traffic is operated on all routes of the CFS, including the spur line to Palmyra, which is not served by passenger trains although it has the appropriate stations. According to various reports passenger numbers have fallen from over 1.7 M. in 1995 to under 1.5 M. in 1997. Goods traffic has remained fairly steady at around 4.3 M. tons. As regards the Hedjaz route to Dera'a, nothing much is yet visible of the proposed regauging or new standard-gauge alignment. There remains a weekly train to Amman (dep. Dimashq Sun.O., dep, Amman MO), plus a Fri.O. train pair to Dera'a, and two daily return services by railcar to Qatana. A Syrian railway timetable is available (amongst many other intriguing items) from Fahrplancenter at Tellstrasse 45, CH-8400 Winterthur, Switzerland, price 3.50 SFr. for the A4 double-sided sheet. Tel./Fax: (+41)-52-213-1220.

b). IRAN.

(i): New Locos. Also from the GEC-Alstom Web Page: Iran State Railways has awarded this firm an order worth \$US 215 Million for the supply of 100 AD43 C, 4,300 hp. diesel-electric locos; they will be fitted with Ruston diesel engines and ONIX asynchronous drive systems, and will haul passenger trains at speeds up to 140 km/h and freight at 100 km/h. The first twenty locos and the sub-assemblies for the next five units will be manufactured entirely at GEC Alstom's factory in Belfort, France; the sub-assemblies will be assembled in Iran by Pars Wagon, GEC Alstom's Iranian partner for the contract. The remaining 75 units will be assembled in Pars Wagon's factory at Arak. They will include mechanical and electrical components produced on a shared basis by French and Iranian manufacturers. The first loco will leave the Belfort factory 18 months after the effective contract date; the first 25 units will be delivered within eight months and delivery will be completed in 2003. The contract includes a four year maintenance provision. This is the largest export order for diesel locos ever won by GEC-Alstom and its first in the Iranian market. Local office is 121 Avenue Ostad Motahari, BP 16115/768, 15-769 TEHERAN. Tel: (+98)-21 88 42 779-786, Fax: (+98)-21 88 42 688.

(ii): New Links. From "I.R.J." Oct. 1997: The Iranian Parliament has approved plans for a second link with Turkmenistan, serving the Northwest of the country. Turkmenistan Railways was expected to reach agreement in Sept. 1997 with Japan's Overseas Economic Co-operation Fund for a 4.5 billion Yen loan to fund upgrading and expansion of its rail network.

(iii): More Network Plans. From "R.G.I." 8/97: "Iran expects to triple its rail network to 23,000 km. by the year 2020, according to an announcement by Transport Minister Akbar Torkan in Dubai on June 12th. 1997. IIRR Managing Director Sadeq Afshar said that 300 locos and 10,000 wagons would be required in the next five years to meet growing traffic to and from the Central Asian region." Wagon Pars was to start delivery of 1,500 wagons as from September.

(iv): More Vehicles: Also from "R.G.I." 8/97: Wagon Pars Co. is seeking to build under licence 60 trainsets and 80 trams. From "R.B.R. '98, p.33: A fleet of 48 double-deck coaches for Tehran suburban services is being built by Changchun Car Co. Delivery is planned by September 1998.

(v): New Cut-Off Line. From "R.G.I." 10/97: President Rafsanjani formally inaugurated a new 280km. line between Bud and Meybud in central Iran, built at a cost of 235 million Rials. The cut-off shortens the Tehran - Yazd - Bafgh route by 100 km. to 635 km., and is aligned for passenger trains to run at 160 km/h. and freight trains at 120 km/h.

(vi): A Slice of Danish. Further to 39:15:(g): Hans-Henrik Landsvig has sent notes taken from an article by Erik B. Jonsen in the February edition of the Danish magazine "Jernbanen", published by the Danish Railway Club. - Ten Danish MZ-class diesel-electrics have been sold to a German company for re-export to Iran. They were built by Nohab in Sweden from 1972-74, and have 20-cylinder General Motors engines giving 3,900 hp. or 2867 kW at 900 rpm. Max. speed is 165 kph. - 166 DSB Passenger coaches have also been sold for export to Iran - on their own wheels. Most are to standard UIC design in the short, 24.5 metre variety. They were built in the late 1960's-early 1970's, but have been rebuilt since. There are 106 second class, 19 first-class and 15 composite 1st./2nds; however, all of them ran as second-class only during their last years with the DSB (Danish State Railway.) - Iran is also buying 26 coaches, originally built for the Copenhagen suburban lines during the seventies and eighties, with two double doors on each side. Eight of them have a driving cabin for push-pull working, and a first-class section. All this stock has become surplus since most of the long-distance passenger trains today are formed of IC3 units; the coaches have been standing in the station at Roedby Faerge (i.e. the ferry terminal), where several miles of track are surplus since the freight traffic has been diverted from the ferry to Puttgarden and via the new tunnel and bridge crossing the Great Belt. There were some doubts about the fate of these coaches as they contain large amounts of asbestos, and European Union regulations would have made it very hard to demolish them in a member country. (It appears that the DSB has, at a stroke, managed to dispose profitably of a whole generation of surplus stock !)

(vii). Getting the Point. Marc Stegemann has sent a cutting from the Dutch newspaper "de Gelderlander", 10/2/98, comprising a photo of two men working on a brand-new railway point to a background of stacked sleepers and rails. The caption: Two workers of Kloos Railway Systems in Alblisserdam dismantle a railway point that had been assembled for checking by the Iranian purchasers. The point is one of three hundred that are destined for the Iranian Railways. Iran has had to wait three years for the materials, because credit insurance agent NCM did not at first wish to do insurance business with that country."

(viii): IRAN: The "Rail Business Report" of 1998 has, pp. 48-49, an illustrated article entitled "RAI seeks Role as Asia's Grand Junction", by Abdullah Norouzi, Board Member,

Islamic Iranian Republic Railways (RAI). He is also Chairman of the Faculty of Railway Engineering at the University of Science and Technology in Tehran. Although some of the information duplicates what has already appeared, the majority of this article is transcribed here: "It is just over a year since the formal inauguration of RAI's 203 km. Masshad - Sarakhs line, connecting Iran's railway network to that of neighbouring Turkmenistan. In that year, the line handled over 1.5 million tonnes of freight - almost a quarter of its initial design capacity. The completion of the 'Golden Route' linking the newly-independent states of Central Asia with the Persian Gulf ports of Bandar Abbas and Bandar Emam Khomeini is a potent symbol of Iran's developing role as the region's railway hub - and underlining its immense strategic importance between Asia and Europe. Even before the Islamic revolution of 1979, Iran put considerable emphasis on reviving its historic role as a transit country, but at that time little attention was paid to the potential of the rail network. Today, developing our transit links remains the country's top priority for international relations, with investment in road, sea and air links as well as rail. Political and economic decision makers in Iran now understand very well the ability of railways to help establish international friendships and bolster long-term trading relationships. Looking at the history of countries such as India, Canada and now China shows the fundamental role that railways have played in uniting countries and continents. Network Expansion: To boost RAI's capacity for both domestic and international traffic, we have embarked on a rolling programme of extensions and upgrades. The completion of the Bafgh - Bandar Abbas line in 1995 and Mashhad - Sarakhs last year symbolise our determination to push ahead with this work as quickly as financial and logistical resources permit. Including some secondary lines, we currently have around 3,000 route-km. under construction, and hope to have almost all of these lines completed within the next five years. Another 6,000 km. is under study, but the start of construction of these lines will depend upon the availability of finance. International links remain a top priority among new developments, and four projects of major significance to the Central Asian region are currently under construction. We are also actively studying automatic gauge-changing equipment to speed up the flow of traffic across the interface between our network, which has the European standard gauge of 1,435 mm, and the 1,676mm used in Pakistan or the 1,500 mm. network in Turkmenistan and the other CIS countries. The first of the new lines is a direct link running south from Mashhad to Bafgh across the eastern part of Iran, shortening the corridor from Central Asia to the sea. This will save over 900 km. for traffic which must now take the circuitous route via Tehran. In the far Southeast, we have also started work on the long-planned 500 km. line from Kerman to the railhead at Zahedan, connecting onwards to the Pakistan Railways network; this link will complete the long-dreamed-of rail corridor from Europe to the Indian sub-continent.

To the north, work is almost complete on a short branch from Behshahr to the Caspian Sea port of Bandar Amirabad, which will form part of an enhanced multi-modal rail/sea corridor to Russia and the northern CIS countries. We are also in discussion with Turkmen Railways about their proposals for a rail link along the eastern shore of the Caspian Sea; following the signing of an agreement for the 400 km. link between Turkmenistan and Kazakstan last year, we are now working on proposals for the Iran-Turkmenistan section. To the Northwest, a new cut-off is under construction in the mountainous region between Mianeh and Tabriz, which will significantly shorten the main line from Tehran to the Armenian border at Jolfa and the Turkish border at Razi. This will improve our competitive position as a transit corridor from southern Europe and western Russia to India

and Southeast Asia. On the domestic side, we are engaged in a major capacity expansion programme. The biggest element in this is the double-tracking of the entire Tehran - Mashhad line, which will also be equipped with continuous welded rails. The Tehran - Garmsar section has already been doubled, as this carries substantial flows of both freight and passenger traffic. Local Manufacture. As well as new lines, we are also investing heavily in equipment and rolling stock. Iran is already self-sufficient in local manufacture of signalling and telecommunications equipment, but for other sectors we are looking to boost our capabilities through technology transfer deals. For example, we are increasing local production of passenger coaches and freight wagons at Wagon Pars, but there is still a long way to go before our fleet is right for our current needs. We are therefore looking to boost both the quantity and quality of our rolling stock through imports. As well as improving the network, it is clearly important to have well-trained and well-motivated staff to operate it if we are to achieve good results. To achieve this, RAI has already opened several training schools around the country. Our latest venture is the creation of a specialist railway college within the University of Tehran, making Iran one of the very few countries to have a dedicated railway college at university level. The college provides courses in operations, applied civil engineering, and traction and mechanical engineering. To ensure that proper resources are available for teaching, we are in contact with academic railway organisations in India and China, amongst other countries. We greatly value our international academic links with railways in many other countries. We are also pleased to be playing a more significant role as members of the international railway community, and we place considerable importance on co-operation. I was delighted to learn at the recent IRCA/UIC World Railway Congress that Pakistan Railways is rejoining the UIC, as this will ease our negotiations and exchange of information when the Kerman - Zahedan link is completed. The adoption of common signalling standards and regulations will help operations, as ... we are already looking to exploit exciting technical developments to deal with the interface between our network and those of Pakistan and India....." Illustrations include a passing loop in a mountainous area - "Passing loops at intermediate stations are being lengthened to accommodate heavy-haul trains of up to 12,000 tonnes"; A rebuilt GT26 diesel with forward-facing cab, for 160 km/h operation; the interior of a new loco maintenance workshop at Karaj; two heavy oil-tank trains passing on the double-tracked Tehran - Mashhad main line; work under way on the Tehran - Garmsar section laying cwr on concrete sleepers; and inauguration of new locally-produced signalling centre (incorporating results of a technology transfer from SEL of Germany.)

c). SAUDI ARABIA & GULF STATES. For information - the local GEC-Alsthom offices for this region are: P.O. Box 515, 40th. Street Malaz, RIYADH 11421, tel. (+966) 1 476 7337/477, fax: (+966) 1 477 0105; and for UAE, Oman, Yemen: P.O.B. 6676, DUBAI. Tel: (+971) 4 66 2670/0515, Fax: (+971) 4 66 8053.

A photo of Saudi Government Railways loco 3510 heading a train at a passing loop accompanies a caption in "R.G.I." for 10/97, noting that opening of the Al Hufuf - Ar Riyad cut-off in 1985 enabled the Saudi Railways Organisation to introduce 120 km/h. timings on this line, which runs almost dead straight across the desert.

d). TURKEY. (i). New Coaches. A note in the "International Railway Journal" for Nov. 1997 reports that the TCDD is putting into service a large fleet of TVS2000 coaches; a

small accompanying illustration shows a sleek vehicle with twelve tinted windows, looking similar to modern German vehicles or the most recent coaches of Slovenian and Croatian railways. They will be built by TCDD's affiliate Tüvasas (Turkish Rolling Stock Industry Corporation); the coaches are based on a standard design with a welded steel body 26.4 m. long and disc-braked Y32 bogies. There are already 86 TVS2000 coaches in service, comprising 48 air-conditioned 'Pullman' cars with 60 First-Class reclining seats, 9 "Brake-Firsts" (described as "similar coaches with a staff compartment"), 20 cars with 11 six-seat compartments and nine 55-seat air-conditioned dining cars. Another 20 'Pullmans' and ten Dining Cars should have been delivered by the end of 1997, and in the coming year Tüvasas should complete 60 Sleeping Cars. The coaches are designed for a top speed of 160 km/h.; they are fitted with swing-plug doors, full public-address, indirect lighting in the saloons, and double glazing. The upholstery and interior trim uses fire-retardant materials.

(ii): **New Electric Locos.** TCDD has extended the bidding deadline for 60 Bo-Bo electric locos with stainless-steel bodies and 2300 km/h capability; ten of the locos are to be delivered complete, the rest partially- or completely-knocked down for erection locally. (R.B.R. p.31)

(iii): **Istanbul Metro.** According to "Die Welt" for 11/10/97, the City Council of Istanbul has decided upon the construction of a rail tunnel under the Bosphorus - thus linking Europe and Asia. The background is the catastrophic transport situation in the city; hundreds of thousands of buses and cars grind daily over the two bridges which link the two sides of the city. The new railway - construction of which should be starting in early 1998 - should help with this situation. The terminus on the European side will be the Metro end station at Yenikapi. From there it will descend and pass in a loop under the Bosphorus; the tunnel will be around 1.8 km. long and will be 60m. deep, and placed on the sea bed. In Asia the line will emerge from the sea in the district of Usküdar. Modern metro trains should cross the link in 2 minutes, 20 seconds. The line should take around four years to build at a cost of around 2.6 billion Deutschmarks.

d). **Steam Relics and Tours.** From Prof. Landau of Jerusalem I received the February 1998 edition of the Turkish Airways in-flight magazine "Skylife"; pp. 36-46 have a fairly typical "journalese" article on steam locos and some nice shots of G10-type 45017 shunting coal hoppers. The article refers to the museums at Camlik and Izmir, and notes that TCDD organises steam train excursions for travel agencies and groups on request. For details, contact: TCDD Genel Müdürlüğü, Yemekli Yataklı Vagonlar ve Turizm Daire, Baskanligi Gar, ANKARA, tel. (0312) 3090515/4319.

e). **EGYPT.**

(i): **Cranes.** The ENR has ordered five telescopic boom railway cranes from Mannesman Demag Gottwald, Germany; each crane has a maximum lifting capacity of 100 tonnes at 8m. radius.

(ii): **Diesel Locos.** ENR is taking delivery from ADtranz of Kassel, Germany, 68 heavy-duty locos for use on the Abu Tartour - Safaga line. It also has 30 locos on order from General Electric. (R.B.R. p. 32). This will bring its diesel loco fleet up to 645 units.

(iii): **Cairo Metro.** An article (in Dutch) in the magazine "De Ingenieur", No. 21, 10th.

December 1998, pp. 44-45, is entitled "The Dryest Tunnel in the World". The article, by Pat Beerman (a freelance), is an interview with 38-year old Ruud Hulscher, involved since the beginning of 1996 on the construction of the North-South line, "Line 2" of the Greater Cairo Metro.

(iv): **EGYPT article.** Also in "Rail Business Report" 1998, pp. 44-45, is an article by Eng. Mahmoud Marei, Chairman of Egyptian National Railways: "East-West Route boosts ENR Modernisation." "Egypt boasts the oldest railway network in the Middle East and Africa, the first line in Egypt having been opened in April 1853. Under the leadership of long-serving Egyptian Minister of Transport & Communication, H.E. Eng. Soliman Metwalli Soliman, ENR has in recent years made efforts to upgrade its premium passenger services. Many of these now include modern air-conditioned coaches that ensure a pleasant travel environment for passengers. Some of these are new vehicles, while others are refurbished. The overall aim is to provide the best possible service on what is largely a passenger railway. Three ANF turbotrains, each comprising 10 air-conditioned coaches, have been running between Cairo and Alexandria for over 10 years at speed of up to 140 km/h. In the meantime other modern air-conditioned coaches with high comfort levels have been introduced on the Nile Valley route. ENR has four specific objectives: - to ensure a high level of safety and to reduce travel times on the passenger network. - to provide a comfortable passenger environment at competitive prices. - to attract new freight customers by offering modern, efficient services and pro-active marketing. - to make efforts to raise revenue, taking into account social circumstances.

Nile Valley Upgraded. Working towards these objectives, a major development programme has been carried out in the last 20 years, and there have been some notable achievements. Among the most important projects completed during the last few years was double-tracking of the Nile valley corridor from Cairo to Aswan. The work was finished in 1996 to coincide with the 'October Victory' national celebrations, the final 205 km. section from Luxor to Aswan costing EP 650M. The first 300 km. from Asyut to Luxor was doubled in 1992. With double track now in place along the whole route, capacity has been doubled from 60 to 120 trains per day, and line speed raised from 60 to 110 km/h. The journey time from Cairo to Aswan has been cut from 18 to 12 hours, allowing ENR to cater for a significant volume of tourist traffic. In total, 87 stations and 34 bridges have been rebuilt, and improvements have been made to safety and signalling equipment. Hardly less important has been the construction of a 680 km. new line - the first railway to traverse the Nile valley area from east to west. Built as part of the Upper Egypt Development Programme, it aims to develop the oases in the western desert for industry and tourism, so taking pressure off the overpopulated Nile valley. Leaving the Nile Valley main line at Qena, the eastern branch runs for 235 km. to the Red Sea port of Safaga. The 338 km. route to the west provides a link to the New Valley, a development area centred on the El Kharga oasis. At Qena it crosses the Nile on a 1,170m steel bridge - the longest on the whole river. The official opening ceremony for both sections of this route was conducted by President Mubarak on October 2nd. 1996, although the eastern part had been operating since 1984. A weekly passenger train now operates between Luxor and El Kharga town, sharing the line with heavy phosphate traffic. Freight trains serving Safaga carry mainly phosphates and cereals.

More New Lines. The next stage of development in the New Valley area will be to link Baris Oasis to the Qena - Abu Tartour line at Km. 368, where this line crosses the Kharga - Baris road. The 46 km. line will have three intermediate stations. Estimated

cost of this project is EP75M. Another area which needs better transport links to ensure economic development is Sinai. Within the framework of the national project for development of Sinai up to 2017, a rail link is planned between Sinai and the Nile valley to support agriculture and economic development. The proposal envisages a 225 km. branch off the Ismailia - Port Said route. From the junction at El Ferdan, a 640 m. long steel swing bridge will take trains across the Suez Canal; the structure already under construction will leave a 320m. wide free channel for ships. The line then runs east, parallel to the northern coast of Sinai, as far as Rafah at the border with Gaza. There will be 12 intermediate stations, and the line will be equipped with modern signalling, microwave communications and CTC, all powered by solar energy. The line has been designed to cater for 160 km/h passenger services, as well as freight. Construction started in January 1997, and completion is planned within three years, including the swing bridge at El-Ferdan, at an estimated overall cost of EP 1,000M.

Fleet Continues to Grow. ENR has been taking delivery of 98 new diesel locomotives - 68 from ADtranz in Germany, and 30 from US supplier General Electric. When all are delivered, ENR will have a total fleet of 645 diesel units. A 1995 order for 45 locos from ADtranz was later increased to 68 Type DE 2550 units rated at 2,445 hp. The first batch was single cab units which are now used to haul mineral traffic on the Abu Tartour line. However, a decision was taken in January 1996 to modify the order, with the last 23 now being built with a cab at both ends for more general work in the Nile delta region. The first 15 of the US locos were ordered in November 1995 and the contract was later increased to 30. They are designated "CP-18 7i", and are rated at 1,650hp. The contract includes spare parts, technical support and a training programmer to familiarise ENT operations and maintenance staff with the locomotives. The project was financed by the US Agency for International Development. Turning to hauled rolling stock, we have recently refurbished and modernised 249 air-conditioned coaches, including first, second and club class vehicles and sleeping cars at our own workshops at Kom Abu Radi, with technical assistance from Spain. This takes the fleet of air-conditioned coaches to 763, in addition to 2, 928 standard coaches. ENR has signed a contract with Egypt's domestic manufacturer SEMAF to build 100 new standard (non-air conditioned) coaches at a cost per coach of EP 2.3M, and to refurbish to similar standards 100 second and third class coaches at a cost per coach of EP1.13M. This work will also take place at Kom Abu Radi. The refitted coaches will have 88 seats with glass fibre shells and walls, ceilings and luggage racks also prefabricated in the same material. They will be fitted with modern toilets, reflective window glass, powerful ventilation, and indirect lighting. The fleet is being formed into rakes of second and third class vehicles, and 14 trains were ready for operation in the 1997 summer season. By summer 1998, 25 trains should be available. [In standard 8-coach formations.]

Freight Increasing. The steadily rising demand for freight services requires better efficiency and utilisation of our wagon fleet to provide enough capacity. A project begins in January 1998 to rehabilitate 8,500 wagons from the total fleet of 12,556. Many other improvements have been completed recently or are currently in progress. Manual semaphore signalling on routes serving the ports of Damietta, Alexandria, Port Said and Port Suez will be replaced in the next three years by tokenless block costing EP245M, helping to increase train speeds and line capacity. Another improvement that will be noted by passengers is the introduction of computerised ticketing and reservations for air-conditioned train services on the Cairo - Alexandria and Cairo - Aswan main lines."

(v). **An Old Film.** Marc Stegemann recently went to watch "Cairo Station - Bab Al-Hadid", a film produced by Youssef Chahine in 1958; starring Youssef Chahine and Hind Rostom. The blurb for the 90-minute film stated: "The director himself plays a leading role in a realistic drama that takes place in a small group of loungers and lemonade sellers on a big station in Cairo. As a crippled newspaper seller he falls obsessively in love with a beautiful lemonade seller. Chahine explores sexuality and repression, madness and violence". He reports: "The subject is the hustle and bustle of the main Cairo railway station, mixed with some romance and with a sad ending. Fortunately, there were nice shots of shunting steam locomotives, shots from the cab, funny 'musical' scenes inside a train, and altogether a contemporary setting in which tradition conflicted with modern times."

f). **JORDAN.**

(i) . A "Peace Railway"? Further schemes and dreams continue to appear. The German magazine "Der Spiegel" for 15/9/97 had a brief article entitled "Schienenstrang für den Frieden", or "Rail routes for Peace". Editor's translation: "In spite of the unsuccessful Israeli-Palestinian negotiations moderated by US Foreign Secretary Madeleine Albright, who also continued her efforts for the peace process over the weekend on Jordan, Syria and Egypt, there are in the Middle East signs of future co-operation: according to the major Japanese concern Nissho Iwai, a rail link should join the Jordanian harbour of Aqaba with the Israeli west side of the Dead Sea, for the transport of the ammonium sulphate processed there. Later the line could be extended along the Jordan towards the north, with links to Jericho, Amman and Jerusalem. The Japanese are not letting their study be affected by the recent political crisis; "Our project will serve Peace", said a spokesman for the firm; "All parties will profit from it". A pocket map accompanying the article shows the north-south line heading northwards towards Beth Shean and a Jerusalem- Amman railway crossing it at Jericho

(ii). **Hedjaz Update.**

Not a lot to add as yet - hopefully there will be more on the next TEFS tour in the next issue. But a note from Bill Alborough advises that Pacific No. 85 was not ready to work the special train as hoped, and that 2-6-2T No. 61 still has no brakes !

g). **PALESTINE.**

Sources in the British Diplomatic Service advise that the Palestine Authority Ministry of Transport maps still show the old railway through Gaza as operational. The Local Aid Co-ordination Committee for development assistance in West Bank and Gaza (1996) alludes to a railway development plan, but gives no more information. The Palestinian Investment Plan (P.I.P.) may have more details but has not yet been inspected. The Palestine Development Plan seems to indicate that railways have been dropped in favour of roads development.

h). **GENERAL.**

Also from "R.G.I." 12/97: "The UIC Middle East Railways Group has adopted a development strategy for regional rail links from Turkey and Syria to Lebanon, Egypt and Saudi Arabia via Jordan, from Turkey, Russia and the Central Asian states to the Gulf, and from southern Europe to India via Iran and Pakistan." Intriguingly and conspicuously, one state with a developed rail system is omitted from this list ! Hmmmmm. Ironically, back in 1946 it was Arthur Kirby, the General Manager of the then-Palestine Railways, who was at the forefront of schemes to co-ordinate through passenger and freight traffic at the Middle East Railways Conference Association, which met in Istanbul that year

40:8 DUTCH EXPORTS TO THE MIDDLE EAST.

By Marc Stegemann.

"I have been investigating what railway products the Dutch have exported; of course, it is not an important part of our industry and never has been; although "Werkspoor" may be a familiar name, I don't think the Dutch manufacturers of locomotives, rolling stock, trackwork, signalling systems, bridges etc. ever have been able to really compete with the English, American, Russian, Belgian or German manufacturers. (This is even the case in our own former colonies!) Nevertheless, there have been some known cases of export. I have until now traced approximately 50 Dutch companies which have (or may have) been exporting various railway products. Exports have been to about 12 European countries, 8 Latin-American, 4 African, 8 in the Far East, former colonies included. Egypt I classify as Africa. Apart from what is noted below, though, there appears not to have been much in the way of export to the Near East - though my researches continue.

In the early years of railroading one of the civil engineers involved was also an expert in drawing plans for canals. (1862 the Amsterdam Ship Channel through the dunes to the North Sea). Mr. F. W. Conrad (1800 - 1870) was well-known nationally, especially for inventing various peculiar types of railway bridges (such as the "crane bridge") that could be opened for the passage of sailing ships. Internationally known via the "Minutes of Proceedings of the Institution of Civil Engineers" (since 1843), in 1866 he was invited to visit Egypt for "helping to dig" the Suez Canal. I suppose his efforts were more intellectual than physical, but maybe sources are available somewhere on Conrad's contribution to this canal. In 1949 the "DuCroo & Brauns" company from Amsterdam exported a 45 hp. 0-4-0T loco (Works No. 387), for 60cm. gauge to "W. Hart" in Cairo. The book on DC&B locos by Jan de Bruin provides no photograph or additional details about its destination. Chances are that this loco was to be used by a sugar plantation or mill, but on the other hand there must have been a lot of unused n.g. locos around at that time - so why would the Pharaohs have bothered buying a Dutch product? In 1954 "Allan" of Rotterdam exported twelve 3-coach electric train sets to the 1500V DC Cairo-Helwan suburban line. The Allan company previously was involved in building of a prolonged series of streamlined electric train sets for the NS (Netherlands Railways), so they must have been experts at installing 1500V DC traction equipment. Allan has long ago disappeared, and original sources are sparse. Transport to Egypt may have been by a shipping company from Rotterdam with the 4-wheel bogies under deck and the car bodies as deck cargo for the vessel. In later years Allan bought a "coaster" vessel of their own for overseas export and this proved much cheaper. There may have been some corrosion problems with the car bodies due to salt deposits; I write "may have been" as my source provides conflicting data with regard to another overseas export order. The corrosion problems were tackled later, but no details were provided as to how this was done. In Egypt the train sets experienced heavy use with resultant wear-and-tear. Some axles broke due to the combined effect of overloading and worn track. Reportedly the "double bull-head" rails had been turned upside down too many times; I suppose therefore that metal fatigue contributed to the cracks along with missing bull-heads or very uneven rail joints. The source does not provide information as to what has been done to remedy the problems, apart from replacing the fractured axles. Possibly the truck springs were altered to accommodate the heavier load. I have not yet found a visitor to Egypt who travelled on these trains or any evidence of their survival to the present.

On a recent visit to the Aqaba mineral railway in Jordan we spotted a train signalling console manufactured by NMA (Nederlandse Machinefabriek Alkmaar). The Arab fellows on duty were obviously pleased with our visit to their humble signal post in the middle of nowhere, but both parties suffered from speaking different languages. No more details are available as NMA will not divulge information to "strangers". Any further information on Dutch products in the region will be welcomed!

40:9. THE OPENING OF THE JAFFA AND JERUSALEM RAILWAY.

FROM: "SCRIBNER'S MAGAZINE", Vol. XIII No. 3, March 1893.

Thanks to Martyn J. Hodes of San Diego for a photocopy of an article from this magazine - original price 25 cents, price now beyond rubies - where, on pp. 289-300, one Selah Merrill has written the following illustrated account. I have retained the Americanised spelling.

"If ever an act seemed like sacrilege it is the introduction of a railroad into Palestine, with the sound of whistle and rushing train among the old and quiet hills of Judea. Everybody believes, however, that Providence is guiding the march of civilization, hence there can be nothing unholy in the fact that its advanced guard has reached the walls of ancient Jerusalem. We had already the post-office, the management of which has notably improved during the past ten years; we had also the telegraph; and while one should not expect too much of Oriental lightning, and must sometimes be satisfied if it makes a full hundred miles in forty-eight hours, still the natives, both high and low, are gradually waking up to the idea that it means promptness and rapidity - that it is a kind of annihilator of space. But it was reserved for the year of our Lord one thousand eight hundred and ninety-two to introduce here the railway, with all its strange and stirring life. The present is a kind of "Columbus year" for Palestine, and in commemoration of the opening of this road in the Holy Land, an extra flag might be displayed at the great Chicago Exposition.

During the month of August (1892), tens of thousands of people, for the first time in their lives, have seen a

railroad and a train of cars. They have had a revelation, and in the great city as well as in the dirtiest village of the land, wonder is at its height. The excitement can hardly be realised by the inhabitants of other countries, to whom railroads perfected by the highest engineering skill and with lavish expense are objects as familiar and common as a daily newspaper. We forget that, not so very long ago, in our own country we had only bridle-paths and scarcely a yearly post, while railways and steamboats had not even been dreamed of. Let all the world rejoice if this medieval country is experiencing a sensation which it can hardly comprehend. The significance of this event is not that fifty-three miles of railway have been built, or that the capital and the seaport have been united by iron rails; it is that this has been done in Turkey, which has always, by all the prejudice and force of religion, by all the arts of its diplomacy, and by every other means at its command, done all in its power to keep out Western civilization. It is therefore a well-aimed spear-thrust in the side of this old despotic backward looking government, and may foretoken for it either the dawn of health or the shadows of inevitable death.

But no one can make use of this railway until he gets into the country, and the process of landing at Jaffa is the same

old bugbear that it was before the railroad was built. This process, however, in the large majority of instances, is not at all formidable, but the remaining instances are no doubt rather trying to sensitive nerves. The fact is that Jaffa has no harbor; there is a bit of water protected by a reef of rocks where small boats can be sheltered if they succeed in shooting themselves into it before a storm overtakes them; but steamers and large craft have to stand out to sea for safety. There is evidence that, on the north side of the present town, there was, in ancient times, a sort of harbor, small but safe, which is now silted up and covered with orange groves. The great public work most pressingly demanded at the present time is the construction of a breakwater of dimensions sufficiently ample for the protection of shipping of all kinds. The railroad during the slack season of the year - say during the entire summer, from May till October - might employ their forces in carting down one of the mountains of Judea, saying: "Be thou cast into the sea", and thus form an effectual barrier against the mad waves of the winter storms. Since any number of laborers can be obtained for twenty to thirty cents a day, furnishing their own food at that, the cost of such an undertaking ought not to be so great as to prevent its being done. Delicate women and dignified clergymen who have been tossed from the steamer's ladder into the great bare arms of a stalwart Arab boatman standing in a boat below, while steamer and boat and sea were dancing like captive rubber balls in a gale of wind, think nothing could exceed the discomfort which they experienced; how, then, would they estimate the task of the railroad company, who had to get from ship to shore, in spite of rough seas, all the rails,

ties, iron bridges, cars, engines, colossal water-tanks, and everything else that was required of the road? The task, however, after much serious risk to life, many mishaps, and some discouraging and costly accidents, was accomplished; but the difficulties overcome only emphasize the great need which Jaffa has for a suitable harbor and landing-place. The reef just referred to, with its bit of sheltered water, is directly in front of the middle of the town, and the town itself is defended from the sea by a high wall from the top of which the houses begin. Travellers are hoisted up here, but all the materials for the railroad must be got ashore elsewhere. From a safe point on the north side of the town the company built a temporary track of rocks and timber, shored up in the strongest possible manner, so that it might not be swept away by the waves, which ran along in the shallow water under the wall of the town until it reached a certain point in the reef of rocks beyond which the water was deep. Hither from the steamers was brought, on strong lighters, the material for the road, and all seemed to be working well; but one night a terrible storm, such as Josephus relates was long ago named by the Jaffa mariners "The Black Norther" ("Wars", iii., 9,3), ruined a large part of the structure; as nothing was to be done but to try again, at great cost of time and money it was rebuilt, and finally served the purpose desired. Certain things, as, for instance, the boilers of the engines, were dumped into the sea, and, like great captive monsters, were easily towed to land. Everything that could be constructed thus was made in sections, and engineering skill contrived to handle these so that at last the materials were all landed without serious injury.

Jaffa rises from the sea not in rugged outline, but round as a Roman arch, and is girded with a vast belt of green, made up of gardens, orange-groves, palm-trees, wells and water-courses, and white cottages just visible beneath luxuriant shade; and looked at from either sea or land, it well deserves its ancient Hebrew name of "beautiful". Without patient human industry, however, all this would retrograde so that it would soon be described as "a little barren hill in the midst of a sandy waste". The town is Mohammedan. It possesses also a considerable population of Jews, but it is to the large Christian element that its present prosperity is chiefly due. It can boast of excellent hotels, hospitals and schools. It has an unfailing vegetable market in Port Said, where great Indian ships are constantly passing to and fro. Of its enormous orange crop, forty millions to sixty millions are sent every year to Egypt, Europe and London - enough to make thrice glad the children in half of the cities of the American Union. It sends abroad annually from four hundred thousand to six hundred thousand dollars' worth of native soap, making one wish that the people of the country would afford to use a little more and sell a little less; while its exportations of wheat, barley, maize, olive-oil, wine, and other commodities, together with its imports, make its commerce mount up into respectable millions.

Both north and south of Jaffa the coast is one continuous sand-bank, broken at points into low hills, running parallel to and a short distance back of the water limit. Through this bank the road must go, and a vast quantity of sand had to be removed before a proper roadway was secured. Passing for a mile and a half through these gigantic walls

of sand along the line of the road, we suddenly look out on to gardens and cultivated fields, beyond which a broad plain stretches, apparently without limit, toward the blue and far-distant hills. That is the Plain of Sharon, rich as the heart of man could wish, and justly famous in the Sacred Books; and when, even now in springtime, this great plain spreads out its flower-covered acres beneath the loveliest sky, the beholder forgets, for the moment, that he is in a land of ruins and desolations.

It is interesting to note that the different plans for the construction of a railroad between Jaffa and Jerusalem extend back over nearly forty years, although they did not take definite shape until about the year 1860 to 1863. The wild country between Jerusalem and the Plain of Sharon was not then known as it is at present, and the difficulties in the way of selecting the best route can hardly be appreciated. There was then only a camel path, or rather several of them, between the two places, none of which seemed suitable for the line of the proposed railroad. Some advocated what may be called the middle route, not essentially different from the present carriage road; others thought a more southern route the best; while the majority considered the northern route the only feasible one. This was the line of the old Roman road from Jerusalem to Caesarea; it passed close by Mizpeh, the home of the prophet Samuel; it crossed the great battlefield where Joshua routed the army of the Five Kings (Joshua x); it went down the mountain by the Pass of Beth Horon, where, in A.D. 66, the Twelfth Legion, under Cestius, was cut to pieces by the infuriated Jews; it touched Lydda, where "saints" then "dwelt" (Acts ix.32), a class that has long since disappeared from the country; and

it was the road by which Paul went as a prisoner with an escort of four hundred infantry and seventy cavalry - in such state, in fact, that one might justly call it his last triumphal march away from the Holy City (Acts xxvii). It was proposed to cross the plain in an easterly direction from Jaffa, climb the foot-hills till the pass just mentioned as reached, and thence approach Jerusalem from the north. This route had historic interest and sentiment in its favour, and it was more than once carefully surveyed. French engineers were in the country in 1874-75, with special reference to marking out the railway line along this route, and the scheme appeared then so certain that individuals began to think of investments along that line in anticipation of the road being built.

What is now about to be related is a fragment of hitherto unwritten history, in which Americans should take not merely a curious interest but a bit of honest pride. There was a man here named Charles F. Zimpel, a Prussian by birth but a naturalized American citizen, who, in 1860 to 1863, surveyed the different routes carefully, and decided to lay down the line of the proposed road along what has before been mentioned as the southern route. Mr. Zimpel was a man of excellent education and of very versatile talents. In early life he had received a thorough military training. he was regularly graduated as a Doctor of medicine and also of philosophy. He had a special liking for pharmaceutical studies, took a practical interest in railroad engineering, and had withal a passionate love for the Holy Land. He was never married, he travelled extensively, and the year 1852 found him in Palestine examining with enthusiasm its many places of interest. In 1853 he published a book entitled "Neue öertliche

topographische Beleuchtung der heiligen Weltstadt Jerusalem". The next seven or eight years he spent in the United States, devoting himself exclusively to the work of surveying and constructing railroads. He came thence to Jerusalem, having accumulated considerable means, and surveyed and mapped out the railroad as has been described. He spent a year in Constantinople trying to obtain a "concession" for building the road, but without success. He returned to Jerusalem and to the practice of medicine, chiefly to the compounding of medicines. About this time it was noticed that he had become somewhat eccentric, and as an "experimenting pharmacist" he discovered some wonderful remedies which he called Sunlight Pills, and Jerusalem Life Extract, in which he himself had great faith. He had also much to say about the "hundred and forty and four thousand" of St. John's Revelation, and his hope of being worthy to be numbered among them. Not long after he went to Italy, and died at San Remo. Dr. Zimpel (simple, as most people thought him at last) was at rest, and his railroad scheme was practically forgotten.

Thirty years after this Sunlight Pill man had been in a land made one of perpetual sunshine and song by the presence of the Master whom he loved, other men entered into his labors. Within thirty months past, men backed by French capitalists have come to Palestine and, rejecting the northern and middle routes, have actually built a railroad following minutely Dr. Zimpel's plan. The only variations are at two points, one near Jaffa and the other near Ramleh, both on the flat land, where the change was simply a matter of convenience. Dr. Zimpel's survey made the road eighty kilometres in length, while the road as

built is eighty-six and one half kilometres. The significance of having chosen the best route may be emphasized in the reader's mind when it is stated that two-thirds of this road is on the plain and one-third in the mountains, which must be climbed in order to reach Jerusalem, two thousand five hundred feet above the level of the sea. What has been said is but a brief and imperfect tribute to the memory of this well-nigh forgotten man, and if full honor were to be done to one whom, as in this case, honor is so justly due, stronger and much more fitting words should have been chosen.

Without its entering at all into the projectors' or the builders' plans, the construction of this road has had a kind of international character. A French company with French capital has built the road on Turkish soil. Turkey also gave the concession, has a commissioner to see that its terms are carried out, and has the honor of having the company bear its name, Imperial Ottoman, etc. Besides the money, the ties, the cars, and half the rails came from France. She also furnished surveyors, engineers, laborers and cooks. Belgium furnished half the rails and half the coal. The other half of the coal came from Cardiff, which appears to have been England's share. Poland furnished at least one engineer. Switzerland furnished several engineers, very skilful men, and the engineer-in-chief of the planning and construction of the road was Gerold Eberhard, a Swiss gentleman who has had eight years' practical experience with railroading in Panama. Switzerland has likewise had a worthy representative in Mr. John Fruitiger [sic], a gentleman from Basel, long a prominent banker in Jerusalem and noted for his benevolent spirit - now unfortunately laid aside from active duties by an incurable disease -

who in the early stages of the history of this road did more than any other individual, both by his means and by his influence, to secure from the Turks the concession or permission to build - a favor which that government was exceedingly unwilling to grant. Italy furnished engineers and laborers; Austria likewise furnished both. Laborers were furnished by Egypt, the Soudan, and Algiers; little Greece furnished cooks. And if the United States must share with Germany the man who first surveyed and mapped out the road and afterward made Sunlight Pills, America is ahead of the Fatherland, in the fact that the engines thus far purchased by the company for the road were all made by the Baldwin Locomotive Works, in Philadelphia. Poor Palestine must not be omitted from the list, although she belongs to Turkey; she sacrificed some of her beautiful orange-groves and vineyards, and many of her ancient olive-trees; she furnished provisions for men and animals; hers were the beasts of burden for all heavy work; and many of her people, from both plain and mountain, toiled during the storms of winter and the severe heat of summer, cutting down hills and filling valleys, to prepare this new highway of the nations.

The company experimented with different classes of laborers, and nearly all had one fault, namely, that of laziness. The Arabs on the plain could handle readily its alluvial soil, which was free of stones, but in the rocky hills they were worthless. Several hundred Italians were imported, a kind of picked-up job-lot, and only about one hundred of them proved to be serviceable workmen. The Algerines and Egyptians, especially those that were accustomed to work on the Suez Canal, were more efficient than the natives of Palestine. But when the plain was crossed

and the real struggle with nature was begun in the hills of Judea, none of these workmen were equal to the task before them. Men were needed who were accustomed - as their fathers before them had for generations been accustomed - to work in stone, and some of the mountain villages furnished just this class. The stone-masons of Bethlehem and of the neighboring town of Beit Jala, slowly but successfully cut a path for the iron rails through mountains of rock. Barracks were provided where the workmen could sleep, but they furnished their own food. Twice a week doctors visited the various camps to render any medical services that might be needed; but on the flat land between Ramleh and the mountains a considerable number of men died. When the chief engineer was asked if the laborers ever had a holiday, he smiled and said that they took the law into their own hands; for the next day after pay-day a majority of the men were never seen on the road. The wages of these workmen were not such as to tempt laborers in prosperous America, for the Arabs on the plain received thirty to thirty-five cents a day, the Egyptians and others received forty to fifty cents a day, and the men who could work in stone received seventy cents to one dollar a day.

But steam is up and the bell rings, and we must "take the cars for Jerusalem", How strange the words sound. They call the cars "American" because they open at each end, but they are divided into compartments, and this, together with the arrangement of seats, makes them quite unlike our cars. On our way we shall cross the track of armies, we shall touch great battle-fields, we shall pass places of wonderful historic interest, we shall see the beautiful Sharon and beyond it a wilderness of picturesque hills, and if all

goes well we shall arrive at "The City of David".

Between Jaffa and Jerusalem, exclusive of these, there are five stations. That at Jaffa is a neat structure, and together with the freight depot, the engine house, the great water-tanks, and the tracks with cars and engines standing upon them, presents a scene unfamiliar to Eastern eyes. On the plain we pass close to Beit Dejan, a name which takes us back to the days of the Philistines. Here and there villages appear in the landscape, some of them hugging the ground so closely that the eye needs a little practice to distinguish them readily.

Twelve miles from Jaffa we reach our first stopping-place, Ludd, the Lod of the Hebrews and the Lydda of Roman and Christian times, and which at a later period bore the name of Diopolis. Its tall palms are an attractive feature of the modern town. Just before reaching the place, we notice on our left a magnificent tree which has a singular history, hitherto unwritten, connected with Napoleon and his Syrian campaign of 1799. When all of Europe trembled at this name it is no wonder that the simple people of Syria and Palestine regarded his arrival as their Doomsday, and both mountaineers and dwellers in the plain were filled with terror. Old people still remember their fathers tell of the startling rumours that swept over the land when the Great Conqueror actually stood on the sands at Jaffa. As the news of deeds then and there enacted reached their ears, the hearts of ruler and peasant alike were filled with the gloomiest forebodings. Their fate was sealed, and it was only a question of time before it would be decided, they thought, who or what would survive the invasion of this hostile

and victorious army.

After Jaffa, on the direct road to Jerusalem, the next most important town was Lydda, rich in soil and gardens, interesting in historical traditions, and rejoicing in material prosperity; and it was supposed to be inevitable that this would be the first point to suffer from the invading foe. The village is situated in the midst of a great plain, and has always been noted for its olive-groves. Far beyond the limit of the town, and likewise in 1799 of the olive groves themselves, although the groves have at present reached and gone beyond this limit, there stood a tree which to the people of Lydda and of all that region is a tree of fame. The tree, sacredly guarded from harm, stands, as we saw from the cars, with gracefully rounded top, its branches spreading eighty feet and at their extremities reaching nearly to the ground, its thick foliage affording a delightful shade from the sun, or shelter even from the rain, sound and flourishing as though it were yet in the vigour of its early life, a conspicuous object to one passing on the main road from Lydda to Jaffa, and only a few hundred yards from the new railroad. This is the tree known to everybody as Tul-wa-ir-ja'a, pronounced Tul-wir-ja'a. The tree is a thorn-apple called by the natives in different parts of the country Sidr, Dom or Nubk, which grows near Jericho and elsewhere to an enormous size. Everyone of its thorns is double, one part to stab and one part to hook with, and woe to one's clothing if it accidentally comes in contact with these savage boughs. The natives manage, with long iron hooks, to cut off the twigs and branches which they pile into fences around their gardens or houses, and against men and animals nothing could form a more effective

barrier. The Arabic name just given by which this tree is known, is not easily translated into English, that is, so that it will sound poetical and pretty; but literally it means "Look and Come Back", or "Look and Return". From this tree the vast plain for many miles toward Jaffa was open, so that one could see at a great distance any large object like an approaching body of men, and every hour messengers were sent out from the town to see if Napoleon and his army were approaching, and to return and report, so that from earliest dawn to latest twilight there was a constant succession of watchmen coming in to assure the inhabitants - it so happened, for Napoleon did not penetrate the country towards Jerusalem - that the dreaded man was not in sight. Look and Return, or Look and Come Back is, in a land full of dead monuments, a beautiful and living monument of remote but once thrilling events.

About Lydda and the next station, Ramleh, two miles distant, there are at least twelve square miles covered with olive groves. At intervals during this short ride we get glimpses between the trees of the town of Ramleh and its conspicuous tower, that of the Forty Martyrs, a name justified by both Christian and Mohammedan tradition. From its lofty windows both Crusading and Moslem conquerors have looked out over the broad plain, anxiously scanning the horizon on all sides for an approaching foe. The word Ramleh means sand, "The Sandy", but since human industry has made the region fertile this feature is no longer apparent. It strikes an American as a little singular that the railway station at this place should be close to the graveyard - suggesting unfortunate emergencies

which sometimes arise in railroading experience.

Still across the rich prairie-like country, we come after ten miles to Es Sejed, a place of no special interest, except that here is a spring and the engine is supplied with water. This question of water is after all one of vital importance, and was one of the serious difficulties to be considered and overcome in the construction of the road. At Jaffa there is a well, another at Ramleh, but after this spring at Es Sejed there is no water till Bittir is reached. From Bittir, water is brought to the station at Jerusalem, eight miles distant, and stored in great tanks, as there is no natural supply at the Jerusalem end of the route. In a country dotted with places of historic interest, it would be idle to attempt to indicate them all; but Gezer may be pointed out, one a royal Canaanitish city and the scene of many battles; likewise the forever memorable valley of Ajalon; the great hills which guard the Pass of Beth Horon; Latrun, once a stronghold and somehow connected with robbers; and hidden just behind Latrun are Beit Nuba, where Richard the Lion-hearted camped with his army in A.D. 1192, and Amwas, the Emaus of Josephus, where the Fifth Legion was stationed till, at the command of Titus, it moved up through the mountains to join his other forces in the siege of Jerusalem.

Seven miles further brings us to a station called Deir Aban. We are now near the mountains, but the valley is still broad and rich, and the thirty-one miles of plain between this point and Jaffa suggest what the country under better government might become. Here crossed the Roman road leading between Nicopolis or Amwas and Eleutheropolis, now Beit Jibrin. The region is rich in

biblical interest. We are in the country of Samson, and probably near the place both of his birth and of his burial; and in a land where there are twenty foxes to one jackal, and where hundreds of them are caught every year, we may be allowed to suppose, contrary to the opinion of "learned commentators", that the former, and not the latter, were the instruments of his vengeance upon the Philistines.

A few minutes beyond Deir Aban we find our vision suddenly impeded in every direction by bold and rugged mountains. The ride of fourteen miles to the next station, Bittir, is through wild and romantic scenery, of which even Switzerland might be proud. The gorges, the cliffs, the peaks rising skyward, the masses of broken rock, the deep cuttings for the road-bed, the bridges, the few clusters of olive-trees deep in the valley or clinging to a little earth far up on the mountain side, make a picture in which there is endless charm. In the Alps there is in winter an abundance of ice which helps to disintegrate the rocks, and which forms streamlets of great beauty; in the waterless Judean hills the rocks look old and time-worn, barren and dry. In the Alps the patches of earth in valley or on mountain side are made fruitful and attractive by untiring and skilful industry; in the Judean hills neglect is everywhere apparent and the result is desolation. Were the same kind of skill and persistent energy spent here every year that is spent in the Alps, this aspect of desolation would in a large measure be removed. At the same time, unassisted nature does all in her power to remedy these defects, and those travellers who are so fortunate as to see Palestine in the spring may think the description just given to be overdrawn.

At Bittir the mountains recede or bend round in such a way as to form a vast natural amphitheatre in the middle of which the town is situated. Below the village are large vegetable gardens for supplying the Jerusalem market - gardens most attractive to the eye in this worn-out land. The view down the gorge to the west and up the valley for miles to the north, its superb air, and the fact that its fountain affords an unfailing water-supply, mark this as the place for a summer hotel - the delightful retreat of Jerusalemites from their city's stifling and dusty atmosphere. Rising far above the town is a long oval ridge covered with ancient ruins, admirable as a place for defence, and called the Ruin of the Jews. It is the traditional site of the city and stronghold Bethar, where, in the second revolt against Rome, A.D. 132-136, Bar Cochab [sic; normally called Bar Kochba. Ed.] and his brave followers made a memorable resistance against the Roman troops, but at last were compelled to yield, the famous Hebrew patriot himself perishing in the final slaughter.

Eight miles further still, through picturesque scenery, and we shall be at our journey's end. When we entered the mountains near Deir Aban, we were in the great Wady Es Surar, which toward the sea is called Nahr Rubin, and northwest of Jerusalem Wady Hannina. It is not uncommon for a valley to be called by different names in the different sections of its course. A little more than half-way to Bittir we turned into Wady Es Sikkeh, although it appears to be a continuation of Wady Es Surar, and from Bittir to Jerusalem, Es Sikkeh is called Wady El Werd - the Valley of Roses - on account of the great quantity of roses that are raised there. In this valley, within

a distance of four miles, there are three copious springs of the freshest, sweetest water that the country affords. What a pity that it cannot be brought to Jerusalem, since it could be done at a moderate expense.

The last two miles of the road before it reaches Jerusalem cross the Plain of Rephaim, or Valley of Rephaim, which means the Valley of Giants. On the west side of this plain, and close to the railroad, are some colossal heaps of stone, known as The Seven Ruins - Es Seba Rujum. No one knows who placed them there, and the imagination gives them an exaggerated importance. The practical explanation of their existence is in the tradition that the Plain of Rephaim was once covered with gardens, of which there is now no possible trace, and that these stones were gathered from the soil, that its cultivation might be the more complete and perfect. These hills the railroad company have purchased, laid a track to them, and are using the small stones of which they are entirely composed to bed down their main track. How accommodating the old inhabitants were to place these millions of cubic feet of stones just where they would be most convenient for use in these modern times. The Valley of Roses has now broadened out and joined the Valley of Giants — the one suggestive of ancient heroes and contending armies, and the other of fragrance, beauty and peace. Conquerors have come up this way to Jerusalem, and on this very ground King David more than once beat back the Philistine invaders. A new conqueror is now at the gates of the city, not to destroy life, but as the servant of man.

We are now at the Jerusalem station, which is 2,480 feet above the level of the

station at Jaffa, and we have made the journey in three hours and a half. Two years and a half have been occupied in building the road, and the cost of it was not far from \$2,000,000. Four dollars will buy a round-trip ticket, first-class, good for two days, from Jerusalem to Jaffa. On Sunday, August 21st., an engine came within a few hundred yards of the Jerusalem station, but the track to it had not then been laid, and it was not until Saturday, August 27th., at ten o'clock in the forenoon, that the first through train from Jaffa, with engine and passenger cars, actually arrived at the station. This is stated as official information, partly for the reason that some persons like to be exact in such matters, and partly because the report has, either through oversight or carelessness, been widely circulated that the first train arrived at Jerusalem on Sunday, August 21st. which is not historically correct. The formal opening of the road to the public was on Monday, September 26th., when a dinner was given by the company, through its President, Monsieur Collas, who, with several distinguished engineers, who had come from Paris for the occasion, to one hundred and fifty invited guests, at which the after-dinner speech-making was, to an American, a notable failure, chiefly because it was done by Turkish officials, who appear to have no skill in that line. The Sultan was praised several times during the evening, a thing which, to those who knew with what difficulty the concession to build the road had been wrung from him, seemed somewhat out of place.

Objection was made by the local government to the station being located on the site first asked for by the company, quite near the city; hence the present site was chosen, about one mile from the

town. This is close to the German colony, and the land, a little less than nine acres, the property of the Greek Convent, cost \$25,000; a fact which shows that Jerusalem, notwithstanding its great poverty, has land on which a high value is set, especially when a railroad company is purchaser. This colony, with its gardens, vines, and tall cypress-trees, its pretty cottages with tile roofs, its church and commodious school-house, all indicating good taste, enterprise, and thrift, presents a striking contrast to the neglected and untidy appearance of all the Jewish colonies that have been planted in Palestine. From the station we take a carriage for the city, of the newer portion of which we have all the way a good view, and, passing the valley of Hinnom, reach, in a few moments, the Jaffa Gate, just inside of which is the Grand New Hotel, admirably managed, spacious and richly furnished, where a majority of the visitors to the Holy Land find a most comfortable home during their temporary stay. "

הרכבת

Notes: This remarkable accounts clarifies a large number of issues which others have left vague. The link between the engineer and the purchase of Baldwin locomotives left over from abortive projects in Panama is now clarified; the relationship of "Wadi Surar" and its appellation of "Valley of Roses"; a little more about the life of Zimpel; etc. etc. It is believed that Selah Merrill was somehow connected to the American Colony, though the unashamed advertisement at the end for the "Grand New Hotel", rather than the "American Colony Hotel", seems to contradict this.

40:10: THEN AND NOW AT WADI SURAR.

By Paul Cotterell.

For the 'then' shot you will have to turn to Plate 84 on page 71 of "Hedjaz Railway" or to 'Harakevet' 22:22 where a captured La Meuse 2-6-2T is shown standing with a freight train on what Americans would call the 'house track' at Junction Station in the winter of 1917-18. Eighty years later, on 6th. October 1997, Evyatar Reiter and I returned to the same spot to see how much things had changed or stayed the same. At some time during the intervening years the station building had undergone alterations. The gable roof had been replaced by one of flat pattern. The stone balustrade above the far single-storey extension had been moved to the near-side extension but, other than such presumably cosmetic changes, the old station was readily recognisable. By 1997 only the main line (seen here looking east towards Jerusalem) was visible, the two inner loops being hidden in the undergrowth. Just out of sight at the right was the outer loop (shown in 26:16), also covered by a thick growth of weeds and young trees. On the north side of the main line, set on an elevated concrete base, is a ground frame or small



open-sided signal box with levers intact but securely locked out of use (and rusty), for there are no points or signals to be operated any more. Driving back to Jerusalem later that evening we spotted a lone eucalyptus tree alongside the line in the distance -

perhaps the solitary eucalyptus which Dr. Pick noted as marking the site of El Sejed station (see 26:16 and the pull-out centre spread of Harakevet 29).

Ed Notes: The photo is by Paul. This station serves no settlement - it owed its origin to the junction of the Turkish military line southwards towards Beersheba. However, in World War 2 a substantial munitions base was built here, presumably on the site of the old Turkish trackbed, where there is now a transport depot - I have not found any details or plan, but understand there were 22 miles of sidings and a shunting loco was permanently based here, operated by 199 R.O.Coy. R.E. men ! Presumably the signal frame and the extra loops date from this period.

40: A LIME KILN LINE.

By Paul Cotterell.

A nice person, knowing of my interest in such eccentric matters, presented me with a Hebrew-language book whose title translates as "Man Against Rock". Excellently printed in hardback, this volume appears to be an in-house publication of "Even v'Sid", the large construction firm. There are numerous photos of quarries and other work sites



around the country, including several with portable light railways. The accompanying view struck me as being out of the ordinary. The book caption describes it as showing the lime kiln at the Migdal Tzedek Quarry in the 1940's. A loaded skip wagon is half-way up the incline, no doubt being hauled by a rope or steel cable, and four more wagons can be seen standing around. I am told that Migdal Tzedek is near Rosh Ha'Ayin, presumably in the foothills to the east. The photo appears to be taken looking west over the coastal plain.



Ex-Palestine Electric Corporation 60cm gauge 4-6-0T No. 11 (Hunslet 1265 of 1917) Lifted clear of the ground at Kibbutz Geshar on 26/11/97 (see 36:11)