

# HARAKEVET

ISSUE 55 January 2002

ISSN 0964-8763

הרכבת

*A Quarterly Journal on the Railways of the Middle East*  
*Edited and Published by Rabbi Walter Rothschild*  
Passauer Strasse 4, D-10789 Berlin.  
Tel/Fax: +49 30 214 73889  
E.mail: [Rothschild-Berlin@t-online.de](mailto:Rothschild-Berlin@t-online.de)



*Between Bosra and Dera'a, a 2-8-0 hauls ancient coaches on 8th. October 2000.  
(Photo: Matthias Koch).*

## EDITORIAL.

It is becoming increasingly hard to keep up-to-date with events in Israel, and "News from the Line" sprawls increasingly over the pages - thanks to Aharon Gazit, Steve Tish, Sybil Ehrlich, Paul Cotterell, Chen Melling and others there is a steady stream of reports, statistics, new stations seem to open every few months, services increase by leaps and bounds, passenger usage rises constantly..... In view of all this it is disturbing that Politics rears its ugly head even here - but see the News for details. Bewcause of delays to completing this issue, (originally intended for December) some items that came in early January have been included - the result being a longer-than-usual "News from the Line".

At the same time we try to keep an overview of other Middle East systems, and this issue includes a survey of the Thomas Cooks timetable coverage of several countries, as well as much other news on current or recent developments.

And of course the historical context must not be forgotten - there is a lot of material on hand from various sources for future issues but more is always welcome. In this issue I have included a "traveller's tale" of a journey which included traversing rail-less Afghanistan, a country which - shall we say ? - has been in the news recently.....

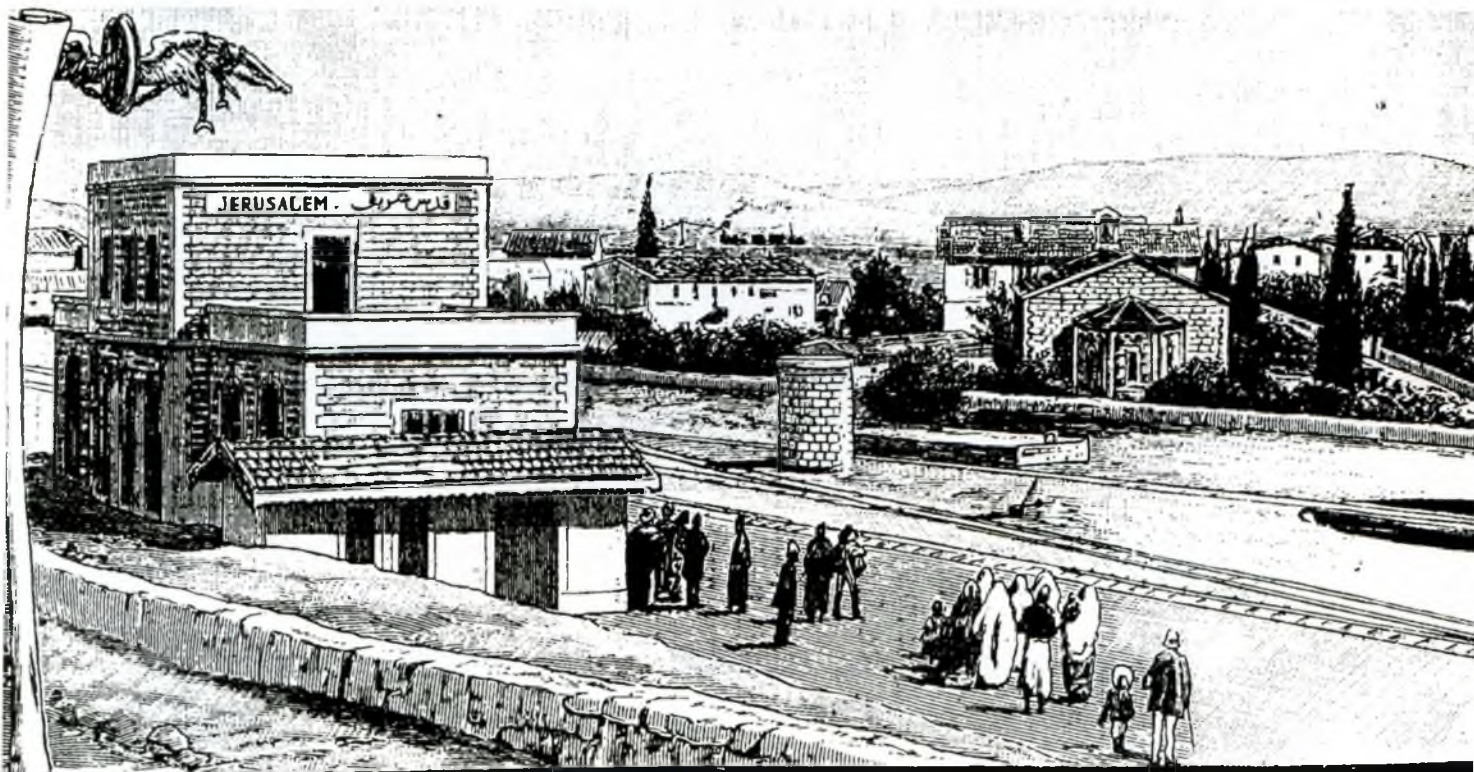
Unfortunately the arrangement with the new Model Railway Shop in Jerusalem did not work out due to communications problems, so the advertisement will no longer grace our rear page, but nevertheless we wish the venture well. It appears that the Israeli postal service also lost at least five further examples, from those reported to us. In these difficult times a bit of honest, harmless fun is desperately needed.

Enjoy !

*The Editor.*

55:3.

A sign of faith in the reopening to Jerusalem - an undated but clearly 1890's engraving entitled "DerBahnnf von Jerusalem und die Kolonie Rephaim" - on the reverse side of p.386 of an unknown ancient German periodical ! With thanks to Uwe Pietruck.



55:4.

## NEWS FROM THE LINE.

### *a). Amos Uzani, Ade!*

Rather sad news is that the contract of Amos Uzani, General Manager of IR, ran out on 27th. October - and was not renewed by Minister Ephraim Sneh. Apparently for political reasons, for no-one could deny that the railway have flourished under Uzani as never before. Apparently the Minister of Transport, Ephraim Sneh, had told him already in June 2001 that this would happen. At the time of writing the full background to this sorry affair is not clear - there are reports that some Knesset members are also dismayed at political interventionism getting in the way of continuity of good management - so it is too early for a full report or for an "obituary". A non-political body named "The Movement for Quality of Government" even appealed to the Supreme Court, claiming that this step was illegal and was done purely for political reasons! This at least shows Uzani's popularity in the eyes of the public. The Court discussed the matter twice and then on 25.11.01 decided that the Minister's move was indeed legal; however, from now on the appointment of the General Manager will

be made by a special committee which will also include the Ports Authority, so it will take a couple of weeks before a new General Manager is nominated. In the meantime Mr. Yossi Mor, the Deputy General Manager for Infrastructure Division, will be the Acting General Manager, and press releases appear over his name..

Nevertheless - "Harakevet" would like to place on record its admiration at what Uzani has managed to achieve in his time in the "hot seat" - improvements to infrastructure, rolling stock, relations with the private sector, expansion of the system, etc. etc. Perhaps the best comment (for those who understand) would be "Arthur Kirby would have approved".

P.S. - a late item before going to press - Mr. Yossi Snir will be appointed soon - the Supreme Court apparently decided that his appointment by Ephraim Sneh was legal - more details hopefully in the next issue.

### ***b). Hutzot Ha-Mifratz station***

This new station between Haifa East and Kiryat Haim opened on Saturday evening, 13/10/2001, according to Sybil Ehrlich and local residents. (A report from Aharon Gazit which is based on a Press Release of 14/10 indicates 16/10!).

The PR copy reads: "This is an additional example of stations built by the private sector, after the stations of Lev HaMifratz and Keysaria-Pardes Hana on the Haifa - Tel Aviv main line. The new station is located adjacent to the mall of the same name, and is actually an integral part of it, being equipped with two platforms connected by an underground pedestrian passage, elevators, escalators, entrance hall, buffet, ticket offices and automatic vending machines, as well as automatic gates, and is served by 45 trains daily."

### ***c). Nahariyya Rebuilding Completed.***

The rebuilt and expanded Nahariyya station reopened on the same day - 16/10/01 - the northernmost point of current services, and alas one which suffered a terrorist attack only a few days later. An additional platform, underground pedestrian passage, new entrance gates and new electric signalling now characterise the station.

### ***d). Yet More New Stations Planned.***

IR has announced that further new stations are soon to be built, at Kfar Menachem on the Beer Sheba line, to serve the region, and at Rehovot adjacent to a

mall called "American City" - this will also be built by the Mall owner as a private-funded initiative. See also below under "Tenders".

### ***e). Airport Link Agreement.***

On 13/09/01 an agreement was signed between IR and the Airports Authority regarding investment in the rail link to Ben Gurion Airport, according to which some \$148M will be invested in the project - \$102M for the infrastructure and the rest for rolling stock. The Airports Authority share will be \$25M in infrastructure and \$25M in rolling stock.

The importance of the agreement is in its official approval for the project, so far, only 15% of infrastructure works have been carried out, and only 50% of tenders with construction contractors published, the agreement will now give progress a real push.

It is intended at present that the railway station at Terminal 3 will open on 01/07/2003, one month after the Terminal itself opens; IR intend to extend this link also to other destinations - Modi'in and Jerusalem in the east, Beer Sheva and Ashdod/Ashkelon in the south, and Kfar Sava to the north-east.

IR Tender HN/KB/25/01 was for construction of this link, from km 4.250 to 6.200, including infrastructure for railway line, and a control building; implementation within 14 months. HN/KB/26/01 is for the section km.6.200 to 7.300, to include railway line infrastructure and access to tunnel - implementation 12 months. In both cases bids were to be submitted by 10/12/01.

### ***f). More on the Jerusalem Line(s).***

Following from the above, it was announced on 14/10/01 that Ephraim Sneh that detailed design work would be continued on the fast rail link between Tel Aviv and Jerusalem via Modi'in, to be electrified. Since some of the preliminary design work already done was so detailed, it appears that little work is left to do, so final design could be completed within six months. In the meantime, excavation works for the new underground central station at Modi'in are already under way.

In the first week of November IR also published tenders for the long-awaited rebuilding of the first section of the old line to Jerusalem, from Naan to Beit Shemesh, and rebuilding the station at Beit Shemesh. (See below.) It appears the new GM will prioritise this rebuilding.

In addition, a further Tender TK/KB/02/02 has been issued for laying main communications cables alongside the

Naan - Beit Shemesh section - where upgrading works are due to begin 13.01.02. The works to include: supply of various types of cable, opening existing concrete ducts as well as building new, laying main cables of both copper and fibre optics, closing the ducts, supply of cable assemblies and connections, installing and connecting pedestals, supply and installation of final boxes and corona blocks, as well as checking cable relays etc. Works are to be carried out in coordination with line upgrading, so the estimated time for implementation is about 9 months. Bids by 30.01.02.

Sybil Ehrlich warns however of believing what one reads. "At Beit Shemesh town centre a large sign was seen on an empty lot: "Rosh HaAyin - Geshet Road 40. Project Coordination Israel Railways Infrastructure Division, Engineering Branch", and a phone number in Haifa.

"Geshet" means bridge, but could also be a place name - there was a station with this name in the Jordan valley. But it is nowhere near either Rosh HaAyin or Beit Shemesh, and neither is "Road 40". So I called the number on the sign. The person I spoke to said he had no idea how the sign got there, it is left over from a completed project, and has nothing to do with Beit Shemesh!"

### ***g). Rishon Le-Zion West.***

The Government will accelerate the procedures for constructing the line from Tel Aviv to Rishon-Le-Zion West, within the Ayalon South highway, at an overall cost of \$259M, including the construction of supporting walls along the highway at a cost of \$30M. However, there is still a lot of preparatory work to be done, since right-of-way has not been secured yet for all sections.

The new line will be some 12km. long and is considered to be badly needed; its opening should relieve some of the worst traffic bottlenecks. It will eventually be connected to the 3.5km. long line to Rose Gardens already approved.

### ***h). October & November Traffic Statistics.***

Yossi Mor, the Acting G.M., said in a Press Release dated 11.11.01 that 1.3 Million passengers used rail during the month of October, a 20% increase on the figures for October 2000. This means that from the beginning of 2001 12.1M have used the railways, therefore the final estimate for the year lies at around 15M. Although less than the previously anticipated 17M this is still a very good figure, especially in view of the overall atmosphere of terror acts (two of which have occurred near railway stations) and the

hard economic conditions.

The newly-opened stations (see elsewhere) have also performed satisfactorily; 3,600 passengers used Hutzot HaMifratz within the first two weeks of operation, while Pardess Hanna-Keysaria, opened in July 2001, was used by 9,500 in October; Lev HaMifratz, opened in September 2001, was used by more than 8,700 in the following month. This, according to Mor, indicates the need for further suburban stations and the high potential for the railways in areas which until recently were not rail-served.

Ashdod - Haifa - Nahariyya showed a 53% increase over last year to 85,000;

Ashdod - Tel Aviv showed a 41% increase to 218,000. (15 new trains have been added since September and it appears that this investment is paying for itself in increased traffic.)

Tel Aviv - Haifa carried 370,000 - 11% more than Oct. 2000; a total of almost 4M passengers since January 2001.

Tel Aviv - Nahariyya: an increase of 18% to 166,000;

Haifa - Nahariyya: Increase of 19% to 110,000;

Tel Aviv - Beer Sheva, increase of 57% to 158,000.

The November 2001 statistics confirm a continuing rise to 1.4M, 20% more than in November 2000. This significant rise is considered due mainly to the opening of the new stations in areas which had not been served before - i.e. totally new traffic. Hutzot HaMifratz was eventually used by 11,000 passengers in the first month of operation. Substantial further rises were noted in passenger traffic on Ashdod - Haifa - Nahariyya and Ashdod - Tel Aviv, and the line Beer Sheva - Tel Aviv showed a 72% rise on last year to 180,000.

#### *i). Bus Connection Tickets.*

In the same Press Release Mor refers to the "Tel Aviv Daily Freedom" tickets, which give free usage of buses of the Dan Company in the Greater Tel Aviv area during the day of issue; during October 2000 14,000 were sold, in Oct. 2001 2,300. This indicates that the public has discovered the feeder lines and the possibilities of using combined services to reach destinations.

#### *j). Ayalon Line Tripling.*

A press release of 21.11.2001 reported that the third track on the Ayalon line had opened the previous day. This is squeezed into the narrow right-of-way between the river and the road, and allows greatly increased capacity. The new track,

including two bridges, took 18 months to construct and cost \$8M.

Tender HN/KB/03/02 is for adding further sections of third track - from Km. 93.450 to km. 94.100 just south of Savidor station, and from Km. 96.100 to km. 96.700 south of Hashalom station - the works to include strengthening the wall of the Ayalon canal and track infrastructure. Time for implementation is ten months, last date for bids is 24.01.2001.

#### *k). Rosh HaAyin Services.*

As a consequence of the new Ayalon line capacity the service on the Rosh HaAyin line has been increased from 20.11.01 to half-hourly with an increase from 32 to 48 daily trains. According to IR 45,000 passengers use the line monthly, leading to a cumulative total from Jan. - October 2001 of over 400,000. On this day all passengers on the line received flowers at all stations, whilst those working at the Cibul Park industrial area in the vicinity of Rosh HaAyin station received croissants - this marketing and public-relations exercise being the brainchild of Avi Hefetz, IR's ambitious Marketing Manager.

Work on the line to Kfar Sava continues apace, whilst another new station on the line is due to open within a year: Kiryat Arich will be between B'nei Berak and Segula, and is also within Petach Tikva.

In November the line's traffic passed the half-million mark for the first time, aided no doubt by the extra services.

#### *l). End of Coal Traffic.*

Paul Cotterell confirms that the merry-go-round coal trains between Ashdod Port and the Rutenberg Power Station south of Ashkelon have now ceased, indeed as from February 2001; coal is now received directly from ships at an unloading jetty at the power station. Loco No. 701 is now employed with the other 'Jumbos' on freight hauls in the Negev, and the dedicated coal wagons are apparently presently unemployed. The branch line from Shikma Junction to the power station is currently out of use.

#### *m). Electrification Plans!*

On 30/11/2001 IR published a tender for preliminary design for electrification of the ENTIRE network - which, when completed, may total around 700km. of track. This in contrast to earlier proposals to electrify only around half the network - say 320 km. This is a significant change in concept, as it implies that the freight lines in the Negev would also be included.

The Tender is to be implemented

in three phases -

- 1. A feasibility and economic profitability study;

- 2. An electrification "Master Plan".

- 3. The chosen designer will be requested to prepare a tender for the design and

implementation of the plan as a Turnkey Project.

The tender is, as yet, a 'closed' one, and IR have been in contact with eight of the biggest engineering companies in Israel, each of whom must be connected to a specialist consulting company from abroad, since there is no experience in this field in Israel itself. At a later stage, equipment manufacturers will be brought into the picture.

#### *n). Odd HR Restoration.*

Paul Cotterell notes that during a bus tour during Sukkot, organised by the "Pasim" group, along the route of the former HR line through the Jezreel Valley, they were surprised to find at Tzomet Jelameh bridge (between Yagur and El Roy) that it had been recently restored; new ballast had been laid, weeds cleared, and large boulders laid along the approach embankment sides in preparation for what looked like future planned rock gardens. It is not clear who is responsible but the work makes a very good impression.

#### *o). New Signal Centre.*

Bids are to be called soon for a new Network Management and Traffic Control Centre for Israel Railways. This would be at Hof HaCarmel and is intended to centralise signalling and control functions network-wide.

#### *p). Tel Aviv - the "El".*

Those who know Biblical Hebrew will note the irony of the term "El" for Tel Aviv - "El" is one of the Hebrew names for God, and Tel Aviv is a determinedly secular city. Nevertheless, according to RGI 11/2001 p.736, the Metropolitan Mass Transit Systems Ltd. has appointed Jakes Associates to study elevated transit proposals for Tel Aviv; this work would include evaluating routes, a comparison with Light Rail (already planned, of course) and the preparation of preliminary cost estimates. IRJ 11/2001 notes that "NTA has already selected two initial operating systems (IOS) for the city's planned lines 1 and 2, and is considering elevated guideway technology for further lines."

In the meantime an "Invitation to Prequalify" for participation in an International Tender to select a Concessionaire for the first LRT line in Tel Aviv - to be

known as "The Red Line" was issued in early December 2001.

### q). *Tenders for New Stations.*

- BN/KB/09/01 - For Construction of Ashdod Ad-Halom Station. The works include various Structures, defined as:

- 1: Station building, underground pedestrian subway and exits to the platforms.
- 2: The Platforms.
- 3: Parking and area development.
- 4: Track infrastructure.
- 5: Water & Sewage Infrastructure.
- 6: Rebuilding and additions to existing signalling building.

All to be completed within 18 months, last date for bids: 06/11/01.

- MS/RK/201/26. For using an area at the station of Ashdod Ad-Halom for operating taxi services feeding the station. Contract for 12 months with optional extension of up to 36 months; bids by 04/11/01.

- BN/KB/10/01. For building a second platform at Petach Tikva Segula Station.

To include: building the additional southern platform, electrical and communication systems, and extending the existing subway. Works to be carried out within 6 months, bids by 05/11/01.

- BN/KB/12/01. For building a New Station at Herzliya (North). The project to include:

- 1: Station building, escalators and lifts for disabled.
- 2: Underground pedestrian passage, platforms, tracks, escalators, communication & signalling cables, and lifts for disabled. To be built within 17 months, bids by 07/11/01.

- BN/KB/14/01. For design and building a structure at the classification yard at the port of Ashdod. To include construction, finishing, electrical supply and air-conditioning. Time for implementation: 8 months, bids by 21/11/01.

The Jerusalem Line:

- HN/KB/23/01 and HN/KB/24/01. Infrastructure works for the sections km.30.300 to 40.600 and km.40.600 to 50.900, between Naan Junction and Beit Shemesh station. To include earthworks, piling, concrete, infrastructure for electricity and communications, treatment of bridges and viaducts - and 23/01 includes also building for remote control at Nahal Sorek station and infrastructure works for optional additional tracks. Time for implementation of each tender is 8 months,

and bids were due by 03/12/2001.

- BN/KB/11/01 Construction of Station at Beit Shemesh. To include: complete rebuilding of the existing old station building, construction of a garage/shed for track equipment, control building, new platforms, underground subway, elevators, escalators etc. Time also 8 months, bids by 04/12/01.

- MS/MK/09/01. Amendment to tender for allowance to use the railways' optical fibre network: Last date for bids was now 29/11/01.

- BN/KB/01/02. For construction of Kiryat Arieh Station at Petach Tikva. This station will be located between Bnei Berak and Petach Tikva Segula, and is to be named after a nearby industrial zone which has become very popular in recent years, and near which a prestigious new residential area named "Em Hamoshavot" is being rapidly developed. One of the well-known companies located here is Alcatel Israel. The works to include: construction of the station building, including platforms, underground pedestrian passage, temporary deviation of main line tracks in order to enable construction, and various developments as mentioned in the specifications. Time for implementation: 12 months, bids by 31.01.02.

(Aharon notes: A part of this station (though not included in the present design) is intended to be the Tel Aviv/METRO LRV Red Line interchange or depot.)

- TK/KB/01/02. Providing maintenance services for air-conditioning systems of railway stations and control centres. Contract is for 24 months, with optional additional 36 months. Last date for bids: 24/01/2002.

### r). *Passengers to Dimona?*

Sybil reports that a radio report on 07/11/01 indicated that plans were being made for resumption of passenger services from Beersheba to Dimona, after a lapse of many years. This report was not actually confirmed for a while.

Aharon Gazit writes: "The two towns are some 36km. apart; the railway line opened in 1965 and for some years a passenger 'service' of one train per day in each direction used it, before the service ceased due to the fact that almost no-one was using it. However, unemployment in Dimona is now reaching 15% and rising, and the Mayor demanded some increased investment to make the town more attractive, including restoration of the rail services and the rebuilding of the station.

Prime Minister Sharon quickly

realised that if he wanted to keep votes from this problematical town he had to be seen to be doing something, so promptly allocated \$15M for that purpose. Thus proving that political and social pressure can truly eliminate all potential obstacles!"

The next stage was the issuance of Tender BN/KB/16.01 for the upgrading of the Beer Sheva North (i.e. Old) Station. Works include: building an island platform, underground subway access, elevators and a supporting structure for electricity and communications, as well as track, and communications infrastructure and options for rebuilding the existing station building, as well as developing/landscaping the area and adding electrical and sanitary facilities.

Time for implementation is 11 months, bids were due by 17.12.2001. Apparently the new General Manager also supports this development.

Presumably therefore trains from the new terminus at Beer Sheba Central would have to run into the former station - now known as "North" - and then reverse - whilst time-consuming, this would mean that the eastern end of town is also served. Otherwise a new south-to-east spur would be necessary close to the RAMTA works.

### s). *FIRE!*

From Paul: "On 12/12/01 at approx. 22.30 a train formed of IC3 units 16 and 19 caught fire near Kfar Vitkin. Passengers had to be evacuated quickly as the fire spread very swiftly, due apparently to a fuel leak. Set 19 was totally burnt out, and one coach of set 16 also badly damaged - the other two coaches were worked to Haifa by 14/12 but the third coach will probably have to be cut up on site."

Chen Melling has added some details: "The train was at km. 60.200, not far from Kfar Vitkin station. It is not yet entirely clear what caused the fire, but the prime suspect remains a short circuit. The passengers who noted the fire alerted the driver (apparently his driver's cab door was open, against regulations, but this probably helped save lives) - he stopped the train and opened its doors. Despite this, some passengers broke windows and tried to get out through them, which caused injuries to at least one. Another four or five inhaled too much smoke and needed medical care. By the time the fire department stopped the flames, the damage to power car unit 7219, in which the fire broke out, was so great (including the collapse of its chassis just behind the driver's cab) that it could not be towed anywhere. In addition some damage was caused to the track beneath it. The following night, all other

parts of the damaged train were brought to Haifa. (This included cars 7019 and 7419).

From pictures, unit 16 appears externally undamaged, but since its cab was coupled to unit 7219 it was damaged by fire and will have to be replaced. The less damaged units from unit 19 (being articulated, it is hard to consider each coach as a separate vehicle) were structurally intact, but their skin and underframe-mounted equipment were badly damaged. This, coupled to the major damage caused to unit 7219 (which was, as stated, cut up on site to be transported - a visual inspection makes me wonder whether it has any reusable parts at all) lead to the current belief that the entire set will be written-off and condemned. It remains to be seen whether IR would then try using some of the insurance money to purchase any reusable parts of units 7019 and 7419. These could be retained as spares or could be used for returning to service other damaged sets such as 16 or 18 (see below: 55:5(ii)).

A further negative aspect of this unfortunate incident is that it would appear that IR went to some lengths to ensure that no accurate reports appeared in the general press. That evening's late-night news programme did apparently include some short footage of the actual fire, but the following day's newspapers only had short items, stating that a double-deck train had caught fire, and a summary of the injuries. Now, it should be noted that the fire occurred on a day which had even worse news on the terror front, and naturally releasing horrific pictures of a burnt-out train would set people to asking whether it was safe to travel by train, but nevertheless - in this case the general public has the right to know that once a fire reaches the fuel tanks of an aluminium-bodied train, it is most likely that the ensuing fire would actually light the aluminium itself and eventually melt the whole body." [Ed. adds - this occurred with an aluminium electric railcar in Austria some years ago.]

#### t). LRV Project in Haifa.

The Yefe-Nof Company (the northern arm of Ayalon Roads Co.) has recently unveiled a plan for a network of LRV (Light Rail Vehicles - i.e. trams) in and around Haifa. In the first stage, lines would be built between Haifa and Kiryat Ata, Kiryat Motzkin, Kiryat Haim, Kiryat Bialik, Nesher and Tirat Ha-Carmel. These are all satellite towns. At a later stage extensions could be made to the Arab towns of Shefar'Am and Nazareth.

The company would aim to build a transport interchange and maintenance centre at Kishon Junction (not far from the railway works) which would include a

main bus terminal, a railway station, and an LRV operational centre.

The project would cost \$1.1 billion, and be built by the BOT system. Plans are for the first line to be operational by 2009, with a train frequency of between 5 and 10 minutes.

#### u). Bus Competition ?

The Connex Company in Israel, which is a partnership between Blue Line Tours and the French transport conglomerate 'C.G.E.A. Transport', has won the tenders to run 36 bus lines around Tiberias in the Galilee and between Ashdod and Tel Aviv. This consortium is the biggest private operator of public transport in Europe and the shares are held by the Vivendi Group which is also participating in the Jerusalem LRV project.

The company has already announced tariff reductions of up to 50% - which could become a real threat to the railways, whose prices are still fixed by the Government.

#### v). Internet Sites.

Paul Cotterell has sent a glossy brochure in Hebrew on the new double-deck coaches. It includes mention of a new website on current events on Israel Railways - a welcome development !

Those interested are advised to check out <<http://www.angelfire.com/my/railnews>>

Chen Melling informs us that a relatively new web site in Hebrew, called "Hadshot Harakevet", has been set up by his friend Itai Berger. The site deals mainly with Israel railway-related news, and Itay tries to keep it updated at least on a weekly basis. It has been operational for some months now and is attracting a nice number of visitors. The site's address is <[www.angelfire.com/my/railnews/](http://www.angelfire.com/my/railnews/)>, and can also be accessed via the Pasim web site at <[pasim.com](http://pasim.com)>

Uwe Pietruck is preparing an Index for issues - see

<<http://www.pietruck.de/harakevet/hdemo.htm>> for a link to index for issues 46-54.

w). Zichron Ya'acov to get a new station.

The Transport Ministry is to invest some NIS 10M in the construction of a new railway station at the entrance to Zichron Ya'acov. The station, with an adjacent car park, is planned to open within two years, and will relieve some of the passenger congestion at Binyamina. It will be adjacent to the former British-built station, which closed in July 1997 (partly because of poor road access!). The old sta-

tion will however be renovated and preserved as an historic site, according to Mr. Sneh. During a tour of Zichron Ya'acov on 27/11 Sneh said he had instructed Acting GM Yossi Mor to speed up the process of approving the new station and ensuring that the work is completed by 2003.

The station dates from Mandate times and was used for crossing purposes on the line until it was doubled. (In steam days water was also taken here.) As passenger traffic dropped almost to zero, passenger trains stopped calling there some five years ago and the loops were used for parking ballast trains from the nearby stone quarries at Binyamina. However, times are changing and road traffic is worsening, and it was pressure from local residents over the last three years that has led to the reopening plans.

x). Heletz Line Diversions.

Over the weekend of 30.11/1.12.01 trains to Beersheba were diverted via the Heletz line, omitting therefore the stop at Kiryat Gat and terminating at Beersheba North.

55:5.

## ROLLING STOCK NEWS.

#### (i). Locomotives for Sale.

The following withdrawn locos were offered for sale by IR under Tender MS/RK/2001/28; all locos believed to be standing at Qishon Works yard.

- SAFB Bo-Bo with GM G-12 type engine, nos. 101 and 103, built 1952.
- GM-EMD G12 Bo-Bos 104, 107, 109, 110, 127, 128, 129, built between 1954 and 1961.

The last three, 127-9, formerly of the Egyptian State Railways.

107 is said to be still in working order.

- Esslingen 0-6-0D shunters 221, 222, 226, 227.
- GM-EMD G8-type Bo-Bo 251, built 1956. Formerly of ESR.

Bids were to be in by 18/11/2001, and contact person for details was Mr. Tituani on fax 972-3-6937470.

LATE NEWS:- On 06/01/02 it was decided to accept the purchase offer of Canadian Alliance Diesels for G12's nos. 107, 110, 127, 128 and 129. The locos are to be shipped to Canada!

#### (ii). The IC3 Situation.

Chen writes: IC3 set No. 21 returned to Israel on 21.11.2001 after repairs

carried out at Randers, Denmark, to damage caused by collision with a truck on the Beer Sheva line on 23.08.01. The repairs included the rebuilding of about half of the body of power car unit 7221, fitting of a new interior into this car, a repaint of the entire unit and installation of a disabled people's toilet in power car unit 7021, which will become standard on all sets from No. 25 onwards. The set was due to re-enter service on 30.11.2001.

The same ship which brought set No. 21 also took back to Denmark accident-damaged sets nos. 03 and 11, which are due to return in the second half of 2001.

The set No. 19 which was damaged (or destroyed) in the recent fire was brought to Israel in early 1997 together with set No. 18, as replacements for sets Nos. 01 and 03 which had been sent in 1996 on a two-year demonstration tour of North America. ADtranz, the trains' manufacturer, found it had nothing else to do with air-conditioned sets 18 and 19, and since IR needed as many trains as it could get, a presumably-convenient purchasing arrangement was found, and the sets remained as IR property. It is interesting to note that set 18 was also damaged by fire just a few weeks before No. 19 (on 27.11.2001 in Tel Aviv HaShalom station). A sad coincidence or a manufacturing fault?

Aharon Gazit notes that these incidents focus attention once again on the decision not to built a repair and production line for these units at RAMTA, which would save a lot of time and money in shipping (repairs take up to eight months including shipping!).

### (iii). Crane Reinstatement.

In the first week of December 2001 Burro Model 30 breakdown crane No. Kuf 6 returned to service after an overhaul and a repaint in pumpkin orange. The overhaul probably used parts from scrapped sister Kuf 3 and from Kuf 2, the scrapping of which was due to start a week later.

### (iv). G12's in Active Service.

Chen Melling notes: "The G12 locos continue to maintain an active and impressive presence on the IR system. On Sunday 18.11.2001 I managed to see four of them, on several different duties.

No. 125 was hauling Train 423, which until this day was known as the 07.20 suburban from Kiryat Motzkin, and is now extended on Sundays to run further all the way to Tel Aviv without stopping. This is another attempt by IR to ease overcrowding on Sunday mornings. The train, which is usually made up of a single G12, a Half-Generator coach and two old coaches, was strengthened, and on this day comprised Half-Generator Coach 53 (Orenstein & Koppel 1955) and five French and Yugoslav coaches. No. 125 was definitely an appropriate locomotive for the job, as it was converted several years ago to 140 km/h running. I happened to be riding on this train, and we saw No. 108 doing the Dagon shunting duty and met in Haifa Bat Galim Nos. 121 and 124 top-and-tailing suburban train 424 from Haifa Hof Ha-Carmel to Kiryat Motzkin. This train was composed of Half Generator coach 610 and two old coaches."

55:6.

## NOTES AND COMMENTS.

**a). Shavei Tzion.** Noted in a book "Shavei Zion" about the kibbutz formed by Swabian immigrants. By Günther Petzold. Bleicher Verlag 1993. On p. 46 there is a picture of pioneers building the kibbutz, with at least 8 tipper wagons on a 60cm. gauge line being each pushed by one man - the first source of income was sand from the beach! The station north of Nahariya serving this settlement of course closed recently.

**b). On 54:4 (I) Haifa Accident.** Trevor Kletz writes: "Paul Cotterell is at fault when he writes that 'Both IC3 driver and the signalman were at fault: the first for not obeying his written journey orders which showed track 2 to be closed, the second for putting the first through a closed track 2.' These actions were obviously not deliberate but were typical of the slips and lapses of attention that we all make from time to time. Responsibility for the accident lies further up the management tree, with those who did not have a policy of locking the lines out of use."

**c). Iraq Condensing Locos: A Query.** An article in "Lok Magazin" 10/2001 p.40-43 on the career of the locomotive designer Richard Roosen, born 100 years ago on 13/10/1901 in Hamburg, refers to his work with Henschel of Kassel. In 1929 he was placed in charge as Director and Chief Engineer of the Special Projects Department, where work was done on the development of Condensing Locomotives - the atmospheric cooling and condensation of exhaust steam to regain water for further use. The article states "Several examples were built by Henschel for areas with little water, in Argentina, the Soviet Union and Iraq. The experience gained from these was collected by Roosen in his 1936 thesis at the Technische Hochschule in Dresden. From 1942 the Deutsche Reichsbahn ordered many Class 52's with condensing tenders for use in the arid areas of the Occupied Ukraine." An article by "A.G." on pp. 258f. in issue 102 of the same magazine, which bears no date but appears to be from 1980, forms an obituary of this engineer who died 02/03/1980, probably used as a source for the above, also mentions condensing locos for Iraq, and includes a photo of Roosen standing in front of one of his massive Class 25 4-8-4's with condensing tender built by Henschel post-war for South Africa. Hughes, however, does not list any locos for Iraq as built by Henschel in this period - indeed, on pp. 93-5 the only German-built locos are some Borsig 0-4-0T's of 1910 and Esslingen 2-8-2's of 1955 for the metre gauge, and Hanomag 2-6-0's of 1914, Henschel 2-8-0's of 1912 (i.e. all for the Bagdadbahn) and later Krupp 2-8-0's on the standard gauge; however, note (b) on p. 93 indicates that metre-gauge 4-6-0 No. 127 (Robert Stephenson of 1907) received a bogie condensing tender (Henschel 24375) in 1939. So it is possible that ONLY a tender was delivered, as an experiment. Are there any photos of this vehicle, or an explanation of the ten-year difference?

**d). Death on the Line.** Back in March Sybil Ehrlich informed me of a forthcoming Israel TV programme on "Suicides on the Track". Did anyone see it, was it alarmist, how big is this problem?

**e). On 52:9 & 53:11.** Libya. Chris Bailey worked here in the 1960's, will be visiting again shortly, and writes that he recently published an article in "Locomotives International" Issue 59 on the topic of the locomotive history in this country. He notes that his sources show that the former Eritrean Class 441 locos were built by Reggiane in Italy, and not by Maffei. 441.101 was Reggiane 136/1933 (later WD 70639) and 102 (or 106?) was 146/1936 (WD 70640) - "but switching of boilers, worksplates etc. may have confused the issue".

**f). The Locom Used on the Suez Canal.** Keith Chester writes: "The recent references in HaRakevet to the locomotives used in the construction of the Suez Canal and the "Bosnian" gauge of 760mm were of particular in-

terest to me and I'd like to try to tie it all together. Those made by Roland Beier derive from a couple of articles on the question of gauge in general which were published in the Vienna based Die Lokomotive magazine in 1927 and 1931. Amongst this was a discussion of the origins of the "Bosnian" gauge which subsequently became the "standard" narrow gauge throughout the Austro-Hungarian Empire. As is well known the first use of this gauge in the Monarchy was on the field railway built for the military to support its occupation of Bosnia-Herzegovina in the summer of 1878. The contractor used for this was Hügel & Sager, who, according to the articles, bought surplus 2ft 6in gauge equipment from the Suez Canal contract in 1869. This was brought to Vienna and used on the 1870-75 contract for the regulation of the Danube river. I have as yet seen no confirmation of this but it would seem reasonable. Certainly, Hügel & Sager purchased seven 760mm gauge 0-4-0WTs from Krauss in 1873-74. This equipment, and the locos, were then used on the Timisoara - Orsova railway contract, from where they were transported down the rivers Danube and Sava to Bosnia in the summer of 1878. Austria adopted the metric system in 1876 and 760mm is merely the rounded figure (from 762mm) for 2ft 6in. Though none of this has been confirmed this all seems reasonable to me. Moreover, given the dates of the two 'Lokomotive' articles, written only forty years after the event, it is highly likely the (reputable and rather old) authors were repeating information gathered at first hand. Assuming that this information is correct, how does it accord with what Andy Wilson tells us in the September 2000 edition of the HaRakevet?

He mentions three contractors: Frères Dussaud, Alphonse Couvreur and Borel, Lavalley et Cie, plus that a small part of the work was undertaken by the Canal Company itself, using direct labour, and suggests standard gauge locos were used by the first two; the use of 1435mm gauge locos by the Canal Company is well-established. I've since been in contact with Keith Clingan who confirms that Dussaud purchased two standard gauge 0-4-0Ts in 1857 and these could well have been used for the canal. He also tells me that in French loco lists of the period a lot of entries show only 'terrassements' for the purchaser. 'Terrassements' means literally earthworks, i.e. the locos were intended for public works contracts of some sort (also for mines). He suspects that some of these locos could easily have gone to the Suez Canal contract, but of course it is impossible to confirm this. This leaves Borel, Lavalley et Cie, the principal contractors.

Keith Clingan writes he has no reference at all to these contractors, i.e. there is no recorded evidence of them purchasing locomotives. Andy Wilson says they used "mule-powered rail transport", which implies narrow gauge. If so, was this 2ft 6in gauge? Given that relatively few locomotives seem to have been used in the Suez Canal contract, I find the use of mule (and presumably man) powered narrow gauge lines plausible. My problem is the gauge. If, as the 1869 Hügel & Sager purchase implies, it was indeed 2ft 6in, what was a French contractor doing using equipment of that gauge?

*Any comments or additional information on this would be much appreciated."*

55:7.

## **OTHER MIDDLE EAST RAILWAYS.**

As well as the individual country reports, from various sources, an "overview" from the Thomas Cooks Timetables is presented below. Some of the "press releases" demonstrate (as usual) a rather shallow journalistic perspective on the historical facts, but nevertheless indicate intriguing and ambitious plans.

### **A. HEDJAZ.**

#### (i). Tourist Revival.

A story in The Times for Saturday 8th. Sept. 2001 has been sent. By Michael Binyon in Amman, it is headlined "Full Steam Ahead for old Arab Railway." If it is at least largely true, and not just journalistic guff, then the implication is that some of the recommendations made by an English team of consultants (experts from the Talylyn Railway) a few years ago have been taken on board. The reasons given for the non-reconstruction in the 1960's-1970's are new to the Editor!

"Ancient narrow gauge steam engines, marooned in the desert for more than 80 years after the line was blown up by Lawrence of Arabia, may soon be put back in working order and raise steam for the first time since the Ottoman Turks left Arabia.

A team of young Arab engineers from Jordan is ready to fly to Saudi Arabia to restore some of the engines that have remained idle in Medina, the terminus of the old Hejaz Railway, ever since the line was abandoned after the First World War.

A survey has already been made of the old station and its trains, which the Saudis now want to preserve as a museum, and Jordan hopes to sign a deal with Saudi Arabia to repair some of them.

Jordan, Saudi Arabia and Syria are reviving long-postponed plans to reopen the entire 800-mile Hejaz Railway. The route south of Maan, in southern Jordan, was closed after the First World War, leaving a few ancient engines marooned in the lonely stations; and sidings in the Saudi desert. A British firm. began reconstruction in 1963, but the work was suspended after only 80 miles largely because of opposition from Saudi airlines to competition for pilgrim traffic. The line was originally built to take Muslims on the Haj, or pilgrimage.

Saudi Arabia also feared that the line would open up the country too quickly. A new feasibility study was submitted in 1980 by a German company.

Transport ministers from the three countries met recently in Egypt at the celebrations of the 150th anniversary of the first Egyptian railway, and expressed renewed interest in reopening the line.

Jordan is also looking at ambitious plans costing at least £100 million to add a standard gauge track beside the narrow-gauge Hejaz line from Amman to Damascus so that Jordan could be linked by through trains to Turkey and the European network. The new line will be put out to tender for a 25-year contract, and could revive the largely stagnant rail system in the Middle East; Standard gauge track from Turkey now reaches as far south only as Damascus.

Eight old steam engines from the Hejaz railway remain in Jordan, and the line's dynamic new director, Abul Fellal Abdel Razzaq, plans to restore all of them to attract the thousands of European tourists, especially from Britain, who are fascinated



by the German-built line, which is admired as one of the finest feats in railway engineering. Three of the engines have already been lovingly restored and operate charter steam tours to an old castle outside Amman, and a fourth is in process of restoration. The others will be restored when there is enough money and interest.

Abdel Razzaq, an architect and rail enthusiast, has turned around the fortunes of the decaying line, which had virtually ceased operating. Freight traffic to Syria has tripled using modern diesel engines, the historic station that existed before most of Amman was built has been cleaned and restored, and 40,000 tourists a year now visit the newly opened museum.

Only one driver, Fathallah Qaisi, now in his late 70's, remains who used to drive, after the Second World War, the steam trains the length of the line to Maan, but young technicians have been recruited to repair and drive the engines. They are learning the secrets of the capricious old locos built in Japan, Belgium and Germany in the 1950's. Jordan, dependent on tourism, has suddenly realised the vast potential of its historic railway.

There are proposals to rebuild a luxury copy of the coaches that from 1908 to 1914 used to take Ottoman dignitaries through the desert at a stately 15 miles an hour. It will run evening tours through the centre of Amman and serve dinners on board. Another source of income may be films. Few places in the Middle East so conjure up a swiftly vanishing past, and the engines in Amman station have featured in a recent film "The Mummy". Lack of money has preserved many features. The thin steel lines, some still bearing the stamp of Sultan Abdul Hamid II, the Ottoman ruler who commissioned the line, have never been renewed on many stretches.

The carved stone bridges and viaducts are in place. Even with a modern diesel engine, the weekly passenger train to Damascus, the only timetabled service, takes almost eight hours to cover 240 kilometres. It costs only £2.30.

The Jordan government gives no subsidy, and restoration has to be financed from the railway's tiny budget. No spare parts are available from the old European engine foundries, so the Jordanians have manufactured them in local workshops. The old Turkish wheelsheds and German lathes are still in use.

No British volunteers have yet become involved, though some Britons have expressed interest in sponsorship. Chartering an entire train to run through Amman costs only £630, and Abdel Razzaq hopes that steam enthusiasts will run special tours to Jordan."

#### (ii). Another Railtour.

A Belgian group is organising another railtour to Syria and Jordan, from 20.04 - 01.05.2002; for full details contact Transnico International & Group S.A., Avenue Montjoie 114, B-1180 Bruxelles, Belgium. Fax. (+32)-2-346665. Price is shown as •3395 from Bruxelles/Brussels.

#### (iii). Another Video.

As we went to press a new video on the "Hedschasbahn" was being advertised by Eisenbahn Kurier of Freiburg. It is intended to acquire and review this by the next issue.

### B). IRAN.

#### (i). Services.

'Continental Railway Journal' ('C.R.J.') No. 127 p. 249f has some notes on contemporary developments in Iran - including the new weekly Tehran - Damascus service introduced from 10/03/01, mentioned in 52:6(A)(ii-iv) and 53:7(A), noted as departing Saturdays for a journey of 2244km. by rail and 75km. by ferry.

There is also the new weekly Tehran - Istanbul service, 2916km. by rail and 75km. by ferry.

Plus the Tehran - Tashkent (Uzbekistan) service since Jan. 2001, a journey of 65 hours, Tehran - Mashhad - Sarakhs (gauge change at border with Turkmenistan) - Tedzhen - Chardzhou - Bukhara - Samarkand - Tashkent; this train also conveys a sleeping car Tehran Bukhara - Termez - Dushanbe (Tajikistan.) (according to Fahrplancenter News p. 15 this service was due to start at the end of APRIL 2001.)

#### (ii). Line to Pakistan.

The same issue reports track laying on the Kerman - Zahedan line to be almost complete on the first 224 km. as far as Bam; the remaining 380km. to Zahedan, on the Pakistan border, may be operational by 2002/3.

#### (iii). Hired Locomotives.

Because of a shortage of motive power the RAI (Iranian Islamic Republic Railways) have hired ten 62 Class Co-Co DE engines from CFR (Roumania). They have been renumbered 60.701-110 by RAI, and are used only in double traction as they are less powerful and heavy than RAI's General Motors locos.

Two photos by Thomas Meyer-Eppler show 60.704 & 60.708 at Mashhad depot on 01/10/00.

#### (iv). Mashhad Trams.

Thomas Meyer-Eppler notes that a report with photos on this project appeared in "Strassenbahnmagazin" issue 6 of 2001.

#### (v). Electrification.

The Iranian IIRR want to electrify the entire new line from Tehran via Qom to Esfahan. The first 137 km. from Tehran to Qom are already in operation with diesel traction, and the 142 km. extension from Qom to the area of Bad are under construction.

### C). TURKEY.

#### (i). TURKEY-SYRIA-IRAQ Services. The Bagdadbahn Reopened !

From Fahrplancenter News 35, p.12. "After the Syrian-Iraqi rail link had been reactivated for some months, on 6th.May 2001 the border crossing between El Qamishliye (Syria) and Nusaybin (Turkey) was also reopened. Each day a goods train conveying 450 tons of foodstuffs travels from Turkey to Iraq, these being delivered as a part of the UNO "Food for Oil" programme. On the 14th. July 2001 the Iraqi Railways announced that they would also recommence passenger services, whereby at first a weekly link between Baghdad, Mossul and Mardin is considered. However, with the term 'Mardin' it is likely that the region and not the town of this name is intended, since the branch line to Mardin itself is not in use; the Iraqi train will in all probability be joined to a TCDD train at Nusaybin, to Gaziantep. On 13th. July the second freight train crossed between the two countries and it was intended on 29th. July to offer passenger travel again. The single ticket should cost US\$20. More information is not yet available."

#### (ii). Izmir Metro.

Alan Prior reports in C.R.J. 127 (p.253) that the first section of the new Izmir Metro, from Bornova to Ucyol via Halkapinar, Basmane and Konak, opened on 22/05/2000.

#### (iii). Istanbul Metro Extension News.

"Today's Railways" No. 72 p. 15 has a note and a map: "An Alstom-led consortium has been awarded the contract valued at •39M by Istanbul Buyuksehir Belediyesi (the Greater Istanbul city municipality) for the Sishane metro extension. This project will be carried out within the framework of a previous contract with the same consortium for Phase I of the Istanbul metro. Alstom will receive 100% of the share as its local partners Albagak and Cengiz have not yet been awarded the finishing of the work.

The Sishane extension will add 1.8 km. of underground double track and one station. Alstom will be responsible for design, supply and installation of all elec-

tromechanical works. The scope of the works includes Alstom's complete signalling system including automatic train control and automatic train supervision, now marketed under the name URBALIS. The main civil engineering work has already been completed. The remaining construction work began in October 2001 and the extension is scheduled to begin commercial service by January 2003. A Phase 2 extension (three more stations, 3.2 km. of double track, Golden Horn crossing) is currently being tendered through a separate international procedure."

#### **(iv). Major Expansion Plans in Istanbul.**

A feature article in "International Railway Journal" Jan. 2002 by Mike Knutton covers some ambitious plans to transform the railway system in the Istanbul area - and complete a fixed rail link between Europe and Asia. The scheme is named "Marmaray" and is costed at US\$ 1.6 Billion. From this article:

It comprises a 13.3 km. tunnel and 63km. of upgraded suburban railway. This will create a 76.3 km. high-capacity corridor from Gebze in the east (Anatolian side) to Halkali in the west. The crossing of the narrow Bosphorus waterway, connecting the Black Sea to the Mediterranean, will be by an 18-section, 1.8 km. long earthquake-proof immersed tube. When completed, it will be the world's deepest immersed tube, lying at a maximum depth of 56m. The tube will be connected to bored tunnels to Yenikapi on the European side and Söğütlücesme on the Anatolian side. A major interchange station will be built at Yenikapi, which is already served by suburban services and will be served by the metro. There are also quays for the many ferries which ply local waters.

Upgrading the suburban lines will involve laying a third track on most of their length to increase line capacity to 75,000 passengers per hour per direction. Signalling will also have to be modernised to allow two-minute headways. The 41 stations along the line will be refurbished and platforms lengthened to 180m. New intermediate stations will be built at Sirkeci and Üsküdar. TCDD calculates that 544 new e.m.u. cars will be needed when the tunnel opens, possibly rising to 672 cars ten years later. Construction of the tunnel should take four years, but while the preparation of tender documents is under way, it is not yet possible to calculate a starting date because of Turkey's difficult economic situation.

Key works associated with a fully integrated public transport system on the European side include completion of the

metro, and extensions of light rail and light metro, including the branch to Atatürk International Airport, a westward extension from Yenibosna, and an isolated section from Halkali to the proposed metro extension at Ikitelli.

On the Anatolian side, extensive light metro lines are planned, one between Harem and Kartal, paralleling the coastal commuter line, and another from Üsküdar east to Dudullu, then southwest to join the Harem - Kartal line at Bostanci.

The need for improved public transport has been apparent for decades, but in the second half of the 20th. century the expansion of the highway network, including two bridges over the Bosphorus, was seen as the solution. But it did not work, and increasing numbers of vehicles, generated by rapid urbanisation, are strangling this city of 12 million people, and creating serious air pollution problems.

Rail-based public transportation in European Istanbul currently consists of:

- a 573m funicular subway called the Tünel.
- a 7.8 km. metro line between 4 Levent and Taksim Square.
- an 18km. light metro line between Aksaray and Yenibosna.
- a modern light rail/tram line through the older parts of the city, linking Eminönü with the light metro line at Zeytinburnu, and
- the Sirkeci - Halkali commuter line at Sirkeci.

The Tünel opened in 1874 and is still operating on the steep slopes to the north of the Golden Horn. It has only two stations, Karaköy and Tünel, and is connected from Tünel to Taksim Square by a vintage tram.

The light metro, of which 4.4 km. in the city centre is underground, opened from Aksaray to Kartaltepe in 1898 and was extended in stages to Yenibosna up to 1995. It was built by ABB, Sweden, now part of Bombardier, which recently won an order for additional vehicles. Civil works have been completed for a branch to the airport, which should open later this year.

Work on the Metro started in 1993. Two Turkish companies constructed tunnels and stations and in 1997 a consortium led by Cegelec, France, (which became part of Alstom the following year) won a US\$ 180 million contract for all electro-mechanical (E&M) work plus finishing works at the stations. The consortium, which included Alcatel Italia for telecommunications and GEC Alsthom Signalling (now also part of Alstom Transport) for signalling was also responsible for power supply (distribution from the Turkish national grid and 750V dc traction power),

the control centre including CCTV, public address, and the supervisory control and data acquisition (Scada) system, 18km. of ballastless track, including 22 points, tunnel and station ventilation, station utilities, drainage and fire detection and protection.

Alstom separately won a US\$45M contract for eight four-car trains in August 1997. The 80km/h, aluminium-bodied trains were the same type that Alstom had built for the Caracas metro. The Istanbul Metro was inaugurated in September 2000.

The line does not currently have a depot as the valuable land previously earmarked for the facility was sold for commercial development! Instead, one track at 4 Levent station was converted into what is called a provisional maintenance area. According to the Istanbul municipality, the provisional arrangement has not been a problem because no major maintenance has been required since the metro opened. This year, the municipality plans a 1.5 km. northwest extension from 4 Levent to Maslak where a permanent depot will be built.

The next metro section (See Above) covering 1.8 km. from Taksim to Sishane station is currently being fitted out by Alstom Transport at a Euro39M E&M contract covering power supply, auxiliaries, track and the Uralbis signalling system including automatic train supervision (ATS) and automatic train control (ATC), comprising automatic train protection (ATP) and automatic train operation (ATO). The extension is due in revenue service by January 2003.

Bidding is taking place for the E&M and rolling stock contracts for the 3.2km. section on to Yenikapi, which will have intermediate stations at Unkapanai and Vezneciler. It is due to open in 2004. Alstom is bidding for both contracts and is up against Hyundai/Koros, Korea. Tunnelling works are well under way but were hindered by a collapse last autumn between Sezadeb and Yenikapi. This section involves crossing the Golden Horn by a swing bridge. Basic dimensions and parameters for the bridge have been agreed and the search is on for international architects. The Golden Horn is a busy shipping area but the intention is that the bridge will only be moved for shipping at night when the metro is not running.

The tunnel collapse may well cause delays to the timetable. Another unknown factor is the historic nature of the area. Archaeological finds during construction could slow things down further. Longer term, though, there are plans to extend the metro north from 4 Levent to the university and west from Yenikapi to Basaksehir, with connections to the light rail and light metro lines.

**(v). Preserved coach at Alsancak.**

Atatürk's private carriage, No. 3/5001 has been restored and repainted and moved to a small park area across the road from Alsancak station, next to the old harbour railway line. It is watched over by a security guard, but is open to public inspection. A photo shows it to be of Germanic design, with an open verandah at one end, and in two-tone livery. The interior includes a saloon arranged as a conference/dining room.

The 60cm. gauge 0-4-0T No. 97 (Henschel 15944/1918) previously at Karsiyaka station (originally used in construction of the Bagdadbahn) is now plinthed outside the main entrance to Alsancak station and has been repainted.

**(vi). Ankara, Genclik Park Railway.**

During the last three years this 60cm. gauge pleasure line has been relaid, and more recently 2-8-2 KL46004 "Mehmetcik" has returned. On 20/03/01 it was found standing outside the shed in nice clean condition.

**(vii). Usak.** (Compare with 52:7.F(ii).)

On 27/02/01 2-10-0's 56517, 56548, 2-10-2 57009 and 0-8-0 44071 were present in the shed. The two 2-10-0's appeared possibly in running order, the other two looked to be undergoing minor repairs. A four-wheel Sharp Stewart tender, in better condition than the one at Camlik, was parked beyond the turntable.

**(viii). Camlik.** (cf. 53:7:E:(iv).)

CRJ 127 states that 4-8-0 46005 and 2-10-0 56917 were still present in the station siding, along with a Sharp Stewart tender, on 12/12/00, despite conflicting reports.

**(ix). Old Coaches at Kirikkale.**

Also noted here were two bogie carriages formerly used on the Izmir suburban service from Alsancak to Buca - built by the Ottoman Railway at its Smyrna works in 1911/12, fitted with bogies supplied by Glasgow Iron Works.

**(xi). Narrow Gauge Query.**

Keith Chester notes in C.R.J. 127 p. 225 that in August 1975 at Sivas Motive Power Depot he saw some small locos, probably narrow gauge and possibly some of the ex-Russian military 0-6-0T's. (TCDD Nos. 33901-86.) He would like to know whether any other reader has any more information on these engines - a quarter of a century ago.

**D). EGYPT.**

**(i). Cairo Metro.**

Alstom has been commissioned to construct a 2.5km. extension of Line 2 to El Mu'ayib.

**(ii). More on the History of the Danish Trams used in Alexandria.**

From Hans-Hendrik Landsvig.

"To the trams themselves. The Uerdingen design was tested in Copenhagen in 1957 and 1958. The tramways borrowed a tram from Rheinische

Bahngesellschaft in Düsseldorf. The Copenhagen City Council decided on 17th December 1959 to buy 100, and the first 30 were ordered directly from Uerdingen. The rest were built - more or less from parts made by Uerdingen - at the workshops of the Copenhagen tramways. The first one ran on line 5 on 19th September 1960. The last one was put in service on 27th February 1968. By that time several important tramlines were already being converted to buses.

The city council decided on 24th April 1969 to close down the tramways completely by 1972, and to sell the 100 Uerdingen-trams to Alexandria. On 3rd November 28 were shipped. On 23rd December 22 were shipped. From May to August 1971 further 25 were shipped.

Last trams ran in Copenhagen on 22nd April, so the rest were presumably shipped soon afterwards. One never went: It burned out due to a short circuit in Sundby Shed in Southern Copenhagen in 1969 or 1970 and was scrapped. Shipping was from the free port of Copenhagen. There was a connection between the railways and the tramways at Kobenhavn L station (a small terminal for a suburban railway line) in Northern Copenhagen. The trams from Germany had been unloaded from flatcars there.

Now they were dragged on their own wheels in small groups by a shunting engine directly from Kobenhavn L to the free port. As tram wheels and railway tracks don't fit too well together, when both are worn, there were some minor derailments but no big trouble. On at least one occasion the Japanese vessel Ohyama Maru was used.

The basic facts here are from the book "Farvel Sporvogn" put out by Sporveishistorisk Selskab in 1972 - the tramway society that also puts out "Bytrafik."

**(iii). Old Signalling News.**

In "Eisenbahn Magazin" 1/79 p.8 is noted: "The main line Alexandria - Cairo - Assyut of the ENR will be equipped with modern signalling equipment from the Bundesrepublik. Following the signing in 1977 of a contract between the Transport Ministry and Siemens AG for the supply and installation of signal equipment valued at 26 Million Deutschmarks, in Summer 1978 a further contract was signed for a sum of 22 M DM. In consequence Siemens has begun the installation of an inductive train safety system ('Indusi') on the Alexandria -

Cairo - Assyut line. This will constantly supervise train operations, so that in emergency situations - when, for example, a signal is ignored - the safety system will automatically be switched in and the train brought to a halt. This Automatic Train Control System I 100 has been developed from the system used on DB and other European countries.

On the line Assyut - Sohag Siemens had already installed a first modern signal system in 1963."

**(iv). EGYPT-LIBYA.**

Now that the reconstruction of the line El Solloum - Tobruk has been begun, there seems to be nothing in the way of an early resumption of goods services. (FCN No. 35 p. 15)

**E). LIBYA.**

According to 'Fahrplancenter News' 35 p.10 the line under construction around the capital of Tripoli is making good progress. Completion is now in the hands of the Chinese Civil Engineering Construction Corporation (CCECC), which will also supervise traffic in the first two years of operation and train the Libyan personnel. It is intended to open the first section to traffic sometime during 2003, full opening for all traffic in the Greater Tripoli area should be ready by 2004.

The CCECC is also seen by the Libyan Government as suited to construct the main lines Misratah - Benghazi and the southern line from Surt to Sabna. An appropriate pre-contract agreement was signed in Spring 2001.

In contrast, Chris Bailey, who spent a couple of days in Libya in early December, writes "On a 70km. journey westwards along the main road out of Tripoli (where the old 950mm. gauge Italian line ran) I saw no sign of any construction. The line must be planned south of its previous alignment. As expected there was also nothing between Tobruk and Derna - as this is part of Stage 3."

**F). SUDAN.**

From 'Fahrplancenter News' 35, p. 11:

"Once Libya announced its intention to build a railway line into Niger and eventually even further, the Sudan Government has been stimulated into considering also an extension of the line from the harbour of Bur Sudan to Nyala in Western Sudan, on to Chad, Niger and

the Central African Republic. If so, further questions are whether the existing line should be rebuilt to standard gauge or everything continued on the existing "Cape Gauge" of 3' 6".

However, the Sudan Railways Corporation is facing major problems with shortage of rolling stock and maintaining what it has. In order to overcome this shortage of locomotives and goods wagons as quickly as possible, the SRC shipped a batch of vehicles to Iran for total overhaul. The workshops there are clearly able to work well, since the first vehicles returned to service in Africa after only four months."

## G). MAGHREB.

Not fully part of our area, but it is worth noting that the 11/2001 issue of the glossy and well-produced magazine "Fern Express" is devoted almost wholly to the railways of Tunisia, Morocco and Algeria, with reference also to Libya. Copies can be ordered from Volker Haug, Steubenstr. 12, 69121 Heidelberg, Germany, or <bestellung@fern-express.de>, also from Samuel Rachdi at "Fahrplancenter News", Tellstrasse 45, 8400 Wintherthur, Switzerland.

An advertisement indicates that a book "Maghreb Rail" in Dutch by Marcel Vleugels covers the railways of these countries plus Jordan from 1858, for 79.90 DM (ca. 40 Euro) and that maps of the lines and stations are available for DM 33.00 (ca. 16 Euro). These latter are available from (Publishers) 't Nijvere Lezerke, Postbus 233, NL-6400 AE Heerlen, The Netherlands, or <www.nijverelezerke.nl>.

Previous "Special Numbers" of relevance were: (Nr. 68, IV/2000) on Turkey, and (Nr. 15; I/1989) on Syrien/Hedjaz.

## H). SYRIA.

### (i). Timetable.

From 10.06.01 an additional train pair was provided between El Qamishliye and Damascus. There were to be further improvements from the end of September.

### (ii). Link to Lebanon.

With the new transport policies of the Syrian Government it looks more likely that the line from Akkari on the Lebanese border as far as Tripoli in Lebanon will be rebuilt and reactivated at least for goods traffic. (FCN 35, p. 15.)

### (iii). Electrification Plans.

From an Agence France Presse 2001 release of March 2001:

"Syria to launch first electric railway lines.

Syria's state railway company said

Sunday, March 11, it will accept bids to build the country's first electric rail network, potentially creating thousands of jobs. At a cost of between \$330 and \$400 million, the company hopes to build "high-speed railroads that correspond to international norms" from the Lebanese border to Damascus and the capital's airport, railway official Salah Ahmad told the official newspaper "Tishrin".

He added that a line would stretch 45 kilometers (25 miles) south of Damascus to Katana. A second project, funded by Syria, would connect the capital with the Jordanian border region, including Daraa, 100 kilometers (60 miles) south of Damascus. "These projects are going to modernize the company's services and create some 10,000 jobs in a reactivated railway sector," he said.

Syria has 2,450 kilometers (1,450 miles) of railroad tracks around the country and is served by 210 diesel wagons, (sic!) half of which are Soviet-built."

### (iv). New Spur to Power Plant.

Old news, but recently received, is a press release from 11/26/1998.

"Syrian transport minister inaugurates new railway for plant. Minister of Transportation Mufid Abdul Karim on Wednesday inaugurated the railway of the electricity generating plant in eastern Aleppo. The total length of the Railway is 9.4 km. It was completed at a total cost of 191 million Syrian pounds. The whole project, which took 18 months to finish, was carried out by local Syrian experts."

### (v). New Diesel Locos.

In 'IRJ' 11/2001: Syrian Railways has invited bids to supply 30 diesel-electric locomotives.

## I). SAUDI ARABIA.

From an AFP (Riyadh) release of April 29, 2001: "Saudi East-West railway to cost \$1.7 billion. A rail link between the east and west coasts of Saudi Arabia, one of four railway projects being considered by Riyadh, is estimated to cost 6.5 billion Riyals (\$1.7 billion), a newspaper reported Friday, April 27.

The 950-kilometer (595-mile) link between Jeddah on the Red Sea and Dammam on the Gulf, Saudi Arabia's largest ports, is expected to boost cargo transport by 19.5 percent to 30 million tons a year, "Al-Iqtissadiya" business daily said.

The project will also transport 23 million passengers a year. Oil-rich Saudi Arabia has invited the private sector to construct the railways, but the authorities are still evaluating options to award the projects, with the build-operate-transfer (BOT) being favoured.

Several foreign and local firms are bidding for the projects to expand the Saudi railways. Japan last year turned down a Saudi request to finance a two-billion-dollar rail link between phosphate mines in the north and industrial centers in eastern Saudi Arabia.

The decision cost Tokyo an oil-drilling concession, which Riyadh refused to renew in February 2000. Saudi Arabia is the only country in the Arabian Peninsula with a railway. It was originally built under the Ottomans to transport Muslim pilgrims to Islam's holiest sites in Mecca."

## J). IRAQ.

(i). Raids. Also old news - an undated but 2000 Press Release obtained via Internet claims:

"Iraq has claimed that American warplanes bombed a railway station during a raid on southern Iraq last night. The official news agency said that a number of civilians had been injured in the attack. The United States had earlier said that its planes had attacked anti-aircraft sites in Iraq for a second successive night. The Pentagon said that the action had been in response to fire directed at American and British planes enforcing the no-fly zone in the south of the country.

Iraq also said that the raid on Friday night hit a government warehouse, killing two civilians and wounding 19. The building contained building materials. Nearby houses were also badly damaged. The Iraqis say that there are no military installations in the area, and that 300 civilians have been killed so far in attacks like these.

The no-fly zones in southern and northern Iraq were set up after the 1991 Gulf War to protect Kurdish and Shi'ite Muslim minorities from attacks by President Saddam Hussein's forces. Lieutenant-Colonel Rick Thomas of the United States Air Force said that the American planes had been responding to repeated Iraqi violations."

### (ii). Diesel Locos.

A note in "Eisenbahn Magazin" 1/79 p.9 on new double-unit versions of the Soviet-built M62 class Co-Co DE states that these engines were then in use in East Germany, Hungary, Czechoslovakia, Poland, Korea and Iraq.

(Incidentally, the TE114 diesel loco built at Voroshilovgrad was also presented at the Leipzig Messe in Spring 1974 - designed for temperatures from -15deg. to +50 deg. C., top speed 100 km/h, 2800 hp., 17,555mm. length over centre coupling, weight in working order 120 tons - it is stated that some of these locos, intended for export and with only one cab from which up to four units can be con-

trolled, were to be trialled in Syria and Egypt.)

(iii). **Baghdad Metro.** (see 53:7 (b).

An older item, but 'IRJ' Oct. 1999 noted:

"Plans have been revived for a metro in Bagdad, which has a population of about 5.5 million people. The project was first studied in the 1970's, but little progress was made following the outbreak of the war with Iran in 1980. Original plans, now to be reviewed by the Ministry of Transport, were for an initial two lines totalling 32 km. with 36 stations. This stemmed from plans for solving the rapidly-growing city's transport problems, which were evolved in a transport study. The study proposed a three-line metro, a regional rapid-transit system, and about 500 km. of feeder and peripheral bus routes.

News of the revival of the project was revealed in the Iraqi weekly magazine "Al Rai", which said the plan now also involves improving rail links between Baghdad and the provinces and upgrading and building new ports."

## **K. UNITED ARAB EMIRATES.**

'IRJ' noted in 10/99 that "an underground metro has been proposed to help solve growing traffic problems in the UAE. Officials from Dubai and Sharjah are evaluating proposals including the metro, which has been suggested by the Sharjah Traffic Police. Car commuters between the two emirates, which are 10km. apart, take about 45 minutes for the journey. Car ownership is growing by between 15,000 and 20,000 a year, but there is little or no space for new roads, and at the moment there are no alternatives to road transport.

Lt. Col. Omar Mohammed Al Owais, of Sharjah Police, noted that traffic congestion was having an adverse effect on the economy, productivity, health and security. "The United Arab Emirates, with its growing economy, requires fast and efficient means of transport. A Metro can help confront the challenges of the future. Such a service will also strengthen the units of the Emirates. A Mtro that can be expanded to cover all the emirates will be a good asset, despite its high cost", he said. At the moment the proposal is only at the "scrutiny" stage."

## **L). THOMAS COOKS TIMETABLES.**

It is to be hoped that most readers know of the excellent regular publication

of Thomas Cook Overseas Timetable - there is a "European" one and a "World" one - blue cover. The Nov.-Dec. 2001 issue notes in the Editorial (p.2) that "A revised timetable for Saudi Railways is included but with no intermediate timings. Updated timings for Israel Railways are included in this issue. There are now so many trains that the frequent service between Binyamina and Ashdod is shown as a footnote only." I find this so remarkable - one really does not have to be so old to recall the time when there was an hourly service only from Tel Aviv.....

Most of the Middle East section makes sad though hardly surprising reading. (Rail and Bus services are both shown and indicated as such.) A map (Map 19) of the region appears on p. 248, though this, while indicating the existence of Israel, doesn't show any rail lines in that country. Map 20 on p. 256 covers The Arabian Peninsula and Iran/Syria. **Israel** itself is covered in Map 18 on p. 244, and Tables 4000 - 4018, though these are mostly for bus routes and are mostly blank due to incomplete information at press date.

**Syria** appears on half of p. 255 and half of 256, with the note "Rail services in Syria are operated mainly by Chemins de fer Syriens (CFS). Two classes of accommodation are provided ('1' and '2'), including some new fully air-conditioned '2' class coaches. Sleeping and dining cars are operated on the principal trains. Children under 4 years travel free, whilst those of 4 but under 10 years pay half-fare; children of 10 and over must pay full fare. Limited bus services, some air-conditioned, link the major cities."

The rail services are mainly combined in one Table 4078 "Yaroubieh - Halab - Dimashq", although the Table actually starts with Baghdad at 1160 km. from Halab (Aleppo), then Al Mawsil (Mosul) at 748km, before the actual Frontier Point at El Yaroubieh (630km.). No train is indicated as going through to Bagdad, but one each way leaves Mosul at 19.00 (Yaroubieh 22.20 -23.45), arr. Halab 08.28, returning Halab 22.00, El Yaroubieh 06.36 - 08.00, arr. Mosul 11.05. So clearly two train sets are in use.

The Table 4079 covers "Dimaschq - Amman", 223 km. in nine hours, with departures FO from Kadem at 07.00 for Dar'a (Dera'a) (128 km., 11.20), MThO 08.00 for Amman (arr. 17.00), TuWSAtSuO 08.00 also for Serghaya (arr. 11.30) and 09.00 for En El Viggini, at km. 24 on the 61km. Serghaya branch.

Back again, on the same days, Amman dep. 08.00, Mafraq 10.25, Dera'a 12.55-13.30, Izra 14.40, Kanawat 16.45. The En El Viggini train leaves that point

at 14.00 to get back to Kanawat by 15.00, the Serghaya service dep. 15.50 to get to Kanawat by 19.10, the Dera'a trip leaves 14.50 and gets into Kanawat 19.45. Of course, readers of 'Harakevet' will have their own perspective on the veracity of these timings.

Fares - 1st. Class, in Syrian Pounds - are listed in Table 4078 as:

Halab to Ar Raqqah (204 km.) : 55.00.  
to Dayr az Zawr (340 km.) 87.00,  
to Al Hasakah (469 km.) 115,  
to Al Qamishli (550 km.) 132.  
Halab to Al Ladhqiyyah (199 km.) 67.  
to Hamah (144km.) 34.  
to Hims (202 km.) 45.  
to Dimashq Kadem (367 km.) 85.00.

In Table 4079 the only fares listed are 2nd. class! 23.00 to Dar'a and 155.00 to Amman.

For **Lebanon**, p. 256 notes laconically "At present there is no rail service in Lebanon, but reliable bus services link all points. Taxis are available in all areas."

**Jordan** is noted (p. 257), "Rail service in Jordan is operated by the Hedjaz Jordan Railway, and services are, at present, extremely limited. Bus services link all important centres, but international routes are few, and only operate when circumstances permit." What these circumstances are is not specified..... The only Rail Table 4100 is in fact non-existent - headed "Amman - Al 'Aqaba", it indicates kilometrage of 125 to Hasa, 205 to Ma'an and 390 to Al 'Aqaba but of course absolutely no service times. Table 4120 shows a daily bus service taking five hours between the two points.

**Iraq** appears also on p. 257, with the note "Rail services in Iraq are operated by Iraqi Republic Railways (IIRR). Three classes of accommodation are provided, first, second and tourist (shown as '1', '2' and 'T' in the tables.) 1 and 2 class seats convert into berths for overnight travel; sleeping and refreshment cars operate on some trains, and all services are air-conditioned. Children under 4 years travel free, whilst those of 4 but under 10 pay half-fare; children of 10 years and over must pay full fare. Infrequent bus services link the main cities, and a few international routes are in operation."

Table 4150 Baghdad - Husaibah shows two trains to Ar Ramad East (119 km.) for 1.250 Iraqi Dinar, but no firm

return times and no services further to Hit (km. 173), Haqlaniyah (km. 240), Al Qa'im (km. 353 and Husaiba (km. 376.)

Table 4151 Baghdad - Al Mawsil shows two overnight trains. dep. Baghdad West 19.30 and 22.00, arriving 412 km. later at Al Mawsil (Mosul) at 07.35 and 08.46, the fare costing 16.000 Dinars. South-bound returns are more vague - only one is listed leaving 19.00 and arriving Baghdad West 07.15, the other is "assumed".

Table 4152 Baghdad - Al Basrah shows four daily services in each direction over the 541 km. route, leaving at 09.00, 20.45, 21.30 and 22.45, arriving 19.15, 08.35, 09.20 and 13.30 respectively - clear indication of the preponderance of overnight travel. The return services are indicated as "information not available at press date" but presumably there are similar patterns. So unless the daytime train forms a nighttime return, IIRR needs eight rakes of stock for this service. The 2nd. class fare is 21.500 Dinars to Basra.

**Saudi Arabia** is on p. 258. "Rail services in Saudi Arabia are operated by the Saudi Railways Organisation (SRO.) Two classes of accommodation are provided ('1' and '2') in modern air-conditioned diesel trains. Children under 4 years travel free, whilst those of 4 but under 12 years pay half-fare; Children of 12 and over must pay full fare. Disabled passengers and those accompanying them, travel at half fare. An excellent network of fast bus services links all major centres, but in many cases (especially those routes operating to/from Makka) only Moslem passengers will be allowed to board. Non-Muslim passengers may not travel on buses which operate to, or via, Makka or Al Madinah. Unaccompanied women may not travel on SAPTCO buses."

Table 4200 covers Ad Dammam - Ar Riyad, with four railcars per day each way over the route., leaving Ad Dammam at 05.49, 09.25, 15.00 and 18.00, covering the 74 km. to Abqaiq, 139 km. to Al Hufuf and then 449 km. to Ar Riyad (561 km. if travelling via Harad) to arrive 09.50, 13.30, 19.07 & 22.07. Returns are essentially similar except that the last train back arrives at Ad Dammam at 01.27. So it is clear that this is essentially a "daytime service".

**Turkey.** having a more substantial system, covers pages 247-254, Tables 4019 - 4077. The notes indicate: "Rail Services in Turkey are operated by Türkiye Cumhuriyeti Devlet Demiryollari (TCDD). Two classes of accommodation are provided (shown as '1' and '2' in the tables) and sleeping and restaurant cars are included in some trains. Sleeping cars have single compartments in '1' class and 2- or 3-berth compartments in '2' class. Certain trains also include 6-berth couchette cars or reclining seat cars (shown as 'P' class.) Higher fares are charged for travel by Express or Mail trains than for local trains. Some trains are air-conditioned. Children under 8 years travel free, whilst those of 8 but under 12 pay half-fare; children of 12 years and over must pay full fare. Most towns and cities are linked by frequent bus services, many of which are air-conditioned."

Incidentally, details for various railway administrations are given thus:

Chemins de fer Syriens. Halab 213900, fax. 228480. telex. cfs331449sy, telegrams sikkethadid-alep.

Hedjaz Jordan Railway Amman 6 895 414, fax. 6 894 117.

Iraq Republic Railways. tel. Baghdad 964 1 537 0011 Telex 212272railwaysik.

Saudi Railway Organisation. +966 3 871222, fax. 966 3 8271130, telex 801050sarail sj.

TCDD. tel. Ankara 312 311 1305. Fax. 312 312 3215, telex 44390tcddtr.

IIRR. tel. Tehran 21 555 120, Fax. 21 556 133, telex 213103istrir.

<www.msedy.com/rai>

**The timetable is obtainable from:**

"Overseas Timetable, Thomas Cook Publishing, P.O. Box 227, Peterborough, PE3 8XX, Great Britain."

55:8.

## **THE ISRAELI RAILWAYS - 20 YEARS AFTER THE ESTABLISHMENT OF THE STATE."**

From "Israel Forum" of März 1968 (in German), p.16.

This is an article by Kalman Ehrhardt - a photo on p. 18 shows him in IR uniform, the caption stating he was born in 1929 in Breslau. It is revealingly Israel-oriented - the Hedjaz is described as linking Haifa, not Damascus, with Mecca, for example, and the line Hadera (not Tulkarm) - Nablus is described as though it was built in this rather than the opposite direction. There are many other quaint inaccuracies of chronology - this article is reproduced partly for the 'historical record', to show what NOT to believe! Presumably it reflects what many at the time believed to be the history. For that reason it deserves reproduction. I regret that I know little about the magazine from which it was taken.

"78 years ago a French company gained a concession from the Turkish government in Constantinople, for the construction of a railway from Jaffa to Jerusalem. The route, of 1 metre gauge, went via Lydda to Jerusalem through a picturesque valley past Biblical locations, such as, for example, the place of the fight between David and Goliath [sic. Ed.] in the Valley of the Pistachios, in the area of the current Hartuv. Operations began in 1892. In 1905 the so-called Hedschasbahn was laid; it led from Haifa via the Jezreel Valley (Afuleh) to Mecca and served the Moslems for their pilgrimages.

The First World War brought new developments in the railways. The centre of the country was connected by the construction of a line from Hadera to Nablus (Shechem); these were narrow gauge lines.

1918 brought a turning point for the Near East. The Turkish regime was replaced by a British Mandate. A connecting line from Egypt to Palestine was now necessary. The result was the construction of the currently-existing line from the Suez Canal to Haifa (Cantara - Raffah - Gaza - Lydda - Haifa - Akko). The section Lydda - Haifa - Akko formed, until the construction of the coastal line in 1952, the spine of the Israeli railways. Of especial significance for the development of the Israeli State Railways was the line Rosh HaAyin - Petach Tikvah (10km.) built in 1925, as for the first time this constituted a co-operative project between the Mandate authority and the Jewish settlement agency P.I.C.A. (Palesine Jewish Colonisation Association.) The Jerusalem line was also at this period rebuilt to the normal European gauge. For the former German Jews the station

of Lydda was of especial interest, inasmuch as the kiosk there was the only place in the country where one could buy at the "Berliner Tageblatt".

The Second World War also brought great demands on the existing railway network. The line was extended by South African Pioneers from Haifa via Beirut (Lebanon) to the oil harbour of Tripoli. The total length of the railway system now reached approximately 250 km.

In 1948 the "Palestine Railway" [sic] was changed into "Israel State Railway". It was no easy inheritance that the young State took over. The railway network did not match the needs of the Jewish population, since they had been built solely to meet the strategic requirements of the Mandate authority. The Personnel consisted mainly of Arabs and there were only a few Jews. In the upper echelons the staff were mainly English, who left the country after the end of the Mandate. Nevertheless in spite of major difficulties the first Israeli goods train was able to travel from Haifa to Hadera (51 km.) on 3/5/1949. We must bear in mind that the line ran close to the border for a great part of its length, and was within shooting range of the Jordanian Legion. The next step was the reorganisation of the personnel and the rolling stock. The great wave of immigration brought with it railwaymen, both technical and administrative staff, from Russia. Since the railway had been run according to the English system, the new labour force needed to be trained in these ways. In spite of everything the railway was able to begin full operations within the country's borders in 1950.

As already mentioned, a large proportion of the line ran directly on the border. This was, from a strategic perspective, an impossible situation. Therefore in 1951 work began on laying a new line, which would follow the coast. Two years later this could be opened to traffic. The profitability of this section was soon demonstrated. All the major settlements which lay near the coast were connected to the network. Branch lines, vital for transport, connected major industries with the main line.

In the course of modernisation Israel received its first diesel locomotive. This process was completed in 1964 with the total dieselisation of the motive power. The signalling system was replaced with an electronic one from the firm Lorenz. Through this means a higher line capacity was reached. 13 passenger trains now travel daily between Haifa and Tel Aviv. The express manages this 93 km. stretch in 65 minutes. On Sabbaths and festivals the traffic is suspended, for religious reasons. Since the railway is a major means of public transport, the ticket prices are kept deliberately low. A ticket from Haifa to Tel Aviv costs £1 2.40, that is 3 Agorot per kilometre - around 4 Pfennigs as compared to 7.5 Pfennigs on the German Bundesbahn.

Another aspect of the Israel Railways is the citrus transport and the movement of Phosphates and Potash from the Negev. For this rich asset of the Negev a new line via Beer-Sheva, Dimona has been laid to Oron. At first intended only for freight, today Dimona is reached also by passenger trains, since the population level of the Negev has grown considerably. Through the construction of the southern port of Ashdod the transport route of the Negev products is shortened by 149 km., therefore a reduction in the transport costs.

A new problem for the railways emerged in June 1967. After the end of the Six Day War the railway system was suddenly expanded from 400 to 800 km., from the Gaza Strip to the Suez Canal up to Port Toufic. What sort of technical problems a 'desert railway' could present soon became apparent. The line passed through areas dominated by wandering sand dunes. The standard of the Egyptian layouts was very low. The desert had made it difficult for the Egyptians to supply the Gaza Strip. Inhabitants of El Arish reported that in winter when there were sandstorms no trains had come from Egypt, so that the food supply situation had become difficult in the Gaza Strip.

Mr. A Zwick, the Vienna-born General Director of the Israeli State Railways, described in a technical paper the possibility for constructing a line from the Red Sea harbour of Eilat to the Mediterranean coast at Ashdod, a "dry Suez Canal".

In the trains we encounter all groups within the population. In contrast to other western State Railways there is only one Class in the coaches. Many tourists use the railway, in order to get to Jerusalem via the Judean Hills. It is an especially varied journey. Amongst the staff of the railways one can find people of almost every country in the world. The engine driver may be from Germany, the Guard from Iraq, and the Conductor lived in Budapest until ten years ago.

In the Leisure Club, which has 617 members (the total number of staff is 1,800) which is affiliated to the International Association of Railway Clubs F.I.S.A.I.C., the railwaymen occupy themselves with their various hobbies. Arab colleagues are also active members in this society."

## THE HEDJAZ RAILWAY. A 1970's VIEW.

### THE HEDJAZ RAILWAY.

From "The Pictorial Story of Railways"  
by E. L. Cornwell, pub. Hamlyn P. G.  
Ltd., London 1972-74 ISBN  
0600339725. p. 209.

"Every year hundreds of thousands of devoted Moslems make the long and often arduous pilgrimage to Mecca, centre of Islam and birthplace of the Prophet Mohammed. The holy city in Arabia is forbidden to non-Moslems; the nearest place they can visit or work is Jeddah, seaport on the Red Sea 55 miles to the west. Medina is a semi-sanctified oasis city about 60 miles to the northwest with a population of 30,000. It contains the Tomb of Mohammed.

Transporting determined pilgrims is a large and lucrative business, once undertaken exclusively by shipping lines whose vessels put them ashore at Jeddah and waited until they had made the then dangerous and tiring land journey to and from Mecca. A percentage never returned to the ships, having fallen victim to robbers, fatigue, disease or heat. A man - and only men may make the Mecca pilgrimage - was until recently quite old before he could afford the journey. If successful, he wore the title 'Haj' and was assured by his religion of spiritual reward. This explains not only the determination but the casualties.

Never have more ideal conditions existed for a passenger railway, social, religious and economic. Many unscrupulous shipping companies provided their oldest vessels, and carried pilgrims in the holds where they suffered the Red Sea at its airless worst during many days of slow sailing. At the turn of the century, the Ottoman Empire, which then extended into Arabia and controlled Mecca, and also sent the largest number of pilgrims, began work on a railway line which, with German aid, would link the Bosphorus (opposite Constantinople) with Mecca via Damascus. Stifling heat would be suffered only in the last 36 hours, but with windows open and a probable speed of 20 miles an hour, conditions would be almost paradise compared to the ships.

Down into the long arid reaches of the Hedjaz, as that part of Arabia is called, a railway was pushed, built fairly rapidly and lightly to a gauge of three feet

five and three-eighths inches. It stopped short at Medina, because purist Moslems objected to the holy city of Mecca being defiled, and there as also a shortage of Moslem engineers who could have constructed it. By 1907 the line was fit for traffic of a sort and during the pilgrim season of 1908 it carried its first loads with a very high degree of success.

The Ottoman Sultan Abd Al-Hamid, who is credited with building the Hedjaz Railway, was more than satisfied with the results and used the new line to transport his troops to strengthen still further his hold on Arabia. But his efforts to force the line onwards to its goal at Mecca met with increasing resistance by the Moslem purists led by Husain Ibn-Ali, the Emir of Mecca. Indeed the line was never built to its final destination but the 820 miles from Damascus to Medina worked well for seven pilgrimages, carrying an estimated million Moslems (half a million each way.)

The trains were taking about two and a half days from Damascus down to the Hedjaz terminus. Then came the war of 1914-18, with Turkey ranged on the German side....."

A map indicates the "Hedjaz Line Open", "Hedjaz Line on which rebuilding work is incomplete", "Trans-Arabian Railway opened 1951", and "Trans-Arabian Railway planned but not built". This latter includes lines (indicated only diagrammatically) from Riyadh south-westwards to Ahf, then branching direct to Medina or south to Dhahm, then via Muwah to Mecca and Jeddah, thence northwards to Medina. A photo by K. Westcott Jones shows a "typical scene near Riyadh during the building of the Saudi Government Trans-Arabian Railway by Aramco in 1951 with oil-workers' train at centre" - it shows a centre-cab Bo-Bo hauling three bogie vehicles that look like cattle wagons with pitched roofs! Also an abandoned 2-6-0 in the shed at Medain Salih "discovered by contractors engaged on the abortive attempt to rehabilitate the Hedjaz Railway".

56:10.

## THE WORLD COMMUTER.

This is the title of a book by Christopher Portway, a "traveller" more than a railway enthusiast, who over the years has managed to accomplish some quite remarkable journeys by rail. This book, published 2001 by Summersdale Travel of 46, West Street, Chichester, ISBN 1 84024 145-4, includes accounts of travels in Europe, Africa, India, Russia etc., and also some of travels in the Middle East. The only trouble is that some of the accounts are formed of 'composites' of several journeys in different years, and though the author and publisher have kindly given formal permission for excerpts to be used in Harakevet, they do not actually have a great deal more factual information to offer apart from what appears in the published text!

We shall present excerpts in two (or maybe more) issues, not necessarily following the order of the book since this is, as stated, in any case more of an Anthology of travels.

From p. 185, Ch. 7 "Trans-Asia". I shall quote extensively also matters not directly related to the train journey since this part of the world is once more involved in war, and since the number of eyewitness accounts and traveller's tales of this area are so rare. The direct historical details of certain lines are not correct, but that hardly matters in this context. These are travels in untravelled country!

"It is not, perhaps, universally realised that you can pick up a train at Calais and jog quietly and amusingly nearly all the way to the Taj Mahal and beyond by rail. Unfortunately the spotlight must be aimed firmly on the little word "nearly". The dream of a through train from Dover to Delhi has receded though, in point of fact, the mechanics of such service have become simpler by virtue of certain track extensions currently being undertaken by Iran. There are, actually, two routes to India where the railway can offer a vehicle for a considerable proportion of the way. The more northerly of these is via Afghanistan, a trainless nation that sits stubbornly athwart the lines of Iran and Pakistan. To the south the gaps are narrowing. Some 30 miles of sand-embedded date palms and a considerable river are not insurmountable geographical barriers to a link-up between Iraq and Iran, while further east Iranian State Railways are already closing the gap between Yazd and the terminus of the Qetta line at Zahedan.

In 1973 I girded my loins with the requisites for a rough ride and set out to test both routes. My plan was to travel out via the traditional 'India route' to Teheran, continuing on the railwayless section across Afghanistan, then return on the more southerly route including the Baghdad 'detour'. At that time Afghanistan was not engulfed in war, but between Iran and Iraq there existed a hate that was about to ignite into one. Also then there had been no rail extension southwards towards Pakistan beyond the southern Iran town of Kerman. Given these conditions, my journey promised some eventful travelling, and I was not to be disappointed.

I saw little of Lake Van on my long slow ride across Turkey because the strictly non-express train was late and it was dark when it arrived at Tatvan pier to catch the ferry across this considerable body of sometimes storm-afflicted water. Tabriz was my entry point to Iran. The city is of course, famous for Persian carpets, many on sale in the bazaars of this capital of the Azerbaijan province. I remained there a couple of days, which was the length of time it took me to obtain a compulsory seat reservation and await the then twice-weekly Istanbul - Teheran express; the only rail service that ran between Tabriz and the capital.

In spite of the exalted nature of my new train, my compartment contained an assortment of Iraqis, an Australian, a roll of carpets and two live turkeys. The turkeys were persuaded to perch aloft on the luggage rack to make room for me. The goat came later.

For mile after mile the line ran parallel to the snowy rampart of the Elburz mountains over a desolation of stone and sand, a land of no flowers and no birds. One town on route was Qazvin, once the Persian capital, as were Isfahan, Shiraz, Suleimanieh, Ardabil, Nishapur and Mashad (sometimes spelt 'Meshed'), Qazvin having its fling in the sixteenth century under the great Shah Abbas. Its blue domes and shrines offered a touch of capitalship to an otherwise nondescript town.....

The current Iranian capital, Teheran, made something of a relief. This basically modern city was the creation of Reza Shah. "An opera house, a stock exchange and no camels" he ordained, basing his idea on Ankara which was about the only other capital he had seen. But the opera house, faultily conceived, could not be completed and the stock exchange remained on the drawing board. The camels, however, vanished. Gone, too, were the old ramparts built chiefly with money sent from Europe for the Persian Relief Fund. The railway station into which I emerged, liberally sprinkled with turkey droppings, was a grand affair though it served few trains.



I remained several days in the Iranian capital, raising little enthusiasm for it. Traffic-snarled and containing a lot of hideous art-nouveau, as well as the occasional truly beautiful building. I was happy to leave. There were then only three trains a day to Mashad on which to do so, and I got lumbered with the slowest. ...

..... the Second World War brought in British and American railway builders who laid a line from the Persian Gulf through Teheran to the Russian frontier and the Caspian Sea which was to carry enormous freight loads supplying the Soviet Union with munitions. Things sprouted from there and the line across the edge of the Great Salt Desert towards Afghanistan was one such to blossom. Teheran could be described as the clearing house of the India route, since here one can go south to Yazd and beyond to the Quetta line or, the way I was now going, towards Afghanistan.

While my overnight train skirted lonely Mount Damavand and the Great Salt Desert I joined my latest male companions on the corridor floor. This left our two veiled ladies with the privacy of the compartment. My European clothes made a poor substitute for the Chapan, a garment so practical for train corridor travel, and once more I envied those who could find sleep in the most uncomfortable of situations.

At dawn the alarm clock of the morning call to prayer shivered down the train. Taken unawares I was overrun by scores of Allah-fearing stalwarts who, when we stopped at a wayside station, left the carriage to prostrate themselves upon the platform. Then, with devotions brought to an abrupt end by a blast from the impatient locomotive, I was pressed to accept various breakfast offerings by my companion. There was another halt at Nishapur and, a few miles ahead of this garden and park-ornamented town, a stir of interest indicated the modern abomination that is the tomb of Omar Khayyam, revered by Persians young and old.

Mashad introduced itself with another cathedral of a station, this one marking the terminus of the Trans-Caspian Railway. Nearly but not quite did it eclipse the marvel of the golden dome and the palaces of this most holy city. The tomb of the Imam Reza is the equivalent of Mecca for the Shi'ites, and to go with such distinction were buildings of sublime magnificence.

With the end of the line well over 500 miles away I elected to remain in the city a couple of days. The place owes its foundation to the burial there of Harun-er-Rashid of 'Aabian Nights' fame, who died nearby. In the same tomb lie the bones of

Reza, the eighth Imam who died after eating a bunch of poisoned grapes a year or two later. The holy buildings are firmly out of bounds to infidels and the likes of you and me, which all adds to the mystique which had me, incautiously, dodging the guards to get a peek inside. I managed to sneak into the inner courtyard wearing a djellabah before being thrown out. I suppose I could well have had my throat cut. Mashad is that sort of place.

For the overlander the route eastwards is by road or nothing. There was a regular bus service to Talibar, the Iran-Afghan border town, and the road ran straight across a broad plain with blue and white mountains barring the horizon. By the roadside, as we left Mashad, were yellow irises, scarlet tulips and a dead camel.

Because of a poor connection and non-co-operation between the bus companies, it was necessary to spend a night in Talibar. And if it's the same one today I do not recommend the 'hotel'. As for the Afghan-bound bus, it had to be seen to be believed. Tall and ungainly, half as long as it should be, made almost entirely of orange crates, the whole thing luridly painted with unveiled cherubic-looking women, camels and aeroplanes, I was surprised it could move. But not only did it move, it moved fast. In it I arrived in Afghanistan.

Herat, Kandahar, Kabul, Jalalabad. These were the topsy-turvy cities that were to make my stepping stones across the rugged, sun-baked country to the next railhead. Time jerked to a standstill three centuries ago. There's cholera at Kandahar, went the rumour, but nobody bothered. For sure there was cholera at Kandahar. And no doubt at Herat, Kabul and Jalalabad too. History stalked their primitive streets but the edifices were all falling down.....

Four tall chimneys marked Herat: four minarets against a horizon of brown desert. Most of the town's old buildings were levelled on the advice of a British military adviser in 1866 to make a field of fire against a Russian attack that never came. Four minarets remained, crooked fingers scarred and pitted....

Kandahar was a community of bazaars where, allegedly, the best skullcaps, waistcoats and silk shirts were made. Here I was accommodated in a hotel room shared by an Indian snake-charmer who had lost his bag of cobras. The toilet was outside on the flat roof of the building, and if it HAD to be used there was a one-in-three chance of one's effluent falling into the restaurant below. I slept badly, worrying about where the cobras might be.

I had my pocket picked in Kabul.....

....the Kabul Gorge to the south-east, through which my continuing journey

took me, was an incredible contortion of nature along a zig-zag road over which my latest, and as always overloaded bus hurled at breakneck speed. At its further end I wondered what had hit me and discovered it was the heat. The temperatures had been sky-high earlier, but this was searing.

The last Afghan town before Pakistan was Jalalabad. I had read descriptions of this town as being the nearest one can get to paradise and, indeed, the cypress trees and lake at the approaches tended to encourage optimism. But my optimism was short-lived; the town sweats in its own humidity, disease and filth. My overnight accommodation was the Majestic Hotel which turned out to be the local dosshouse. The beds were no more than frames lined up close together, and it was just my luck to find myself in the middle of half a dozen bearded and booted tribesmen sporting tattered robes and exuding powerful smells. With them in bed went their daggers, assorted rifles and AK47s. Towards the end of the night I not only wanted to scratch myself but also visit the toilet, but was told in no uncertain manner to lie still. Trapped in the middle of this snoring mob I perceived, in the early hours, a bulbous, hairy-legged spider slowly descending on its web from the ceiling towards my face. Unable to use my arms which were pinned to my sides, I blew hard at the thing trying to cause it to swing and fall on anybody's face except my own. The five pence tariff for the bed was sheer robbery.

Yet another bus took me to the Pakistan border and a jeep taxi to Lindikotal [sic] at the head of the Khyber Pass. Lindikotal is a den of thieves if there ever was one, with a population armed to the teeth, but for me the township had one priceless attraction: a railway station. And luck was with me for once, since the no-charge weekly train to Peshawar (which the Pakistan government runs as a demonstration to show that THEY run the region, not the tribesmen) was due to leave that very morning.

There was, however, not an inch of space to spare on the three-coach train that waited at the platform, so I took up residence on the left-hand front buffer of the Sheffield Vulcan Foundry-made 1923 steam locomotive, sharing it with a jovial Pakistani since the right-hand buffer was similarly occupied. And my 40-mile ride that followed was a high spot of many years of train travel as we wound down the famous pass. Empty forts made a walnut topping to every hill and a jutting rock proclaimed the names of regiments - British, Pathan and Indian - including my own carved in stone where years and blood lay eaten by the sun. The Khyber is the steep-

est non-rack-and-pinion stretch of track in the world, and even with two engines (there was a 1936 German oil-burner at the rear) progress was heavy going. The route took the form of a letter Z, the train changing direction at each apex, the locomotives taking it in turn to lead. On the steepest sections, safety track had been installed so that runaway trains could be diverted up into the hills. In the short tunnels I was well-nigh suffocated by the smoke, as were others who made a necklace of humanity around the coaches.

.....From Peshawar, shimmering in its heat and flies, there were reasonable Pakistan Railway services to Rawalpindi and Lahore. This last-named city of Northern Pakistan was, at that time, another railway terminus resulting from the hate with India that, alas, has not much abated today. Thus the tracks to Amritsar, across the border in India, lay broken and ensnared with barbed wire. The border road was only open on two days of the week.....

I crossed the border into India and Amritsar, stronghold of the Sikhs, by taxi. .... from here I caught the Delhi Mail to spend a sickening 14 hours standing with three dozen others in a compressed gel of sweaty, unclean humanity in a compartment meant for eight. Next morning, at New Delhi station, I watched a corpse being deposited in a refuse barrow from my coach and I can't, in all honesty, say I felt much better myself.

The route I had set myself was to follow that of the once-designated Trans-Asian Railway at least as far as Qom in Western Iran. Thereafter my railway wanderings would take me south to the Persian Gulf, then north-west into southern Iraq and Syria and back into Turkey along a frail and sometimes broken line.

I left New Delhi station on another mail 'express' along the same route I covered earlier as far as Lahore. The train was, again, packed. Even before it had pulled up at the station the coaches were assaulted by a crowd of would-be passengers using their luggage as battering rams to struggle through the windows against intense resistance from those who had already got into compartments. The mood was ugly. Me? I was simply washed aboard by a sea of people. I counted 40 this time in my compartment; even the luggage racks were two deep. After a few miles the crush lessened. Later I was to win a 'seat' by sharing a step at the open door of the coach with an amiable Afghan, our feet dangling out of the train.

From Lahore my next train was to be the Quetta Mail. To acquire a seat I se-

lected the toughest-looking of the red-jacketed porters on the platform, offered him a rupee to get me a seat and another to follow if successful. The train arrived late from Rawalpindi and before it even stopped the man had taken a header through an open window into a second-class coach to hold on to my window seat against all-comers. He earned his two rupees.

My new companions were a mixed bunch. All were Pakistanis, but of assorted ethnic groups. One was busy carrying out his devotions up on the luggage rack, a tricky business on a swaying train. The others squatted cross-legged on the wooden seats, watching me and smiling every time they caught my gaze. .... The line ran straight as a die for a hundred miles over flat, uninspiring territory, our electric locomotive coping effortlessly. We were travelling the old Indus Valley State line that formed part of an undertaking, started in 1853, to link Karachi with Calcutta as a step in the larger concept of a fast transport complex to improve transit between Britain and Calcutta.

On through Multan and Sukkur, and a dull roar in the night coupled with stabs of light showed we were passing over the Lansdown Bridge, opened in 1889, and the largest cantilever bridge in the world. Below us was the wide Indus River. Soon after dawn I was to gaze upon a brown plain of desolation supporting no more than an occasional mud village and the beseeching arms of stunted trees. The Quetta Mail's defection northwards from the Karachi line had allowed it to escape the worst of the Sind Desert's excesses; a flat expanse of sand and scrub winnowed by hot winds and scoured by limitless horizons. And dust there was in plenty; it piled up against the doors and window ledges of our train while tiny avalanches slithered to the floor at every halt.

With the change in scenery came a change in the composition of my fellow travellers. The Punjabis had become swarthy-faced Balochs flaunting fierce bushy eyebrows and beards. They stared at me with a prolonged and disconcerting intensity, and when they spoke their questions were sharp and to the point. Why had I come to Baluchistan, they asked, as if my invasion of their ancient and terrible land was a grotesque anachronism. Up until then I hadn't realised we were in Baluchistan.

Sibi town sat on another junction of the line. Its scattering of houses, cowering beneath a merciless heat, served a railway that was as grotesque an anachronism in this land as myself. At intervals along the track were white-painted markers carefully framed in painted stones that showed a devotion to duty inherited from a past generation of railway staff.

Pakistan Railways have been overtaken by history. Its eastern section, once

the pride of the then East Pakistan, has been lost to Bangladesh. Long before Partition in 1947, the then Pakistan Western Railway had been the Kandahar State Railway. The story of its construction has no parallel in all the history of the railways of the subcontinent. It is a tale of appalling muddle in the beginning, of extreme privations in the face of frightful heat and bitter cold, and of success achieved through sheer determination to force a route through some of the most forbidding territory on Earth. Much of the line was built in record time in spite of destruction by flood, landslide and earthquake, and the very fact that the line is kept open today in the face of the additional handicap of Balochi hostility is evidence of a quality of endeavour unsurpassed anywhere.

Onwards we rolled, through the historic Bolan Pass where General Roberts bade farewell to his troops after his epic march from Kabul to Kandahar, and on to the Ozan Gorge. This was the third line to have been constructed here since the original was laid along the stony bed and, when not in tunnels, it crossed the ravine nine times within four miles. Once through the storm of rock we emerged into the calm of avenues of Chinar trees that grace the former capital of Baluchistan, Quetta.

It is quite a small town with little of the concentrated bustle of other Pakistan cities. The buildings that were once the Residency and the Commissioner's Secretariat remained, still exuding an air of English upper-class life. At the further end of town stood the memorial to the British victims of the 1935 earthquake. Fifteen thousand died, but only Christians are commemorated.

.... The next leg of the journey was that to Zahedan in south-eastern Iran. The purchase of my second-class ticket included advice on how to dodge the ticket-inspector and travel first-class. The train was a mobile oven and was headed by a museum piece, an ancient steam engine circa 1930. It stopped for the slightest excuse, and on one occasion long enough for the playing of a football match; local versus a team of captive opponents. Being a single track line the delays were necessary, it appeared, to allow another train to pass through; there being so few of them on this route, I was convinced that the signal system was geared to the football schedules.

This lonely line was once known as the Nushki Extension and was built during the First World War as a strategic expediency. It runs hundreds of miles past Nushki, 50 miles into Iranian territory, and commences with the bifurcation from the Quetta line at Spezand, homeground of the first football match of the series, to run parallel with the Afghan frontier.

Between Dalbandin and Nok Kundi, a distance of 104 miles, the landscape was wholly without habitation, virtually devoid of vegetation and can only be described as a hell upon earth. The track crossed stretches of ground covered with sharp black stones broken only by patches of coarse sand. For eight months of the year the heat is intense and the '120-day wind' lashes the sand so that it lacerates the skin like a sand-blast. The whole desert is coated with sulphur dust, and water, when it is obtainable, is a concentrated mixture of common and Epsom salts. When there is any rain the year's fall may occur within an hour. The riverbeds, bone dry for 99 out of 100 days, then hurl a mixture of water and stones it has picked up at the exposed railway. To overcome this disconcerting obstacle the engineers constructed Irish bridges or 'dips', and the steam-engine drivers using them were expected to rely on their discretion as to whether or not they could get through without the water putting the fire out.

Another surprise on this blood-curdling route is the 'do reg', or marching sandhills, which driven by the wind are constantly on the move. Time and time again new track is laid to avoid this obstacle, and the duplicated rails left in position so that there is a chance of a line clear of sand at a particular time.

These then were the perennial vicissitudes of my trans-Baluchistan Desert journey. Another was to come. Caught by the ticket-inspector while dozing in a first-class compartment, I was banished back to second class. With every seat occupied I took refuge, during an unexplained halt, in the cab of the steam locomotive, where I was welcomed like a long-lost brother. However, the transfer was akin to jumping out of a frying pan into a fire, the heat of the roaring boiler easily matched that of the sun. By sticking my head out of the cab I caught the pitiful remnants of a breeze while, periodically, tumbler after tumbler of oily, sweet tea went the rounds of the crew to lubricate parched throats. I felt it expedient to earn my keep so, as well as taking over the duties of look-out, I fussed around undertaking odd jobs, including stoking the furnace, whenever necessary.

My fellow crew were a couple of friendly Baluchis who shared with me their meat-stuffed chapattis while I kept them supplied with duty-free cigarettes, thus forging a close bond. The scenery, shimmering in the savage heat, was of austere desert backed by a long low range of lifeless mountains. I stripped down to my underpants and suffered an endless day in a lather of sweat, oil and dirt. Evening brought a delicious coolness: the horizon joined forces with the dying sun in a great suffusion of vermilion and gold. Then darkness.

It was early next morning, while on lookout duty, that I spotted the bent rail. I'm sure if I hadn't seen it nobody else would have. We slammed on the brakes and, together with most of the complement of the train, walked over to examine the damage. The blistering heat had caused excessive expansion and it was obvious that the rail would have to be replaced. With spare rail alongside the track and a potential workforce to hand the problem of rectification was minimal.

Having done my stint I wandered off into the desert intent on investigating a tiny mud-walled village I had noticed in the distance. I was to pay for my nosiness. About a hundred yards short I was intercepted by a gun-toting warrior of bearded magnificence who stuck his musket into my ribs and demanded money. And he wasn't joking. I hunted about for loose change and flung a handful of rupees on to the ground with the idea of belting him when he bent down to pick them up. Perhaps fortunately for both of us a commotion in the village sent him into retreat, while I prudently returned to the train.

We limped into Mirjaveh, the Iranian border village, many hours behind schedule; hardly, it seemed, a rare event. The faint outline of a live volcano, the sometimes smoking Koh-i-Taftan, stood out in an otherwise empty landscape, and in the grey shroud of another dawn we finally drew into Zahedan.

For a town on the edge of eternity Zahedan was not really a bad little place. An oasis in the midst of purgatory, its simple amenities were the more remarkable and welcome. But the one amenity it lacked so far as I was concerned was a vehicle to get out of it. The Army came to the rescue. Presenting myself at the nearby barracks and introducing myself as a British soldier (and I had my regimental association membership card to prove it) I gradually worked my way through the ranks until I found myself before a full colonel, who, much to my surprise, told me he would be delighted to help with my transport problem. And this was effected by one of his minions taking me in a military vehicle to a road junction just outside the town and stopping the first lorry going in the direction of Kerman, 200 miles away and the next railhead.

The lorry was high-sided and the back full of sheep, and with three Baluchis jammed in the cab. I shall never forget that drive. The road led into satanic hills that we crossed in a series of zig-zags, at never less than 70 miles per hour, in a cloud of choking dust. On the straight the speed and density of the dust increased, and whenever the driver braked all sixty-odd manure-caked beasts catapulted into me.

All the while individual beasts stood or relieved themselves on my feet, which wasn't funny since I was wearing open sandals.....

I was thrown out at Bam, a town 125 miles short of Kerman, and at an all-night transport cafe ....caught a bus bound for Kerman in the early morning. The bus was luxurious compared to the lorry but the driver quite plainly was another of those who fancied me to the point of acute embarrassment.... I looked forward to reaching the railhead at Yazd.

Both Kerman and Yazd were reputed to be famous for their shawls, which allegedly rival in quality those of Kashmir. But while Kerman seemed to me to be a very mediocre, if sizeable town of bazaars, Yazd raised a skyline reputed to be the most picturesque in all Iran, containing as it does the highest minaret in the country. However, again arriving in the middle of the night, neither quality shawls or picturesque skylines were very high on my agenda. And what I missed of Yazd in the darkness I looked upon, bleary-eyed, in the cold light of dawn.

My train towards Qom dropped me off at a junction where, with a little bribery, I was allowed onto a goods-only train to Isfahan, sitting in an open wagon with a couple of railway workers who spoke to me in a rapid tongue of which I understood not a word.... On the third day it was another bus, not a train, that I caught with the idea of reaching Khorramshah, close to the southern order with Iraq. But through a misunderstanding coupled with mispronunciation I found myself on the way to Kermanshah, in the opposite direction. The two places being some 240 miles apart, my ride to the latter city was something of an exhausting mistake.....

A mail van backtracked me as far as Qom. With a tea stop at Arak, I slept intermittently in the back of the van and we reached Iran's second holiest city as its citizens were stirring themselves for another day.

Qom looked its age, and as Fatima, sister of the Imam Reza, is buried here, it was consequently full of pilgrims and infidels..... At the station I purchased a ticket for Khorramshah, making the ticket-office spell it out to me, so ensuring that I would be going to the right place. Sometimes around tomorrow's dawn I would be upon the threshold of Iraq - if I got my pronunciation right.

It came to me that I was seeing too many dawns for the good of my health, and yet another was to present itself at Ahvaz. The train was excruciatingly slow, stopping at stations and between stations along the route. We were headed by a sorry specimen of a steam locomotive, and the

compartment floor of my coach was again my bed for the night. Approaching Khorramshah I could smell the sea and oil of the Persian Gulf.

Passenger trains on the Trans-Iranian line had their southern terminus at this garden city where the scent of mimosa and luxurious flowering growth was almost able to counteract the stench of the neighbouring oil tanks of Abadan. Technically an island, Abadan, seat of the great oil-pipeline terminus and refinery, was a few miles ahead.

Khorramshah came into prominence at the beginning of the nineteenth century when, as a village, it was demolished by the Turks on the grounds that its commercialism was a detriment to nearby Basra. The British and Russian governments stepped in to keep the peace by allocating territory separated by the river to both sides, with a view to a fair distribution of potential wealth. But they reckoned without the Karun River, a tributary of the Shatt-al-Arab, which promptly upped and changed its course, inserting a watery spanner into the works. Basra, once in Iran, is now of course firmly Iraqi, but the hate continues to boil. War had not broken out when I was there; only the border was closed, which was inconvenient enough for me. I tried half a dozen taxi drivers before I could persuade one, with the help of an exorbitant bribe, to take me to the frontier post. His vehicle was another Packard, and on the way out of town he picked up three labourers and a soldier. They all got out short of a place called Shalamcheh, and since none of them paid I perceived that I was subsidising the trip.

Shalamcheh turned out to be a hamlet of five houses, all taken over by the military. I detected an air of the front line with barbed-wire coils ineffectively laid, clusters of khaki trucks and a lot of rubbish. At the last house in the row the taxi dropped me. Inside the house the customs and immigration officer was in bed. From his pillow he eyed me without enthusiasm, rose with reluctance, and carefully strapped on his revolver belt over his flame-coloured pyamas. Dressed for futy ass it were, he enquired as to whether I was carrying hashish, firearms or precious metals, and when I said 'No' to all three, he stamped my passport and let me go with a parting shot, "You'll be back, you know - They won't let you in there", as he jerked his head towards Iraq. Then he went back to bed. With an Iranian dog snapping at my heels I set off on the four-mile hike across open desert that was no-man's land lying between Iran and Iraq.

At the Iraqi border post I was steadfastly ignored. Finding another officer in bed, I tapped my passport idly against his headrest and raised a grunt of irritation. I

searched his table for the correct entry stamp with the idea of doing the job myself, but my back-to-front Arabic was not up to it.....

'Welcome to Iraq' read the notice outside. Possessed of no Iraqi currency, I had to tempt the one and only driver of a non-military car with pound notes before he would take me the 13 miles to Basra, and then he only did so because he was an incurable romantic who liked the look of the Queen on the banknotes. Within sight of the city I met two further hurdles: one was the wide Shatt-al-Arab river with Basra the wrong side of it, and the other was that my arrival coincided with a Friday when, as in all Moslem lands, the banks and change offices are closed. The ferryman, no fan of a British queen, refused to accept Sterling and directed me to a posh hotel eight miles up the river. A boatman was persuaded to take me there and accompany me to the hotel to collect his fare but, upon arrival, the cashier refused to accept my Barclays Bank travel cheques. "Lackeys of Israel" he maintained darkly. So I changed the last of my pounds, which amounted to enough to pay for my river voyage and no more. But at least the boatman dropped me on the other side of the waterway.

Wondering how to continue to Baghdad, I walked the two miles to the station through a town I found to be more Arab than most of the towns I'd seen in Iran, and where its citizens seemed well-disposed towards visitors - even British ones. The place was a hotch-potch of other peoples' development: Carmathian, Mongol, Turkish and European with a thin veneer of Moslem construction. And in Basra station, quite by chance, I met the station master who invited me to tea. He was an educated man and showed great interest in my recent rail journeyings. Then, learning of my financial predicament, the good man promptly donated a first-class ticket valid for the air-conditioned de-luxe overnight express to the Iraqi capital.

Basra to Baghdad is 380 miles and we covered the distance in nine hours, which is good for a Middle Eastern train. The route follows the Euphrates River for some of the way and passed within two miles of Ur, of the Chaldees fame. We also flashed by a short platform designated 'Babylon Halt', which even local trains pass with a derisive whistle. And in the morning we drew into West Station, the Grand Central of Baghdad.

....A Paris to Delhi Express may not appear in the world timetables yet, but in the meantime its fragmented local predecessors make for an incident-packed rise....."

55:11.

## A JOURNEY AND IMPRESSIONS FROM 1936.

*From Theodor Schuchat I have received a section from a book "Palestine on the Eve" by the unfortunately-named Ladislav Farago (indicated as author of "Abyssinia on the Eve"), published Putnam, London, 1936. Alas, it indicates that not a lot has changed....*  
p.26, Chap. III, "Vision of Peace":-

"The next morning, May 30th., I was to continue my journey to Jerusalem. I had already bought my ticket in Beyrouth, since I had been told at Cook's that even if the roads were dangerous the journey by rail was safe. This was true yesterday, but overnight the rebels had changed their tactics and were quite suddenly devoting their whole attention to the railway. During the night rails had been loosened, bridges had been blown up, and it was to be feared that the trains would now be greeted with salvoes of shots, just as cars had been on the high roads.

I ought to have flown. Between Haifa and Jerusalem there is an air-line which is to be counted amongst the curiosities of this queer country. Haifa has its own civilian air-port; Jerusalem, on the other hand, has not. Therefore the little plane of the Egyptian Misr Company has to land at the military aerodrome at Ramleh. Ramleh again is some forty miles distant from Jerusalem. The flight from Haifa to Ramleh takes only about twenty-five minutes, but the car journey from the air-port to Jerusalem takes one and a half hours, and runs along the dangerous Jaffa road. In order to attract passengers, despite these disadvantages, the cost of the air journey has been reduced to only £1, whilst the railway journey costs £1 5s. Yet people preferred to travel by train. Now I found the aeroplane sold out for long ahead; today a seat in the little Misr machine is the only safe place in the whole of Palestine. The Arabs have not yet got anti-aircraft guns.

Haifa has grown rapidly in the last few years, and is to-day the only town possessing two railway stations. At least that is what I believed when my driver (he was a Jewish taxi-driver and therefore not on strike) asked me: "What station do you want?" And since it made no difference to me he drove me to an empty open space where I indeed saw railway lines but nothing else that might signify the presence of a station. I did not worry my head about it, for such places are frequently to be met with in Palestine; development is too rapid, buildings cannot keep pace with requirements, especially if it is official buildings that are needed. The chief point was that the train stopped there. A huge crowd was awaiting the train's arrival, consisting of Jew and Arabs, but both formed separate groups, and I alone made up a third group since I did not know which one to join. Whilst I was standing there in my solitary state, well-dressed Arabs came near, looked me critically up and down, but did not speak to me. They had their hands in their trouser pockets and I must confess that in such circumstances one very quickly becomes mistrustful. I suspected bombs or other such things, but they turned out to be only handkerchiefs.

Three Scottish soldiers were also await-



From the C.Z.A. Archives: Original caption of 27/10/1938: "Suicide Car in Holy Land. More important than the "cow catcher" as an obstacle remover for Palestine trains is this "suicide car". Manned by a picked crew of daredevils, it will precede all trains and watch for landmines, weakened bridges and barricades in the war-torn Holy Land. It is armed also with machine guns."

Armoured Trolley No. 16 is shown in front of P.R. Baldwin 4-6-0 No. 890 at what might be Haifa Central Station. (Only two tracks, but there appears to be a footbridge in the background by the platform, and open sea to the left...)

ing the train: they were to be its escort. As the long train steamed in, I was faced with a dilemma: where is it safer to travel: with the soldiers against whom the shooting is really directed and who have to answer fire, or with the Arab passengers? I waited, but the soldiers seemed to be taking a long time taking their seats, so I decided to get a place in a first class compartment, where I sat all alone. Hardly had the train set itself in motion when the door of my compartment opened and in marched the three Scots who made themselves at home. Thus fate solved my problem.

The train did not travel particularly fast, but otherwise it was quite European; I even found it better than the trains in Egypt. Railway travel in these countries belongs to life's more unpleasant experiences; one becomes indescribably filthy from the smoke and soot and from the fine sand which the wind of the train blows into the carriages.

The Scots were not in the best humour. They had been on duty all night and now had to accompany the train.

"You can take it from me, sir", said the sergeant, "it is not all roses being in the Holy Land. The whole night we have been chasing the Arabs who fired the hayricks in Zichron Yaakov, and now we have to run around with the train. This has been going on for weeks and no-one knows when it is all going to end. I was here during the riots of 1929, but the present situation is by far the most serious that Palestine has ever experienced under the British flag. In 1929 the movement was against the Jews only, the Government's authority remained intact. Now the movement is against the Jews AND against us. Recently the Arabs have even stopped hunting down the Jews. They take potshots at us from their houses and try in every way to sabotage our work."

His comrade had a slight wound on his hand where an Arab bullet had grazed it. He made nothing of the injury, but he had other complaints: "We have fourteen to eighteen hours' duty each day, and are not allowed to undress during our short night's rest. We suffer a great deal from our thick woollen socks, and you would be doing us a great favour, sir, if you could somehow manage things in Jerusalem so that we could get others." I do not know why he had confided in me. Perhaps it was because I was travelling First.

The train passed stations whose names I had often read in official communiques in connection with Arab excesses. On their platforms stood Arabs, who regarded the train with black looks, but who were held back by the police, also on the platforms.

In Tulkarm, a large pure-Arab town, almost all the Arabs left the train. I asked the Arab attendant the reason of this and he said: "Someone has warned them against travelling further. They say that bandits have placed bombs on the lines."

Now I encountered my second problem in this short journey; I did not know whether I ought to get out with the Arabs and risk probable molestation in Tulkarm, or remain in the train that was running into bombs.

An engine was sent on ahead of the train to inspect the line. And at last we set off again. We reached Lydda, the great Palestine junction, without any incident. Here we were held up for two hours. A great search for weapons was in progress; even I was searched, since the pocket-book bulging in my hip pocket seemed somewhat suspicious.

The train arrived in Jerusalem four hours late. We were met by journalists who had received news that the train had been shot at on the way. I had noticed nothing; the noise of the

train had drowned the sound of the shooting. Journalists were there, but I would much have preferred porters. Jerusalem was in the throes of a general strike. Not a single taxi was awaiting the train, which usually carried hundreds of tourists from Haifa to Jerusalem. Even the importunities of the hotel touts were conspicuously absent; they had given up hope of getting guests. Porters, indeed, were sitting around, but they showed not the faintest intention of taking my luggage. I was therefore compelled to drag my own trunks whilst the porters looked on. In a country where the carrying of even the smallest package is degrading for a European, I, with my great load, must have looked extremely wretched to them.

Life in the station had lost none of its activity despite all this. Hustle and bustle was supplied by the English battalions which had just come in from Egypt and were being detained at a siding. The activity in the station was, however, the only sign of life in Jerusalem. The Holy City was a dead city. The streets were empty, all the Arab shops were closed. Reinforced police patrols stood at the street corners leaning on their guns or searching the infrequent passers-by for weapons. And hardly had I set my foot on the soil of Jerusalem when I heard short detonations, three following each other in quick succession. Bombs, I thought, but they were not. The town is built on rock; spade and pick are of non use to workmen digging down into the earth; they have to use dynamite. These detonations are familiar noises to the inhabitants, and in recent times they have even trained their hearing so as to distinguish clearly when road-workers are blowing up rocks when unknown assassins are throwing bombs.

The King David Hotel lay nearest to the station and, since I had little inclination to drag my luggage any further, I took a room there. The hotel is certainly the most beautiful in the Orient. It is the dream of a Swiss architect who for years studied history books in a desire to realise in modern form the image of the palace of Solomon. In the 200 rooms of the extravagantly luxurious hotel lived only thirteen guests. Amongst them I found many familiar faces; I had worked with them in Abyssinia, and they had had no time to return to London. They had been ordered by wire to travel immediately from the "Italian Empire" to Palestine. They were full of stories of the seriousness of the situation, and they now related to me all the horrors that strict censorship had prevented them from sending to their papers.

Another "acquaintance" was also living in the hotel: Haile Selassie I. He was occupying an apartment for which he paid £55 per day. I saw him only once in the vestibule, otherwise he never left his room, and he received no journalists. For me the encounter was a sad confirmation, since I had somehow seen this end coming. In my book "Abyssinia on the Eve" I wrote even before the Italo-Abyssinian War broke out:

"Perhaps he dreams sometimes of a rich carefree ex-Emperor, who lives in an atmosphere of respect and peace, being addressed as 'Your Majesty' by distinguished hotel proprietors, and sitting in the seat of honour at international tennis competitions, among white people who do not want to get anything out of him."

Only too soon has my prophecy been fulfilled.

The Emperor had met with a rather quiet reception in Palestine; the troubled inhabitants of the country were too preoccupied with their own worries. Yet he was still an interesting personality for the journalists there assembled, and when he decided to have his hair cut his barber had to give half a dozen interviews about this event.

Before Haile Selassie, and before the outbreak of the riots, Jerusalem had had visitors who were perhaps no less interesting, yet no notice had been taken of their presence. The son of King Ibn Saud, the ruler of Saudi Arabia and the most important personality in the Middle East, spent a day in Palestine, and also the King's English adviser, St. John Philby, who has become a Mohammedan and who enjoys great respect amongst the Arabs as Achmed Philby, visited Palestine shortly before the riots.

When I was about to undertake my first walk in Jerusalem, I was immediately warned: "You can visit the Jewish quarter but don't go into the Old City unless you have suicidal intentions."

The sun was shining, a heavenly calm lay over the Holy City and I decided after all to visit the Old City. I went through the Jaffa Gate - a breach made in the ancient walls early in 1898 just in order to ensure for Kaiser Wilhelm II an easier access during his visit. Heavily armed military posts stood on guard with fixed bayonets and with steel helmets on their heads. Behind the gate sat Arabs, almost motionless and quite uninterested in anything under the sun.

Going to the left I reached the narrow, dark Christian Street; from the Holy Sepulchre I heard the strains of organ music. I was making my steps in the direction of the music when I was stopped on Christian Street by a well-dressed Arab....."

55:12.

## **GENERAL MOTORS.**

### *Some Historical Snippets.*

Bearing in mind that most of Israel Railways' diesel fleet has been powered by General Motors engines and is mostly formed of various GM standard designs, the following historical notes might be of interest to readers - taken from an article in German in "Lok Magazin" No. 111, Nov./Dez. 1981, p.433 ff, "Der Lokomotivkonstrukteur einst und jetzt" by the noted locomotive engineer Adolph Giesl-Gieslingen.

"The real breakthrough for Diesel traction in the USA came from a different direction., From the 20's a small firm had been at work in Cleveland, Ohio, named "Electro-Motive Corporation". The founder, owner and Director was H. L. Hamilton, a self-made man, who had been born in Northern California around 1890, grew up as an orphan on a ranch, worked until he was 21 as a depot assistant, fireman and engine driver, and at the same time took lessons for four dollars a week from a retired teacher, in the basics of machinery construction. Then he turned to the developing motorisation of road freight traffic and worked in the Sales and Service Dept. of the White Company, later well-known as a supplier of lorries, and soon rose to a high position. White soon began also construction of Omnibuses and considered in addition development of railbuses for branch line railway traffic. Hamilton decided, on the basis of his railway experience, that the transmissions used on lorries and the bodywork used on buses would not withstand the pressures of railway operation, and recommended instead the construction of railway-type vehicles with electrical transmission.

It was learned that the General Electric Co. had built 99 benzine-electric railcars from 1906 to 1914, but that the business had effectively almost ceased since then. Hamilton's practical sense and his observations of railway operation convinced him that a major problem was the control of a gradual increase of power output, something that was too difficult for most personnel. At General Electric he interested the Swiss engineer Dr. Herman Lemp in a project to develop an Generator characteristic which would avoid the overloading of a combustion engine - in many respects similar to the Austrian Gebus system, with which the German "Flying Hamburger" and later "Flying Kölner" high-speed diesel railcars were later fitted, before the Deutsche Reichsbahn decided to settle on hydraulic transmission.

In the Winton Engine Co. of Cleveland Hamilton found a suitable supplier of suitably light but robust gas engines, and the St. Louis Car Co. agreed to build the coach portion. So Hamilton made himself independent and founded the "Electro-Motive-Corporation" in August 1922 in Cleveland, with one Constructor for the fabrication of the vehicle, one Bookkeeper and a Secretary: the one who was first engaged left the three bare, hardly-furnished rooms after the first afternoon, without asking for her pay, with the remark that the Chief clearly needed the money more himself.

It was a time of economic crisis, the Winton Engine Co. was in difficulties, but the old Mr. Alexander Winton liked the fresh new enterprising engineer, and declared himself ready to build at his own cost a motor which would be more powerful but lighter due to higher rotational speed. One year later, in summer 1923, the Northern Pacific and the Chicago & North Western each ordered a railcar of 175hp., which had to be capable of hauling a trailer at 80 km/h on the level; the cars both completed a month of trial running by September 1924 with great success. Their success made itself known and led to a rapidly-growing Order Book.

But with the expansion of the business there came a development which was typical for

railway operations but which brought the young firm almost to collapse. Through attempts to make the railcars haul ever-increasing trailing loads, the motors were overloaded and there was an epidemic of burnt-out motors. The EMC had to find some more robust motors. In addition there was increasing competition, now especially from the mighty General Electric. However, Hamilton succeeded in persuading the Winton Co. not to share the new railcar gas engine, which had been developed with EMC help, with any other builder. So the crisis was overcome, and by 1930 EMC had gained 80% of the market for railcars with electric transmission. In order to reduce development costs, he had decided from the outset to concentrate on standard types; a well-organised Service Dept. was an important factor, with strategically-sited spare parts depots, from which any customer could be serviced with spare parts in less than one day. But the demands for increased power continued, and already by 1927 8-cylinder engines of 400 hp. were necessary, for many of the newest railcars indeed two of them.

Rising fuel prices in 1929 made a transition to Diesel power important; the economic collapse of October 1929 led to the closure of many branch lines and a consequent fall in the flow of new orders; the prospects for the business had to improve by developing new markets. Above all, Hamilton worked with Winton on the development of a new light Diesel engine: one of his ideas was the avoidance of the difficult high-pressure pipes for the supply of fuel to the cylinders by arranging a separate pump for each cylinder.

As luck would have it, the General Director of the General Motors Corporation, Alfred P. Sloan, was interested in Diesel motors and his Research Director Charles F. Kettering was studying the possibility of a two-stroke engine for the widest possible use in vehicle propulsion. The Winton Co. was known as progressive, and Kettering ordered one of their new light motors with the fuel pump construction for his yacht. By Spring 1930 General Motors already found the prospects for the Diesel sufficiently attractive to wish to acquire a separate factory for them, and a visit to Winton led in June to the purchase of this small company - whereby it was learned that the Electro-Motor Corporation were their best customer. At the end of December 1930 this also was acquired by General Motors and brought with it insights into railway traction problems and electric transmissions for internal combustion engines in vehicles.....

Rail traffic in the USA fell from 76 Billion passenger/kilometres in 1920 by almost two-thirds in the next 12 years. The Depression had naturally accelerated this fall. ....

Already as the first streamlined 'Zephyr' trains were entering service, GM and EMC were planning the construction of independent locomotives for all railway purposes - like the power cars for the railsets, to be mounted on bogies with electrical transmission to each axle and individual braking systems. In order to beat any possible competitors, in January 1935 the construction of a new locomotive factory as quickly as possible was decided; at first this was to take up 0.3 sq. km. of farmland near La Grange in the Chicago area. The earthworks began on 27th. March, and by that

autumn some 20,000 sq. m. of construction hall were roofed, the offices of EMC had transferred from Cleveland and the construction of robust 600hp. shunting locos of 90 tons operational weight had begun, the first of which left the works on 20th. May 1936.

Assembly-line methods to save costs and the linked strict adherence to standard types permitted a price reduction compared with other loco manufacturers of up to 15%, down to 70,000 Dollars, by 1940 indeed down to \$60,000. After the Second World War costs rose - a 1000hp. shunting diesel of about 100 tons. was sold for around \$100,000, whereas the steam locomotives which had been earlier cheaper to construct were by now more expensive - an 0-8-0 with similar tractive effort would now cost \$140,000..... The concept well-known elsewhere, that Diesel locomotives were more expensive and therefore had to amortize themselves, did not apply here.

As far as long-distance traffic was concerned, the Streamliners had concentrated attention to high-speed passenger work. The construction of locomotives for this purpose gradually brought the business into movement. Between 1936 and 1938 the factory at LaGrange was gradually enlarged, whereby Diesel motors and the entire electrical transmissions could be manufactured on site; thereby GM won a major cost advantage over all other loco constructors in the USA, who gradually disappeared one by one over the next three decades. EMC now became EMD - the Electro-Motive Division.

The commercial principles that Hamilton had applied during his time as an independent were applied just as rigidly to his activities in the broader framework of GM, where there was even more cause to resist wishes for individual alterations from various railway engineers as there had been for the branch line railcars. It was considered preferable to let a contract be lost than to disturb the even flow of the assembly line. While the first passenger locos were being produced, there was an incident which demonstrated the normal procedure for such placing of orders in the steam era; a representative of the Chief Mechanical Engineer of a railway came for an interview with Hamilton, now General Director of EMD. The Locomotive Dept. of this railway brought various requirements and specifications for their specific operational requirements. On almost every point the supplier (GM) brought objections, so that the atmosphere grew progressively frostier, until the discussion ended after four hours without any agreement. At which point Hamilton telephoned the Operations Superintendent of this railway and offered him a standard loco of appropriate power with the Livery which the railway might specify, for free trials over a period of six months with the provision of GM engineers and fitters - at the end of which the loco should be either returned or purchased. The offer was taken up - at the end of the trial period the loco was bought and a further five ordered.

This tactic, essential for economic production and also therefore for competitiveness, brought a totally new relationship between EMD as the locomotive suppliers and the American railroads as purchasers, and effectively de-throned the Chief Locomotive Engineers. When even this was not enough, EMD would make the Finance Dept. of a railway an offer; especially those railways in financial difficulties in the 1930's - of which there were many - were happy to accept an offer of a loan locomotive paid for by premiums against an eventual purchase cost.....

By the end of July 1947, when the firm of EMC/EMD celebrated 25 years of existence, there were 3238 diesel-electric locomotives, and Hamilton had the biggest locomotive factories in the world with 12,000 workers under him, producing five locos per working day."

[A few comments to this tale:

The value of standardisation principle is clearly seen in the occasion when a loco built for Mexico (the short-lived 118 of 1962) could be diverted immediately to Israel at a time of motive-power crisis. Obviously such matters as couplings had on occasion to be adapted to customer wishes, but these were relatively minor. The instructions in the cab for ESR locos were also provided in Arabic, for instance! One wonders, though, about the manner in which SAFB was able to design three completely different, indeed unique locos around the GM motors which they built under license. (The Israel Railways Nos. 101 - 103.) In a recent 'Backtrack' Michael Rutherford makes mention of a post-war scheme to build a GM plant - or maybe only an Assembly Plant - near Southampton, and the moves to create a market by working with SAFB and NoHAB.

General Motors locos are given Classifications composed of letters and numbers.

"G" - General Motors - in itself a bit of chutzpa as the main competitor was/is General Electric!

The next digits give the horsepower (hp.) in figures divided by hundreds; C indicates three axles on each bogie.

Ed.]



55:13.

## AN 8F AND FRIENDS.

*By Paul Cotterell.*

The accompanying illustration is an enlargement of a small snapshot which was taken in the early days of Israel Railways, in 1948-9 if I'm not much mistaken. A group of fitters (by the look of them) pose in front of the cab of Class LMS 2-8-0 No. 70513, no doubt at the Haifa East loco shed. Of particular interest are the Hebrew initials 'resh' and 'yud' painted above the engine number. For the benefit of non-Hebrew speakers, these letters stand for 'Rakevet Israel' (Israel Railways). This is the only instance known to me where these Hebrew initials were so used. They didn't last long, being replaced by the more familiar roundel which remained in fashion for the next thirty years or so.

Another photo, not reproduced here, shows a Baldwin 4-6-0 with the full legend RAKEVET ISRAEL being hand-painted (in the Hebrew characters, of course) on the tender, again at Haifa East. This shot is definitely dated 1948 and, again, this style was very short-lived. Other than a minor footnote to local railway history, these two exceptions provide example and opportunity to any model-maker looking for something slightly out of the ordinary.

*(The item about the Palestine Railway Token will be printed in the next issue, due to lack of space in this issue)*



*Two dumped former Russian 0-8-0's at Soufian, Iran. 8th. May 1978. Nine locos were found at this location. (Photo: Mike Hudson).*



*An 0-6-0T (presumably built Krupp 1929) plinthed at Tabriz Station, Iran, on 8th. May 1978. (Photo: Mike Hudson).*