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הרכבת

A Quarterly Journal on the Railways of the Middle East

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"Say Cheese!" IR IC3 unit 7009 in all-over advertising for "Emekl Cheese" stands at Beer Sheva Merkaz station on 25/2/2003. Another unit in standard livery stands adjacent at this modern two-platform terminus. (Photo: Editor)

EDITORIAL.

The period in which this issue was prepared and put together was dominated by the rise in tensions over Iraq. By the time this magazine is published and distributed the picture might be clearer (or it might be even more confused). Have railways played a part in moving munitions and even launch vehicles around Iraq? Certainly railways are still perceived as being strategically significant, even in an age of missiles, planes and lorries. Photos of Iraqi railways are understandably scarce, and it was therefore with some surprise and delight that a photo of an propaganda poster was discovered in a newspaper - see back cover!

In Israel itself the system continues to grow, creaking at the seams during rush periods as every available coach (and a few more besides) is pressed into service, the new stock not always, alas, delivering the reliability that has been promised. But the expansion plans are being translated into earth-moving, and new lines and services continue to be introduced. A full report on observations in Feb./March 2003 will at least provide a record of this transition period, when older stock is still (just) in service.

Despite everything -
Enjoy!
The Editor.

NEWS FROM THE LINE.

(a). A CHANUKAH MIRACLE IN MODI'IN.

From an IR Press Release of 09/12/2002. "The rail link between Ben-Gurion Airport and Modi'in is under way. The railways have started works on the section between the city's outskirts and the centre - 8km. - at a cost of \$21M.

The line will be 14km. long and will include some short sections of bored tunnel as well as cut-and-cover at the entrance to Modi'in's central station, and bridges over roads along the alignment, including one huge structure near the airport; the line will share the same alignment with road No. 431 now under construction between Modi'in and eventually (in the longer term) Rishon LeZion, similar to the Ayalon railway where the tracks run in the central median strip of the highway.

The overall cost of construction of the line is estimated at \$191.5M, of which the above-mentioned \$21M are allocated by the Construction Ministry. The line will include three stations: Modi'in Central, Modi'in Outskirts, and the Daniel station, which will actually be a junction where one can change trains for Jerusalem, when this fast link is built in the future - the line under construction is the first section. In addition, an interconnection station is planned east of the airport, to allow connections to the Lod - Rosh HaAyin - Kfar Sava line.

Travelling time between Modi'in

Central and Tel Aviv HaHaganah - the line is classified as suburban or regional rather than inter-city - should be 26 minutes. This may be reduced with electrification. The new line will link the rapidly-growing city with the national rail network."

See also under Tenders.

(b). MORE PASSENGER STATISTICS.

From a Press Release of 11/12/2002: During November 2002 1.5M passengers were carried, 7% more than in Nov. 2001.

Cumulative total for 2002 to November was 16M, 16.1% more than in the same period of 2001. Estimates are that 2002 traffic will total 17.5M while in 2003, with the introduction of services to Kfar Sava, Beit Shemesh and Rishon leZion, it should rise to 20M!

The rise can be analysed:

Tel Aviv - Rosh HaAyin line 66,000, i.e. + 32%

Tel Aviv - Nahariyya line +16%.

Tel Aviv - Beer Sheva line 202,000, +12%

Ashdod - Haifa - Nahariyya line 102,000, +14%.

(c). MORE & MORE STATISTICS.

From I.R. Press Release 06/01/2003.

"More than 1.8M passengers were carried by the railways - 18% more than in December 2001. The annual passenger traffic for 22002, totalled about 17.5M - 16.3% more than in 2001. Yossir Snir said "The rise in passenger traffic shows that the railways have become the most popular, fastest and most comfortable means of public (and partial alternative to private) transport; we anticipate that, if all goes well, we shall reach more than 20M in 2003, particularly after the opening of the lines to Kfar Saba, Rishon LeZion, Beit Shemesh and Ben-Gurion Airport, but all these services depend on the availability of the equipment, of which we are now very short."

The distribution of the passenger traffic rise during Dec. 2002 was as follows:-



60:3.

G12 Bo-Bo No. 107 "tails" a Haifa suburban service in Haifa Merkaz station, coupled next to a Yugoslav coach 53 converted some years ago into a Half-Generator for the air-conditioning. Coach 115 visible just behind is a former Esslingen railcar trailer also rebuilt at Qisbon/Ramta some years ago.

Tel Aviv - Nahariyya line:
237,000. +30%
Tel Aviv - Beer Sheva line:
248,000. +29%
Tel Aviv - Rosh HaAyin line:
84,000. +29%
Ashdod - Haifa - Nahariyya
line: 119,000. +24%
Ashdod - Tel Aviv line: 321,000.
+19%

During 2002 there was a significant
rise in traffic on the following lines:

Tel Aviv - Rosh HaAyin line.
785,000. - 42%
Tel Aviv - Beer Sheva line:
2.3M. + 39%
Ashdod - Tel Aviv line: 2.9M.
+23%

It should be mentioned once more
that the rise in passenger traffic is a
remarkable achievement, in particu-
lar when economic recession and
growing unemployment are taken into
consideration; however, we must wait
and see if new bus services to and from
Ashdod and other areas, with reduced
fares only half those of the railways,
will affect the rail services.

From a press release of 11.02.2003:
Passenger traffic continues to rise:

1.6 Million passengers have been
carried during January 2003.11.3%
more than in Jan 2002.

It is estimated that total traffic in
2003 will total 20M.

The distribution in the rise in pas-
senger traffic is as follows:

Ashdod - Haifa/Nahariyya line:
116,000, +24%
Tel Aviv - Nahariyya line: 227,000.
+23%
Tel Aviv - Beer Sheva line: 233,000.
+22%.
Tel Aviv - Rosh HaAyin line. 71,000.
+ 16%.

A further release on 11.03.2003
notes 1.5 Million were carried in Feb-
ruary, cumulative 3.1 M so far in 2003,
13.1% more than the same period in
2002.

Ashdod - Haifa - Nahariyya line:
103,000. +19%
Tel Aviv - Nahariyya line: 201,000,
+ 27%
Tel Aviv - Beersheva line: 210,000.
+24%
Tel Aviv - Rosh haAyin line: 68,000.
+21%
Tel Aviv - Ashdod line: 258,000.
+15%

(d). REVIEW OF A YEAR IN OFFICE.

After a year in the job, General Man-
ager Yossi Snir has summed up the
time as follows: "The New Deal, re-
cently introduced, will if fully realised
bring an investment in excess of \$7
Billion, making the railways into the
country's main means of transport. It
is estimated that by 2013, i.e. ten years
hence, passenger traffic could reach 70
M, three times more than the estimate
for 2003. The concept of making the
railways into a Government-owned
company will allow easier access to in-
vestment funds, and electrification,
hopefully to be introduced and opera-
tional within five years (!) will increase
speed and productivity. The railways
will reach 70 towns and cities and
other settlements and ten new main
lines will be opened." He added that
there might be a shortage of finance for
some projects, and the railways may
look for other options, such as leasing
equipment.

(e). PRIVATISATION BONUSES.

The Ministry of Finance in co-opera-
tion with the Union, came to an
agreement to pay the railway employ-
ees a bonus of 50 - 60% of their salaries
- it may reach \$2000 for some senior
staff as compensation for changing the
status of the railways from being a part
of the PRA to a Government-owned
Limited Liability Company. The Min-
istry's step is clearly intended to
'soften' the opposition of the employ-
ees; it may cost the taxpayers some
\$851M, and has still to be approved by
the PRA. Meanwhile, the Knesset Eco-
nomics Committee has on 16/12
approved the formal separation of the
railways from the PRA, thus enabling
the railways to use all lands belonging
to them for commercial purposes; un-
til now this was constrained by the
Finance Ministry.

(f). NEW MINISTER OF TRANSPORT.

The newly-elected Minister of Trans-
port, Mr. Avigdor Liebermann, met on
10.03.03 for an hour with representa-
tives of the IR workers union at his
offices. He mentioned, according to a
press release, the importance he sees
in the development of the railways, and
the great challenges in which the rail
workers can play a vital role. The meet-
ing was held in such a good
atmosphere that the union members
afterwards announced that they were
calling off sanctions planned to de-
mand a salary increase. This will

enable the opening of the Nordau/Hod
HaSharon station at Kfar Sava., as well
as the new line from Rosh HaAyin to
Kfar Sava, and the new station at
Ramle, on or around 12/04/03, de-
pending on the implications of any war
against Iraq or Israel, should one com-
mence.

(g). ELECTRIFICATION PLANS.

The following article by Anat Georgi
appeared in "Ha'aretz" for 25/12/2002
and was taken from the English lan-
guage version on the Internet (though
I have edited it slightly). Some of the
terminology is clearly "amateur" but
the basic sense gets through - though
one doubts whether the main advan-
tage of electrification is that "electric
trains are faster"; good acceleration
and hill-climbing ability might be rel-
evant in some systems, but not
necessarily in Israel's small network,
and an implication is given that third
rail might be used to avoid raising
bridges! Nevertheless, details are given
on necessary infrastructure altera-
tions.

"The existing railway network in Is-
rael can serve as a basis for an electric
train system. Yossi Mor, Deputy Gen-
eral Manager of Infrastructure at Israel
Railways, says that Tedem Civil Engi-
neering recently completed a
feasibility examination of the tracks to
determine their suitability for use by
electrically powered trains. Mor noted
that only 2 of the 76 bridges over the
railway lines are too low for an electric
train to travel under them and will
have to be destroyed. This is inconse-
quential, however, as the bridges have
already been slated for demolition.

One is the Paz Bridge in Haifa, which
will be replaced by a new one, and the
other is a pedestrian bridge at the
Haifa Central station. Israel Railways
has plans for a pedestrian tunnel un-
der the tracks, so the destruction of the
bridge will not affect passengers.

Despite Tedem's report, 73 percent
of the bridges (65) are lower than re-
quired by the international
standards, adopted by Israel in 1994,
for the passage of electric trains under-
neath them. The standards set a
minimum clearance of 6.5 metres be-
tween the bridge and the tracks, to
accommodate the electric cables. Ac-
cording to I.R.'s data, 41 of the bridges
have a clearance of 6-6.5 meters, while

15 of them have less than 6 metres clearance.

Mor says that Israel Railways will be able to solve the clearance problem by lowering the tracks under the bridges or by laying the cables alongside the tracks rather than over them. Although the latter solution is more expensive than overhead cables, it is both reasonable and practicable.

An electric train system includes masts and cables all along the train's route, with an arm on the train car's roof for conducting the electricity to the train's motors. Israel Railways hopes to begin converting the country's train system from diesel to electricity within two years at an estimated cost of \$300,000 per kilometer.

There are 700 kilometres of main tracks in Israel, so the whole project will cost about \$200 million. Mor says that Tedem is currently studying the financial feasibility of an electric railway. The first draft of the report will be ready soon and the final report is to be presented by the end of February. If the reports prove positive, a master plan will be prepared by June and will include the entire rail network and recommendations for the lines to be converted first.

Sources at Israel Railways say that electric trains, which have been operating in Europe for decades, have many advantages over the diesel trains currently being used in Israel. One of the main advantages is that the electric trains are 30 percent faster than diesel trains."

(h). THE SPARKS BEGIN TO FLY.

From a press release of the Ministry of Transport, 30/12/2002:

"Israel Railways intend to publish during February 2003 information about the first lines to be electrified", said Mr. Yossi Snir. He added that the railways will complete in that month the preparation of the network's electrification master plan, which will include all stages of the implementation, as well as priorities for the lines to be electrified. The first tenders are expected to be published in March 2003, and the first electrified line should be operational about two years from the tenders being published.

As already reported, the Israeli company "Tadam" won the tender for managing the project in August 2002, together with D.E. Consult of Germany who will assist the local company in this first-ever big project in Israel. Mr. Snir also announced that since the intention is to electrify the whole network at an estimated cost of \$400,000 per km., the existing equipment will gradually be replaced. He has instructed IR to cease purchasing dmsu (diesel multiple units);

from now on, only push/pull hauled stock is to be purchased, as this can be more easily converted for haulage by electric locos."

(i). WORKS FOR THE BEN-GURION LINE.

From the same "Ha'aretz" article by Anat Georgi:
"Bypass road to allow building of tunnels.

Israel Railways is currently building a one-kilometer temporary road near the Shapirim interchange to facilitate the digging of tunnels under the Jerusalem-Tel Aviv highway (Route 1), which will accommodate the train from Tel Aviv to Ben-Gurion Airport. Sources at Israel Railways say that this is the least expensive solution and will not hinder vehicular traffic, which will travel on the temporary detour road. Israel Railways has already completed 190 meters of one tunnel and is currently doing initial excavation for a second 170-meter tunnel. When the work is completed the temporary road will be removed. Yossi Mor, deputy general manager of Infrastructure at Israel Railways, says that the route of the Jerusalem-Tel Aviv highway was approved long before the Tel Aviv-Ben-Gurion railway was planned, so now a tunnel must be dug for the train. Some 70 percent of the line from Tel Aviv to the airport will be in a tunnel, part of it open and part of it closed. The cost of building the line is estimated at NIS 360 million.

Israel Railways recently published tenders for the construction of a rail line from the airport to Modi'in. The lines from the airport to Tel Aviv and Modi'in form part of the high-speed rail line planned from Tel Aviv to Jerusalem, which will go from Tel Aviv to Modi'in via the airport and from Modi'in via Sha'ar Hagai to the entrance of the capital".

(j). TUNNEL VISION.

From an IR Press Release of 15/01/2003: "Today the works of boring and cut-and-cover of the first railway tunnel in Israel was completed. (Historically, tunnels were bored in 1905 on the Hedjaz Railway, and in 1942 on the HBT line.) This is on the line to Ben Gurion airport; the 140-metre tunnel runs under the Shapirim road interchange and when the second stage of the project is complete in June 2003, track-laying work will commence. At the end of 2003, the 8km. link to the airport will be completed."

(k). SHAPIRIM STATION PROPOSED.

A further press release of 24/02/03 by the Ministry of Transport announced publication within a month of an invitation to tender for a fast road link for public transport vehicles only (defined as buses, taxis and private cars conveying more than 4 passengers), this should link the Ben Gurion airport interchange and the entrance to the Ayalon Highway at Tel Aviv, a section of road that is the most congested in Israel, with 100,000 cars clogging it daily. The new relief road, which would enable the public transport to by-pass some of the endless jams, will be built under the BOT system with a 15-year concession for tolls. Near the Shapirim Interchange, west of the airport, a park-and-ride area will be built with free shuttle bus services to and from Tel Aviv; and adjacent to the parking area a new railway station will also be built, called Shapirim, for those who prefer to transfer to rail here.

(l). PLANS.

IR will soon present to the National Infrastructure Committee six rail projects:

- the Modi'in - Jerusalem fast link (the first section from the airport is of course already under construction). Estimated cost \$851M.
- Revival of the Haifa - Beit Shean section of the historical "Valley line" - 70 km., estimated cost \$213M.
- A new line Akko - Carmiel, 22km., at a cost of \$106M.
- A new line Beer Sheva - Ofakim - Netivot - Sderot - Ashkelon, 70 km., at a cost of \$85M.
- Double-tracking Lod - Na'an section, cost \$30M.
- double-tracking Na'an - Beer Sheva, cost \$105M.

The National Council for Planning and Construction decided in the first week of February to hand over the plans for the fast link from Ben Gurion Airport and Jerusalem to the Regional Councils, in order to receive their comments. The Council has also decided to publish this plan in order to canvass public opinion and any objections. This is one of the most complicated projects ever in Israel, since most of the line will comprise bridges, viaducts or tunnels (the longest of 11km.), as well as the new station in Jerusalem, which will be 80m. underground! The line will also pass through environmentally-sensitive areas, thus careful design is necessary.

Yossi Snir, the General Manager, said that he wants the project to be in the hands of the National Infrastructure Committee in order to push it forwards. The Ministry of Internal Affairs is firmly against the idea, claiming that the project is already in an advanced design stage and that the proposed changes are entirely unnecessary.

(m). ADVERTISING.

IR has recently started to advertise on the entire length of passenger coaches; at present an entire IC3 unit 7209/7229/7409 is so emblazoned with decals for "Emek Cheese"; intriguingly, each coach is different! In addition, two of the older Yugoslav coaches have been totally covered with advertising for the 'Harry Potter' film.

(n). RAMLE (RE)OPENS.

The new station at Ramle was to be opened on 15/02/03, according to a Ministry of Transport press release on 29/12/02. [Later moved back a month to 15/03 and then postponed yet again]. Travellers on the line, currently being upgraded, should be able to reach Tel Aviv in 32 minutes, and also reach Beer Sheba; when the rebuilding works are complete in two years, they will also be able to travel direct to Jerusalem. At present 32 trains daily will stop at the station - this will increase when the Lod - Ramle - Naan - Beer Sheva line has been doubled.

(o). KFAR SAVA OPENS.

The same Press Release of 29/12/02 announced the opening of the long-awaited Tel Aviv - Kfar Sava line as far as Kfar Sava Nordau stn., as well as the

Rosh HaAyin North (Kessem) station. The line cost \$40.5M and includes 3 new bridges, and should enable passengers from Kfar Sava to reach Tel Aviv in 22 minutes: The line is currently single track and will have two trains an hour, but doubling is envisaged and then four trains per hour will operate.

Additional information about the line to Kfar Sava; the service will run from there to HaHaganah, alternate hourly trains being extended to Ramla. The present station of Rosh HaAyin (South) will be closed to service during the year, and will be replaced by the Rosh HaAyin (North) (Kessem) station, currently under construction. However, the new station, which will not be finished until the end of 2003, has at present only one platform and no loop, and the operational bottleneck thus created will require several trains to cut out stops at Bnei Beraq and Petah Tikvah (Segulah), which will surely anger many passengers who use the rail services from here, and for whom the trains are the only solution to the traffic bottlenecks.

From September 2003, when the line to Beit Shemesh opens, the service will be extended to there, i.e. via Lod, Ramla and Na'an.

The new station at Ramla also suffers from having only one platform and no loop, and the trains will have to reach Na'an junction in order to clear the single-track to Beer-Sheva. However, this will change when the section Lod - Na'an - Beer Sheva is doubled as planned. Most trains on this route will be formed of two IC3 sets or a four-car (1 driving-trailer + 3 trailers) push-pull set.

But:-

(p)- LEGAL HOLD-UP ON KFAR-SAVA LINE.

The municipality of Hod HaSharon (a town near Kfar Sava) has recently appealed to court and succeeded in stopping the works on completing the Nordau station at Kfar Sava, claiming that the access roads built so far did not take into considerations the needs of Hod Hasharon; it has so far caused a delay in opening the station from the planned 15/02/03 to 15/03/03, but even this is not yet final!

In addition, some local residents have also appealed to the court, claim-

ing that their homes are less than 8m. from the new line, and demanding acoustic walls. It should be mentioned that due to a previous request by Hod Hasharon's municipality, the station has been renamed to "Hod-Hasharon-Nordau"! Bizarre though this conflict is, it also indicates how communities are now fighting to have a station named after them.

(q). THE LINE TO RISHON LE-ZION WEST.

This line, about 10km. long, will eventually become one of the most important rail links in Israel. It is to be built within the median strip of the Ayalon South Highway and will include 5 stations and a bridge 80 metres long. Additionally, it is to be extended in the future further south, and join with the Rehovot - Ashdod line, thus shortening the distance between Tel Aviv and Ashdod from 48km. (via Lod) to about 34 km., and saving about 20 mins. travelling time. However, this line is also a good example of how things should NOT be done: the line itself will cost \$164 M., but an additional \$160 M (i.e. doubling the cost!) will be necessary for re-aligning the highway because both the road builders and the railways were indecisive and forgot about securing the right-of-way in the 1990's!

(r). SECURITY NEWS.

From the "Israel Line" electronic newsletter of the New York Israeli Consulate, for Tuesday, November 5, 2002:

****Members of Terror Cell Responsible for Hebrew University Bombing, Convicted**

"The Jerusalem District Court convicted four members of the Silwan terror cell responsible for eight major terror attacks today, on 35 counts of murder and the injuring of hundreds of others, HA'ARETZ reported.

Among the attacks for which the cell was convicted was the bombing of The Hebrew University Frank Sinatra cafeteria in July, in which nine people were killed and 84 were wounded. The prosecution is demanding that the four cell members, Wa'al Kassam, 31, of Ras El Amud, Wissam Abassi, 25, of Silwan, Aladin Abassi, 30, of Silwan and Mohammed Odeh, 29, of Silwan, be sentenced to consecutive life terms in prison. The other attacks for which the four were convicted include the homicide bombing on March 9 at the

Moment cafe in Jerusalem that killed 11 and wounded 58; the suicide bombing on May 7 at a Rishon Letzion billiard hall that killed 15 people and wounded 45; the May 23 Tel Aviv Pi Giliot attempted "mega-bombing" in which the cell planned to set off a bomb hidden on a fuel tanker and thereby ignite the vast fuel reserves at the site next to what is widely considered the busiest highway junction in the country, (the bomb failed to ignite the tanker), and a railroad track bombing near Lod on June 30 which was another major terror attempt, as the cell sought to derail a passenger train. Four people were wounded in the attack, though the train was not seriously damaged nor derailed."

(s). AYALON SEWERAGE & QUADRUPLING PLANS.

The Ministry of Transport's General Manager, Engineer Ben-Zion Salman, is initiating a revolutionary plan for changing the alignment of the Ayalon Creek - along which the Ayalon highway and railway run - towards the Mediterranean Sea near Bat Yam, through an underground drainage tunnel of 4.7km. which will run mainly under public land. The project, which may cost about \$250M, will enable the quadrupling of the railway line, as well as the addition of a fifth lane to the highway, which is one of the busiest roads in Israel, carrying more than half a million vehicles daily. The section to be altered is between Tel Aviv University and South railway stations.

It should be mentioned that this part of the Ayalon Creek, which has become during the past two decades little more than a drainage channel for seasonal rain water, has sometimes insufficient capacity, causing flooding in winter and bad smells and mosquitoes in summer. The proposed project will prevent these problems. [In Feb. 2003 heavy rains led to the channel, which flows northwards through Tel Aviv, being suddenly almost filled to the brim with rushing brown torrents - by 4th. March it was down to a mere trickle at the bottom of the large concrete trench].

Since this will be quite a complicated project, a steering team will soon be created by Mr. Salman, to include members of the Ministries of Transportation, Internal Affairs, Agriculture and Environment, as well as Israel Railways, Public Works Dept., Ayalon Roads and the drainage authorities.

(t). TIMETABLE ALTERATIONS.

Some small changes have recently been introduced in the passenger timetable, in order to reduce the pressure during some parts of the day caused by an insufficient number of seats, mainly between Nahariyya and Beer Sheva. On Sundays, train No. 139 (dep. Nahariyya 06.03) which normally terminates at Tel Aviv Hahaganah, is extended to Beer Sheva. This will reduce pressure on the two following services to Beer-Sheva, Train 103 (Nahariyya dep. 06.33) and Train 105 (dep. Nahariyya 07.41, which in any case consist of FIVE IC3 sets each, providing 800 seats.

On Fridays an additional train departs Beer Sheva Central at 10.00, arriving Haifa Central 13.00; it calls at all intermediate stations except Beer Sheva North, which has only one platform, this leading to operational problems.

These improvements will probably be included in the new timetable which was planned to be introduced on 15/02/2003, but which will now be delayed a month to 15/03/03, together with the opening of Hod Hasharon-Nordau station (see above); the opening of Ramla station will also be delayed to the same date. The delay will enable the railways to be better prepared for the new timetable, and so avoid the problems which accompanied the introduction of the current timetable in June 2002.

(u). PUBLIC OPINION.

Public opinion can be important. 'Yediot Aharonot', one of the most important newspapers in Israel, recently devoted a special article to the idea that delays can be compensated by a pleasant travelling atmosphere. A specialist from the Technion stated that stations must be better accessible and more friendly, to convince people to use trains daily, and the car only at weekends. One important fact is that in many residential areas, the price of real estate has risen thanks to rail access - for example, at Binyamina rents have risen by 13%!

(v). BUY-BACK.

Following the discussions between Yossi Snir and Bombardier Transportation's President M. Pierre Lortie, Bombardier will 'buy back' parts for stock from the railways to the tune of \$15.5M.

An initial sum of \$4.1M will be realised by allowing IR to purchase 30 double-deck trains which will include many items actually provided in Israel, to include seats and mountings (to be supplied by the local manufacturer Paltechnica), stairs, repairs, etc. The rest will be realised later. Snir said "This is a significant breakthrough for the Israeli economy, and in particular for the railways as there is an immediate need for development of a local rail industry due to the rapid development of the rail network. All the above-mentioned works will be carried out at the IAI (Israel Aircraft Industries) Ramta plant at Beer Sheva. Essentially this means that the new stock will be part-sourced from Israeli firms, thus reducing the amount of foreign currency expended on the stock.

(w). TEL AVIV LRV/METRO.

The first line (called the Red Line) has at last been approved on 21.03.03 by the Committee for principal design in the Ministry of Internal Affairs. After 18 months of discussions; the committee has accepted 2 objections, and as a result the following changes will take place: Where the line was planned to pass in the median of Jerusalem Avenue, it will instead be elevated and alongside the road; and the location of the LRV depot will now not be at Moshe Dayan Avenue in Petah Tikvah. The 22 km. long line between Petah Tikva and Bat Yam, via Bnei Berak, Ramat Gan, and Tel Aviv, is expected to open to 2010.

(x). SEMINAR.

A conference was organised in March by the Association of Metal & Electrical Industries under the title "Israel Railways: Projects, Activities and Local Potential". The following topics were discussed: "The New Deal: Israel Railways' destiny as a national Infrastructure" by General Manager Yossi Snir; "The principles of Railway Traffic and Operation" by the Traffic Manager, Harel Even; "Projects for building new lines" by Track Dept. Manager Ilya Wolkow; "Analysis of a typical Station structure and integration in the local industry" by Construction Dept. Manager Ze'ev Bogler; "Railway electrification" by Electrification Project Manager Ing. Arie Gresaru; "Control and Communications systems" by Ing. Pini Katz - Communications Dept. Manager; Rolling Stock and Motive-Power Manufacture & Maintenance" by Ing.

Dudu Gabai, Rolling Stock Dept. Manager; "Connections between industrial areas and ports" by Yossi Carmeli, Freight Manager; etc.

Since the passenger fleet is increasing, two new maintenance centres will be built, at Beer Sheva and in the central area - the latter also suitable for electric trains. The railways are also building a Training College, where simulators (also for LRV's) are to be installed. The railway stations are slated to become centres of commercial activity with cafes, shops etc.

(v). LATEST MUSEUM ACQUISITIONS.

1. Ballast hopper wagon No.25001 Resh arrived at the museum from Qishon Works behind 131 (T44) in the afternoon of 6/2/03. This was originally a British WD 'Continental' type wagon (see Figs. 86 and 147 in The Railways of Palestine & Israel) built by Hurst Nelson of Motherwell possibly in 1940 (the worksplates are most inaccessible and the date cannot yet be made out with certainty).

2. Ex-ESR G16 Co-Co No.163 was officially withdrawn on 24/2/03 and, since it was already at the Haifa East diesel depot, no time was lost in moving it the short distance to the Museum where it arrived at 10.30 on 2/3/03 pushed by 'Yo-Yo' No.263. Later that same week it was given an initial cleaning at the adjacent mechanical equipment depot of the Engineering Department. No.163 is in the IR livery with black stripes/chevrons. The paintwork is in very reasonable condition, and it is likely that little more than spot repair painting (and another wash or two) will be needed to make the loco presentable. Work on this has already begun.

60:07
TENDERS.

(i). HN/KB/48/02 Building the line to Modi'in, section 4.

HN/KB/49/02 Building the line to Modi'in, section 5.

Works for section 4 include: preparation works and dismantling, engineering structures for regulating the drainage of the Ayalon channel, supporting walls, earthworks and paving work, a railway bridge over the Ayalon channel, a bridge over the entrance to Ben Gurion Airport, infrastructure and electricity works.

Works for section 5 include: preparation works and dismantling, supporting walls, earthworks, a railway bridge over Road No. 4 at Modi'in, preparation works for electricity and communications infrastructures, and an option for a railway bridge over the Anava wadi at Modi'in.

Time for implementation - section 4, 15 months, section 5 18 months, for the optional extra, 16 months. Last date for bids: 14/01/2003.

(ii). HN/KB/01/03. Construction of railway bridges and infrastructures on the line Na'an - Beit Shemesh, km 33 to 38. Works include: earthworks, asphalt and drainage. Time: 6 months, bids by 22/01/02.

(iii). HN/KB/02/03. Double-tracking of line Tel Aviv - Kfar Saba. Savidor (TA Central) - Exhibition Gardens (University) stations section. Works include - supporting wall along the Ayalon creek, southern section; a 3rd. platform at Savidor station, and infrastructure for track stage 1; the railways have also rights to implement the following options: Northern section, protective covering over the trunk sewage lines of Greater Tel Aviv area, various concrete structures, infrastructure for tracks stage 2; and bridges over the confluence of Ayalon creek and Yarkon river, and over Rokakh Avenue. Time for implementation: 13 months; for the additional options 8 months; Bids by 24.03.2003.

(iv). HN/KB/05/03. Building an acoustic wall at Kiryat Haim, north of Haifa. For one acoustic sound-barrier wall, plus an option for completing the wall at Brodetzky Str, and additional option for completion of 500 metres of wall on western side after completing removal of hazardous materials; pipeworks, earthworks, casting concrete, pre-cast elements, sealing works, painting, roads building, water, sewage, drainage etc. Time: 10.5 months, options, 6 months. Bids by 13/03/2003.

(v). HN/KB/06/03. Building the line from Ben Gurion Airport to Modi'in. Preparation and dismantling, earthworks and pavements, a railway bridge between

the entrance to the airport and Highway 1 (Tel Aviv - Jerusalem), a railway bridge over Highway 1, preparation works for electricity and communication infrastructures, and an option for building a railway bridge over Road 40 (parallel to the eastern line.)

HN/KB/07/03. Same as above but involves: a railway bridge over Road 443 (to Modi'in), two bridges over Ayalon creek, electricity works and subway under the planned Daniel station, and an option for building supporting walls, plus a further option for a bridge over Trans Israel Highway No. 6. Time of implementation: 12 months for 06/03, 14 months for 07/03, 5 months for option 1, 12 months for option 2; bids by 02/04/2003.

(vi). HN/KB/08/03. Adding a third track on the Ayalon railway; tender B-3.

- Structure 01: infrastructure for track, concrete works in the Ayalon channel etc.

- Structure 02: extending the western platform at Tel Aviv Hashalom station.

- Structure 03: Option for concrete works in the Ayalon channel.

Time for implementation: 8 months. Bids by 25/03/2003.

(vii). HN/KB/09/03. Building a pedestrian bridge at Binyamina station; repairing a concrete beam at the Haifa Bat Galim station; fencing works at the Ada Creek (near Binyamina); and option for building pedestrian bridges at Hadera West and Netanya stations.

(viii). HN/KN/10/03. Building the line Ben Gurion Airport - Modi'in Tender No. 8. Works include: preparation and dismantling, earthworks and paving, a bridge over road 431 (a new road being built between Modi'in and Road No. 1 Tel Aviv - Jerusalem); electricity works. There are also options to build a tunnel in cut-and-cover system under Road 1, supporting walls, and a bridge over the future line to Jerusalem (A1). Time for implementation: 10 months. Bids by 08.04.2003.

(ix). BN/KB/02/03. Enlarging area for containers at Hadera West station - Stage 2, Paving & developing, preparation works, dismantling etc. Bids by 03/02/2003.

(x). BN/KB/03/03 - Building a car park area at the station of Kiryat Gat (stage II). To include preparation, earthworks, roadbeds and infrastructure, asphalt, edge stones, pavements,

marking and signs, drainage, electricity etc. Time for implementation: 45 days. Bids by 12/03/2003.

(xi): BT/SR/19/02. For security patrol services at various areas with 4 x 4 vehicles. The contract is for 12 months, with additional optional 36 months. Bids by 06/01/2003.

(xii): TK/KB/01/03. Laying main communication cables on the line Ashdod Ad-Halom - Ashkelon, now being upgraded and double-tracked.

Works include: Supply of various types of cable, opening and closing of an existing concrete ducting as well as building new, laying main copper and optical cables into the concrete channels, supply of cable systems, installing and connecting pedestals, supply and installation of end blocks and corona blocks, and final checks on cable transmission. Time of implementation: 18 months, depending on track work. Bids by 22.01.03.

(xiii): KL/MT/13/02. Provision of general consultation services for current operational costs. Contract set for 12 months, with additional option for 48 months Bids by 09/02/2003.

(xiv): MH/RS/01/03. Long-term frame agreement for supply of Compaq computers at all railway installations from Nahariyya to Dimona. 12 months, optional additional 36 months, Bids by 05/02/03.

(xv): TM/KB/01/03 - 03/03. For provision of tractor shovel and operator for loading ballast wagons and pulling rail portals, between (respectively) Akko and Tel Aviv Central, Tel Aviv C. and Kiryat Gat, and Kiryat Gat and Mamshit stations. Period of 12 months, optional extension for another 24, bids by 13/02/03.

(xvi): TK/RC/01/03. Turnkey project for manufacture, supply, installation, testing and maintenance of new digital transmission & management system for IR. Bids by 28/04/03.

(xvii): MS/RK/2003/3. Introduction of drinks and food trolleys at medium and small railway stations. Including Lod, Segula and Kiryat-Gat. 12 months, optional extension up to 36. Bids by 27/02/03.

(xviii): MS/RK/2003/5. Franchise Permit to produce, edit, print and distribute a periodical magazine for passengers. The magazine will initially be distributed during the 1st. year of

trial running on a fortnightly basis, and then, if the option is realised, on a basis to be decided by IR and at a frequency of not less than that during this test period. The contract is for an initial trial period of 1 year, with optional extensions of up to additional 4 years. Bids by 09.03.2003.

(xix): MT/RC/01/03. For supply of an unspecified number of 22.5T axle-load (90 tons gross) bogie flat wagons over a period of three years; and MT/RC/02/03 for bogies of types Y25Lsd/Y25Lm or similar bogies, for existing bogie flat wagons. (Clearly an increase in container traffic is envisaged.)

(xx): MC/SR/05/03. Maintenance and repair services to locomotive air-conditioning systems. To include: preventative maintenance, periodical treatment, and repairs as per telephone call, the works to be carried out by the bidder at workshops at Haifa, Lod or Dimona, or other sites along the lines or whilst accompanying trains. Contract for 24 months with optional extension for additional 36 months. Bids by 20/03/03.

(xxi): MS/RC/28/2002. Allowance to use an area of 3380 sq. m. at the former Etz haZayit (Olive Tree) siding at Petach Tikva. Contract is for 12 months, with additional optional extension up to 24 months. Bids by 20.03.2003

(xxii): MS/RC/11/2003. Permission to use a structure of 760 sq. m. for commercial purposes, Bnei Berak station. Contract is for 36 months, bids by 20.03.03.

(xxiii): MS/RC/14/2003. Permission to use a structure of 16 sq. m. for commercial purposes at Tel Aviv Savidor stn. Contract for 36 months, bids by 20.03.03.

(xxiv): MC/RS/03/03. Purchase of three electrical forklifts of 3-ton loading capacity. Plus option for additional forklifts following the first order. Bids by 26/03/03.

(xxv): MS/RC/2003/2. Providing catering services of trolley, plus tables and chairs at Nordau-Hod Sharon / Kfar Sava.

MS/RC/2003/12. Providing catering service by trolley, tables & chairs at Ramle station. Contract for both tenders is for 12 months with optional extension of up to additional 24

60:6.

JERUSALEM LINE PROGRESS.

(a). BEIT SHEMESH.

On 10th. January 2003 Sybil Ehrlich noted tracklaying under way by Nahal Sorek, flatbed wagons with rails and yellow construction machinery..... (Incidentally, Sybil has now left the 'Jerusalem Post', we wish her well in future endeavours!)

On Feb. 7th. she added:

"Over the last few weeks Beit Shemesh station has been completely transformed. The two platforms have their edges (what Evyatar calls "Mind the Gap"!). The rebuilt station house looks almost complete. On the northern (island) platform there are three frameworks for station nameboards. The nameboards are covered in plastic sheeting - the name itself isn't up yet! The ground has been drained and surfaced. No ballast ("hatzatz") yet. Yesterday (Thursday February 6) the road was resurfaced over the remains of the tracks. There will not be a bridge there. Weather permitting, I hope in the next few days to see how far the track is progressing towards Beit Shemesh. As I have no idea what state the trackbed is in, if it is still unsurfaced, and it rains a lot, it will be VERY muddy."

On 12th. Feb. the next report:

I decided to see for myself today (February 12), and walked along the trackbed. Approximate distances only,

months. Last date for bidding: 02.04.2003.

(xxvi): Request for Information - IR is seeking information on the whereabouts and availability of second-hand serviceable double-cab diesel-electric locomotives - clearly as a preliminary to seeking some form of stopgap and affordable power.

Any suggestions to IR by 22nd. May, to
<ayeletr@rail.org.il>

of course, based on a walking speed of 5 kmh. Ballast now reaches to within 3 km of Beit Shemesh, and end of track is 6 km from BS! When I was there at about 12:30, there was no sign of any workmen or equipment.

On January 10 track had reached Nahal Sorek. So in a month they lay roughly 6 km, which works out to 250 metres a day. A month from now we should see track at Beit Shemesh!!

For a very unfair comparison, I quote from "Hear that Lonesome Whistle Blow", a history of the building of the transcontinental railroad, which I am currently reading.

"According to rumor, Charlie Crocker had once boasted ... that his workmen could lay ten miles of track in a single day... planned everything like a military operation, bringing up carloads of rails, fishplates, bolts, and spikes at regular intervals, using Chinese on handcars pulled by horses to move the iron forward to the gaugers, spikers, bolters, and a picked crew of eight rail carriers.... By one-thirty they had laid six miles of rails, and Crocker ordered a stop for lunch... In twelve hours, a full working day, they were fifty-six feet past the ten-mile mark. During that day, someone later calculated, the track layers had spiked 3,520 rails to 25,800 ties, and each rail handler had lifted 250,000 pounds of iron." It goes on to say "they were a week preparing for it, and bedded all their ties beforehand.... It was only a stunt."

Seen at Beth Shemesh station yesterday, name boards on the platforms!! Also signs with platform numbers, and signs saying (in Hebrew, English and Arabic)

Do not pass the yellow line!

Fast trains run through this platform

I kid you not. According to Ofer Bart there will eventually be fast trains from TA to Jerusalem. But it seems somewhat premature to put the signs up now! Workmen were actually putting the signs up when I was there. Since they speak nothing but Bulgarian, it doesn't make for easy communication.

The station house is almost complete. There is now glass in the windows, and toilet bowls waiting to be installed. Also wall tiling on the underground passage. I didn't walk through the subway yesterday because it would have meant disturbing the workmen. Nobody has ever suggested that my presence on the station is superfluous, and when I go I'm treated like an old friend (even in Bulgarian!). Of course by the time the next issue of Harakevet goes to press this will all be very stale news."

Sunday March 2nd: "Today I walked along the trackbed from Beit Shemesh towards Nahal Sorek. There is now ballast about 1.5km. from Beit Shemesh station, and end of track is 3km. from the station. Arriving at 10.30am, there was no sign of any workmen or equipment. I walked back to the station, where I saw huge numbers of men working frantically to get the station completed; a very small area of the island platform (platforms 2 and 3) is now paved with pink paving stones, but most of the platform is still sand. The roof on the island platform seems complete, and they have started fixing pillars on the stone building to attach the canopy over Plat. 1 (which is on the site of the old platform). The works manager told me track is expected to reach the station around March 15th."

(B): JERUSALEM.

The Editor visited Jerusalem station on 1st. March 2003, walking up the track from the Derech Beit Lechem level crossing. Track is overgrown and ballast filled with mud. The track is lifted from the throat by the signal box, up to (but not including) the final headshunt and buffer stop. (The siding to the electricity depot is still there, also the tracks to the Govt. Press but heavily overgrown). The rails had been cut with an oxy-acetylene torch, not just unscrewed at their ends. All semaphore signals were still standing, but the rodding lies twisted and bulldozed. There were a lot of bits of miscellaneous ironmongery around, baseplates, fishplates and the like - including baseplates labelled "WD 1917" and "WD GKN 1917" - some loose, some still attached by one nail to a sleeper. Towards the north end, behind the blue/white corrugated iron shed for the Kronit, was a stack of spare steel sleepers (which also, of course, are usually marked with a 1930's date) and rails. The buildings were boarded up and looked very forlorn. Outside the station, on the corner of the road up to Kikar Remez, is a set of steps going up the low

escarpment - and the handrail is formed of old narrow-gauge rail, still marked "Decauville".

(C). OFFICIAL VIEW.

In addition Aharon Gazit has sent me a technical paper on the line's reconstruction - a very different perspective from that of the enthusiastic but amateur observer:

Ing . E . V . Volkov , Ph . D . G . I .
Matusovsky .

Reconstruction of line Tel Aviv – Jerusalem .

The first railway in Israel, Jaffa – Jerusalem, was constructed during the Turkish period from 1890 till 1892, with the Sultan's permission.

The 7-metre-long rails of 20-kg per each 1 m length were laid in the track and fixed to wooden sleepers of 22-cm width; the total sleeper number amounted to 1390 per 1 track km, track width was 1 m, track length - 87 km, maximum gradient - 2.5%. At that time, Jerusalem had a population of 32,000, whereas Jaffa (now a part of Tel Aviv) had 16,000, but together with surrounding settlements there was a total of some 66,800.

After 1918, when the British governed the country, the railway was re-equipped to fit the European-standard track gauge of 1435 mm.

Starting from 1938, wooden sleepers were substituted by metal ones, widely used in Britain. Their service life was up to 50 years, but because of the small cross-section area some of them were easily deformed - sleeper edges lifted clear of the surface, thus violating the track maintenance tolerances.

A sizable section of the route, essentially between Beit Shemesh and Jerusalem (36-km long), comprised curves with small radii. The section had 78 curves of 200-m radius and less and with minimum radius of 139 m. Rail greasers were installed, activated by wheel pressure of passing trains, to reduce rail wear

Late in the 1990's the decision was made to modernize the most intricate, 56-km long Naan-Jerusalem section.

Within the bounds of the same land parcel, a project of Route Configuration Improvement has been developed. The number of curves in the Beit Shemesh – Jerusalem section was reduced to 69,

minimum curve radius became 143 m, and maximal gradient - 2.1%.

Curves were considerably eased; for reverse curves the increase was achieved by the elimination of short (less than 20 m) straight inserts.

Track design .

Under the permanent way, a gravel-sand mixture compressed and calculated by certain formulae and laid according to a specific technology is to be placed. A 30-cm-thick ballast layer will be poured and compressed under sleepers. The sleepers are of reinforced concrete, monobloc, and 2.6-m long. The laying of new-type sleepers, permitting the laying of UIC60 rails, is scheduled.

The ballast prism shoulder equals to 50 cm. from the curve outside, and to 40 cm. from the curve inside.

Rail laying with strengthened rail head and minimal admissible longitudinal tension of at least 1110 H\ mm² is projected. The track will be welded in the straighter sections of the route and in the curved sections of above 170-m radius. In smaller radius areas, a jointed track will be laid, with linked lengths of 36 m.

The following joint gaps in 36-m lash of rails and laying temperature are recommended:

Joint gap, mm	0	1	2	3	4	5	6	7	8
Temperature, °C	50-53	47-50	41-44	38-41	35-38	32-35	29-32	26-29	
Joint gap, mm	9	10	11	12	13	14	15	16	17
Temperature, °C	23-26	20-23	17-20	14-17	11-14	8-11	5-8	2-5	1-2

To make the track more stable against transversal displacement, *Vossloh* metal sleeper anchors (aprons) of Sik20-type will be installed under the sleepers, thus enlarging the cross-section area, and preventing the rail-sleeper interface shift. The sleeper anchors will be mounted on every third sleeper in the curves of radii from below 200 m up to 175 m, on every second sleeper in the curves of radii from below 175 m up to 155 m and on every sleeper in the curves of radii below 155 m.

New sleepers permit some gauge widening in curves with fastenings of the *Vossloh* W14-type. In 250-300-m radius curves, 5-mm widening will be available, in 200-249-m radius curves - 10-mm widening, and in less than 200-m radius curves, the widening will be 15 mm.

1-mm track width variations are projected to make transition curves over a length of 1.16 m (on each two sleepers) .

Metal girder bridges with wooden sleepers will be substituted for bridges with ballast permanent way.

So-called tilting trains (with regulated coach-body tilt system) are being considered as the line's potential rolling stock. In such trains, additional super-elevation on the curves can be achieved by tilt automatic control system of coach-body. Due to this system, these trains can cross the curved sections faster than the conventional ones. However, the potential of tilting trains in narrow curves with short transition curves is rather limited. Besides, their implementation demands significant additional expenses. Therefore, their potential utilization on the route is problematic.

Though route renovation will definitely improve the quality of the old route and reduce the travelling time, this benefit will nevertheless not alter the situation drastically.

In conclusion it is worthwhile noting that at the present time reconstruction of the line is beginning.

**Ing E V Volkov. Ph . D . G . I
Matusovsky**

60:7.

OTHER

[Because information in general is often hard to come by, I often use this rubric to cover "old news" on the basis that otherwise there will be very little available on, for example, rolling stock orders for Iraq (as in this issue). Ed.]

A. IRAQ.

(a). COACHES FROM BAUTZEN.

Whilst browsing through an ancient copy of the former DDR magazine "Der Modelleisenbahner" for May 1972 I came across the following in the page (150) entitled "Did you know?"

"Did you know that - 30 Tourist 2nd-class coaches have just been delivered to the Iraqi State Railways by the VEB [Volkseigenbetrieb - People's Factory] Waggonbau Bautzen? The coaches are built in open saloon format and are air-conditioned. They are built for standard gauge and in their main dimensions comply with UIC/RIC Type Y. The contract with Iraq includes in addition four Brake/Luggage Vans, which should also be delivered from the manufacturer towards the end of 1971."

An accompanying photo (on typical yellowing grainy grey DDR paper) shows the vehicles as looking similar to but not identical with DDR coaches, and have a two-tone livery, either green/cream (as on DR) or orange/cream (as with the CFS coaches.)

Incidentally, another article on the same carriage works, in "Eisenbahn Illustrierte" August 1991, p.28 refers to: "In 1983 three special saloon coaches (of which two in oriental style) were delivered to Syria"; and "from the years 1974/5.... a new type of coach to the UIC-Z2 standard was developed.... as well as a large series of express train coaches for Iran (with DB MD36 running gear!)....." Alas, no further details are given.

(b). LOCOMOTIVES INTERNA- TIONAL.

The Feb./March 2003 issue of this magazine has, on pp. 14-16, a series of photos of Iraq; they include:

s.g. coach 402, a 1st./2nd. Sleeper, built by BRCW in 1950, on a Mosul - Baghdad West service.

An ISR Pacific, in use, plus the der-

MIDDLE EAST RAILWAYS.

elict hulk of a loco 1503 (RSH 6984) at Shalchiya Works, on 25/10/1983.

Class GB Henschel 2-8-0 of the Bagdad Bahn, Class SA 0-6-0T (Davenport USATC), Class TD 2-8-0 (8F), Class TE Krupp 2-8-0 of 1956.

B. IRAN.

(a). NEW DIESEL LOCOS.

A photo and accompanying text in "Lok Magazin" 1/2003 p.32 describe two diesel locomotives on the harbour at Antwerp. "The first locos are now on their way to Iran; ordered from the French Alstom concern in 1997, they are only now ready. The IIRR had ordered no fewer than one hundred of the "Prima" series at one go - albeit with the condition that only the first twenty be completely built in France, another five prepared for later assembly, and the rest built by the Iranian factory of Wagon Pars in Arak. With 2,880 kW (3,915 hp) the Type AD 43 C Co-Co locos will be the most powerful engines in Iran. A Ruston Diesel engine of 16RK215 type provides the energy, which is then transmitted via six asynchronous "Onix" (IGBT-principle) drives."

The engines are finished in a striking livery of light, dark and turquoise blue in bands which sweep from the roof to the base of the bodyside.

C. EGYPT.

In "European Railway Review" issue 1, 2002, a magazine aimed at professional engineers, p. 79, is an article on the Halcrow UK-based consultancy. It notes:

"Over the last five years, Halcrow has acted as principal technical adviser to the Egyptian National Railways in re-establishing a rail link across one of the world's busiest and most important shipping channels. Last November, President Mubarak of Egypt opened the world's largest swing bridge over the Suez Canal, 20km. north of Ismailia. Widening of the Canal required a new bridge with a record-breaking span of 340 metres."

This is of course only part of the story, but the information of the canal widening implies that little would remain of piers for the previous bridges.

(b). ESR DIESELS OF 1947.

In "British Railways Illustrated Annual No. 8", p.9, is an article entitled "Diesel Dawn - First Days of the "Twins"" by Henry Tomkins, on the two English Electric Co-Co diesel engines built for the LMSR in Britain in 1947. This includes: "The engine chosen was a 1,600 hp unit then going into a design for the Egyptian State Railways. There were none spare so two were pinched from the Egyptian order, put under construction before the twins were even thought of. The LMS diesels had a traction motor for each of the six axles (a complication from the original design which Ivatt apparently regretted) so in order to fit out 1000/1, two sets of six traction motors and two engines/generators/sets of control gear were purloined from the export batch, with the order discreetly made up in time for despatch to Egypt!"

D. TURKEY.

(a). SUGAR FACTORY LOCOS.

In "C.R.J." 133 (Spring 2003) p. 581 is a photo of a Krupp 0-6-0T 34115/1953, in store at the Amasya Sugar Factory, Suluova. It is described as "in good condition apart from some rather shabby paintwork; apparently it was driven to its current position under its own steam some years ago. Also in the shed was a 0-4-0D (Deutz 55608)."

(b). ANTALYA TRAMWAY.

An article in "Strassenbahn Magazin" March 2003 p.49 describes the new tram-

way line - a solitary line - in Antalya; it was opened 27/2/1999, and comprises a single track with three passing loops and reversing loops at each end, and a depot at Zerdalalik. A half-hourly service is (theoretically) operated, using three trams 1, 3, 5 (former Nürnberg 213, 255 & 215 respectively) and trailers 2, 4, 6 (former Nürnberg 1553, 1554 and 1526).

(c). ISTANBUL TRAMS.

The same issue notes that Bombardier have received an order for 30 new trams for Istanbul, based on the RTE 2000 model constructed in Turkey itself, to replace vehicles which were originally intended for the "Stadtbahn" and which will then be - at last - redeployed to that line.

60:8.

NOTES AND COMMENTS:

(a). ANOTHER RAILWAY IN ISRAEL (SORT OF)!

On 9th. December Sybil Ehrlich wrote: "Today I went (as a 'JP' reporter) to Park Mini Israel that has recently opened near Latrun. It is a collection of buildings from all over Israel, on a scale of 1:25, the same idea as the park at Madurodam. The whole thing is very impressive. I didn't coordinate my visit with the park administration, and it turned out that I went on just about the worst week possible. It opened at Succot, after two years' delay, and was promptly closed two days later by the police because they didn't have the necessary licence and security wasn't up to scratch. I asked the PR person to let me know when it reopened because I wanted to go there and write about it for the Jerusalem Post.

Then I heard that some people had visited there last week (Hanukka). I called the PR-ist and she apologized for not telling me it was open. Anyway, I went today, and it was completely deserted. Not a single visitor, but that meant the Director of Marketing wasn't busy and he could give me a personal tour, including behind the scenes.

Now for the railway stuff. One of the models is Haifa East station, and another one is Tel Aviv Hashalom. There is one kilometer of railway track. The

park staff were still clearing up after the depredations of the huge Hanukka crowds, including kids putting stuff on the tracks to cause derailments. The trains weren't running when I was there, but I saw them in the store room. They are *NOT* Israeli-style trains. I was told they would get Israeli trains eventually. In contrast, the model of the bus station at Hof Carmel, Haifa, has Egged buses.

Another exciting thing: a similar park in Turkey asked Mini Israel to build them a model of the Hejaz Rly station in Damascus. I saw it, behind the scenes, covered in plastic sheeting. It will be shipped out to Turkey next week. I took a pic of it, with Mr. Marketing next to it for scale.

The marketing man had a look in his appointment schedule to see when a group is booked at a time I can make a return visit, so I can get some pix of the models with human beings to give an idea of the scale. I couldn't very well ask him to pose in *ALL* my photos! So I'm going back Thursday of next week, late in the afternoon. As it gets dark the illuminations come on, and he said that's well worth seeing."

(b). Re 55:13. THE ISRAELI BALDWIN.

Rather belated I know, but a mistake was made in this short piece. The Baldwin 4-6-0 did not have RAKEVET ISRAEL painted on its tender as stated. Another look at the print shows that the words MEDINAT ISRAEL (STATE OF ISRAEL) were being applied.

(c). RECORDS ?

Paul writes: "According to the local rag *Yediot Haifa* of 17/1/03 the Carmelit underground cableway has been listed in the latest edition of *The Guinness Book of World Records* as "the shortest underground railway system in the world". I don't know about elsewhere, but seem to recall that Istanbul has something even shorter."

d). Re 59:20. ESR COACHES.

Paul writes: Bill Atkin is not quite correct in saying that PR coaches did not work on to ESR or the HBT, though they may have done so only infrequently, particularly in the case of the HBT. There is a nice sharp photo exhibited in the IRM which shows the WW2 train from Cairo after arrival at Haifa East. It is made up of PR, ESR and Wagons Lits coaches. These are fairly well

mixed up, which would probably preclude any PR vehicles being shunted into the consist at Kantara or anywhere east thereof, the inference being that the whole train had worked through from Cairo. A fine shot in the Australian War Memorial collection shows a tender-first Middle East 2-8-2 somewhere in Lebanon with what appears to be a works or inspection train of some sort. Right behind the loco is a PR coach.

(e). CORRECTION. On 59:10:(c) THE ESR COACHES ON IR.

Aharon Gazit notes: Two ESR coaches were captured; both were actually placed in service, and both were seen in use, at Lod and at Jerusalem. They had wooden seats. The one that was painted in the then-new IR livery was dark blue with a yellow stripe and was seen at Haifa East, not Qishon as mentioned - having been repainted at Qishon from the grey/red former livery, by Mr. Turkoswki, the painter there, who remembered them as being much bigger than normal stock.

(f). NOTES ON THE ESSLINGEN RAILCARS.

Some further notes from Aharon Gazit on IR at this time and the stock used:

In 1959, when electric signalling had been completed, the Esslingen diesel units were introduced on fast trains. The forty "Reserved-Class" seats ("two-and-two" - equivalent to German 2nd. class) were at first beige in colour, but were later made blue (a new standard colour for seating) and had folding armrests. (Technically, IR did not have a "First Class"). In "Regular Class" the seats were green, two and three per side, and were of hard plastic, no armrests.

(Savidor had at one point wanted to introduce a First and Second Class service - even China has Hard and Soft Class - but the Socialist egalitarian system in Israel at the time was so strong that this was refused. The Israelis were more socialist than the Socialists !)

However, the riding was very rough on the track of the time, and passengers were thrown around and did not get much benefit from the comfort of the seats.

The Deputy Chief Engineer at Qishon was Rudolf Kaufmann, originally from Frankfurt/Main - who later changed

name to Avraham ben Raphael. He was very talented, and the General Manager, Savidor, considered him to be a walking encyclopaedia. He considered the Esslingen sets to be unbalanced, and to have poor suspension - even though they were O.K. in Germany. Görlitz bogies were fitted at first, without shock absorbers; but with leaf springs and some helical springs. Some shock absorbers were fitted later. Minden-Deutz bogies of simple form were fitted to a later batch - these had been fitted to the O&K coaches and had impressed the IR staff.

Amongst other things, there were always problems with the sunshades on the windows, which kept falling down on the passengers' hands. In all other IR coaches, e.g. the O&K's, the shades had to be pulled up, whereas in the Esslingens they had to be pulled down, and often slipped by themselves. Ceiling ventilators were fitted on the first sets, but these were very inefficient in the Israeli heat, and never operated properly.

The diesel sets had been built in Germany without testing in Israel under local conditions, these involved stops every five kilometres, for meets on single track and baton exchange at loops. The gearing was really intended for longer through runs, with stops every 50km. or so. IR also tended to add four or five rather than two or three intermediate coaches, so the power units were overloaded - especially when two sets were used and one power car was out of order. On the Jerusalem line there were problems with reverse gears and the brakes, which were not dynamic, had to be applied on almost every curve, and soon overheated.

In 1961, because the Esslingen sets had become (in consequence) so unreliable, there was often a need to use any spare rolling stock available to replace them. Some trains were formed of old PR coaches plus one O&K at the end for "reserved seats". Aharon Gazit recalls seeing them hurtling past Hof Carmel, especially the afternoon fast train, around 15.30 Haifa - Tel Aviv, the train running at 100 kph even with old PR coaches in the consist. This was against safety regulations - for these vehicles had a permitted top speed of 80 kph. The last former PR coach was withdrawn in 1965; They remained vacuum-braked till their withdrawal.

(g). THE YUGOSLAV COACHES.

At the time, these were a vast improvement on the PR stock. Aharon visited Savidor, the General Manager, almost every day - Savidor lived in Haifa at this time, and told him that coaches had been built at Maribor "since the days of Franz-Josef". When first delivered there were a few minor problems - the luggage-racks were set too high, so that luggage hit the roof and could not be held firmly. Fluorescent lamps were set down from the ceiling and were often knocked and broken by luggage, so new lamps were fitted flush with the ceiling. The bogies hit the steps on sharp curves, so the steps had to be cut back to allow clearances. The light-blue colour of the seats soon darkened when passengers sweated against them, so these were changed to a darker blue (as with contemporary cars) so as not to show this too much.

(h). On 59:10:(e) - GENERAL MEMORIES.

Re. the last use of the line to Jaffa - Mrs. Gazit as a child was usually visiting a hairdresser on Herzl St. when the trains were noted in 1952/3. Evyatar Reiter's grandmother has also claimed trains passed this way in 1954.

Aharon Gazit adds that in 1955 the rails to Yahud were still visible, crossing the road. Also the rails across Allenby. He saw the rails as a child - he was told they were from Mandate times and no longer used. The rails were only lifted when the Israel Aircraft Industry was built in the mid-1960's. A bridge across the wadi a little west of the current Avia Hotel or Avivim Mall survived for many years, with ballast etc., until the 1980's when the road was widened to four lanes.

Mahaneh Yisrael station (formerly Kafr Jinis) had more than one track, and the loop or sidings still had concrete sleepers. Later, from 1960's, it was used as a fuelling point; Paz hauled jet fuel from the refinery at Haifa and from there it was piped to the tanks at Lod airport. Aharon recommended building a halt there for passengers for the airport - and a shuttle bus connection - but IR turned the idea down. At this time the inter-city bus connections were poor and slow. IR was at that time not very open to ideas from outsiders and lay enthusiasts, and some staff tended to call those who made sensible suggestions "Pishers" !

(h). AUSTRIAN LOCO?

Eliahu Anaby of Haifa reports that he saw, in the 1940's, a tank locomotive,

"built at Floridsdorf in Austria" standing outside the Vulcan Works in Haifa, awaiting conversion from coal to oil firing. His theory is that it had come from Turkey via the HBT.

There is no other evidence for this remarkable sighting, no corroboration, and indeed a lot of scepticism - unless another reader has something useful to add?

(i). CARDS.

On 59:10:(i). Paul recollects that the cards in question came from Quaker Oats, not Kellogs Corn Flakes. As a good English schoolboy he had porridge for breakfast.

(j). OBITUARY: SLEZAK. z'l'

Josef Otto Slezak of Wien, industrious publisher and researcher of a multitude of railway histories of Austria and Central Europe (including reprints of Middle East interest), died in December 2002.

(k). OBITUARIES.

Two former railwaymen in Persia have passed away recently - Michael Robbins, who wrote "190 in Persia" on the exploits of the 190 Rly. Optg. Coy RE.; and Albert Crowder, who was driving 8F 2-8-0 41.109 (the currently-preserved LMS 8233, BR 48773) when it famously hit and was derailed by a camel on 4th. August 1942.

(l). On 59:1. DAMASCUS KANAWAT.

E.J. Howard of Seaford writes: "The picture on the cover of Harakevet 59 brought back many memories to me. For fifteen months in 1941/2 I served in the RTO there, our office being in a large room in the station building to the left of the picture and it would appear that the track layout has not altered since that time. The Hedjaz trains still use the eastern platform road and presumably trains for the former DHP line the western. When I was at Damascus an ambulance coach was stabled on the extreme western line and I once made a journey to Haifa in it when I contracted jaundice and had to go to hospital in Nazareth.,

When we first arrived in Damascus there was no direct connection from the DHP line to Cadem though there was a parallel line from Baramke to the old Midan station. A connection was soon put in, enabling through running from Baramke to Cadem, thus by-passing Kanawat. The proliferation of vegetation was not there in 1941. It would seem that railway neglect is not confined to the UK!"

In a later letter he adds:

"It is now 60 years since I made my first journey from Haifa at the time of our campaign in Syria. The first railhead was at Deraa, followed by Cadem and finally Kanawat. There was a 60cm. line from Ezraa to a garrison at Soueida but this was not used by the British and I believe the materiel was ultimately shipped to Cyprus.

Cadem provided a fair-sized yard, railway workshops and sidings full of redundant locomotives. One of the Jungs and one of the 0-6-6-0 tanks was put into working order by the military but the latter was not very successful owing to the reduction in boiler pressure necessitated by the condition of the boiler. A Hartmann 2-8-0 came to grief in the Yarmuk Gorge being derailed when the boiler crown plate imploded. The crew were killed. Minor derailments were fairly frequent but did not seem to cause lengthy delays. There was a regular daily passenger train to Haifa and four or five goods trains depending on requirements. The De Dion Bouton railcar also ran daily to Deraa.

A regular daily train also left Kanawat for the DHP line to Beirut. Journey times were twelve hours to Haifa and ten hours to Beirut. After the HBT opened, traffic on the narrow gauge lines declined sharply. In addition to Damascus, there were RTOs at Rayak, Homs, Aleppo, Tripoli and Beirut (St Michel), and later at the HBT. There was also a RTO at Sidon on the HBT where there was a siding for the ambulance train serving a military hospital. All the RTOs were under the aegis of Mov. & Tn. Ninth Army, with HQ at Beirut. In the course of my time I served at Tripoli, Aleppo and HQ Beirut as well as my stint at Damascus."

We hope for more memoirs!

(m). WEBSITES.

The Editor's attention has been drawn to <jt_rail@hotmail.com>, and <steam@dial.pipex.com/steam/trains/Hejaz> run by Rob Dickinson of Monmouth.

Hadashot Harakevet, in Hebrew, is updated weekly.

(n). MORE ON SAFB Bo-Bos.

The Editor confesses to becoming obsessed with the mysterious history of these three locos, of which one now stands at the Haifa Museum. A photo (in CRJ 133, p.559) shows shows Luxembourg Railways (CFL) Bo-Bo No. 803 still at work and, apart from the cab, the visual similarities are very close - the text informs that this Bo-BoDE class were "built by Anglo-Franco-Belge in 1954 under license from General Motors"! Does any reader know more ?

ISRAEL RAILWAYS. MISCELLANEOUS OBSERVATIONS.

The Editor was able to visit Israel from Sun. 23rd. Feb. to Tues. 4th. March 2003; Unfortunately there were occasions when he had to work, and occasionally sleep, but the rest of the time was gainfully employed in exploring as much of the railway system as possible, with especial emphasis on the lines and stations recently opened. The following notes convey some of what was observed and noticed, either personally or in conversations with Paul Cotterell, Evyatar Reiter, Aharon Gazit, Sybil Ehrlich and others. In view of the extent to which the system had changed in the two years since his previous visit, they are presented "for the record" on the basis that things will have changed once more very soon!

General Observations.

Ticket barriers now control entry and exit from all platforms at all (even minor) stations. Before each stop a recorded announcement is made (on push/pull and double-deck sets) informing passengers that exit is only possible with their 'Cartisim'. The days when one could go through a train at destination and scoop up a bag-full of discarded tickets are past !

Security was tight. I had taken the precaution, with the help of Paul Cotterell, of getting a letter from Benny Na'or (the "Dover" or Public Relations Officer at Tel Aviv Savidor station) faxed to me permitting me to take photos during a specified period. I was INVARIABLY accosted and informed that photography was forbidden ("Assur letzalem!"), and even when showing this letter to platform staff, train guards, train conductors etc., I was several times challenged why it was not an original letter (it had been sent to me by fax.) At Rehovot the station master was affable once I had shown the letter - he was concerned lest I photograph security personnel at work - but asked me if I had been at Yavne - as it transpired a "suspicious character" had been observed filming a train from the lineside. It appears drivers are instructed to report by radio any "suspicious characters". "Suspicious" in this context means anyone not matching local social norms..... Even, on one occasion, taking a picture from a train of the sea!

To be fair, this was a period of increasing tensions regarding the probable Iraq war, and the day after I left Israel there was another horrendous bomb attack on a bus in Haifa. The various black-jacketed "Bittachon" staff who search bags at station entrances and patrol trains looking for anyone behaving out of the ordinary (i.e. sleeping or talking on a cellphone!) are doing an important job. Following the Haifa Bus 37 explosion, which killed many schoolkids, Egged was instructed to employ 500 additional security guards.

Because of the threatened gas attacks from Iraqi rockets, some stations had a sign pointing not only to the "Miklat" (Shelter) but "Heder HaMugan" (Protected Room).

Operations seemed slick with, on my visit, few delays noted apart from one evening of storm. The main line sees a variety of trains - IC3's in multiples of three and four, Push/Pull sets, Double-Deck sets (regular as far as Binyamina, less frequent north thereof at present), loco-hauled trains of 'old stock' in various formations, albeit with the generator or half-generator coach at the south end of the rake. Within the Haifa area a four-coach set "top-and-tailed" by G12 Bo-Bos shuttles between Hof HaCarmel and the Krayot. The Rosh HaAyin service is worked by an IC3 or a short rake of three Double-Deckers.

Recorded announcements in the train address the passengers in friendly terms: "Nossim nichbadim, Shalom! Nesia Ne'imah!" (i.e. "Honoured travellers, welcome! A pleasant journey!", even the ticket checks are accompanied by "Tzohorayim Tovim! Kartisim Bevakasha!" - "Good afternoon! Tickets please !" "Harakevet tekaness miyad leTahanat...." means "The train will shortly enter the station of...."

Motive Power.

Locos and IC3 units carry their numbers painted on the roofs (the IC3's just the last two digits) - this to aid identification from the air if necessary. The Bo-Bo's have two different styles of numbering on the front right corner.

Locos. Nos. 702-709 and 731 - 740 are already due major overhauls after almost 500,000 km. 732 had just been finished and returned to service, 735 had just started a major overhaul on 26/2, when Evyatar and I met on 01/03.

Nos. 756-757 are due for delivery Oct. 2003, 758-761 in December 2003, 762-763 in April 2004 and 764-766 in May 2004 - a total of 11 new locos. There is still an option for nos. 767-770.

The Alstom locos are causing grave concern, with far too many (up to 20%!) needing to undergo maintenance and repair, thus exacerbating the shortage situation. The detail finish of components is considered to be a bit 'sloppy', and bodies are rusting already! It appears that the identical locos in Britain are suffering similar problems - what is happening with identical locos in Syria and Iran is not known. Perhaps this is 'normality' there. 703 has suffered severe electrical faults; 746 suffered 42% damage in a collision with a lorry near Lod - and will be sent back to Spain for repairs. (Had the damage been assessed at over 50%, it would have been written-off.)

One of the 'Yo-Yo' shunters 262 has been out of service for some considerable time (since Oct. 2001) with a defective motor block. 263 broke down on the Port Shunt at Haifa on 23/02 and 117 came to try and kick-start it, then took over shunting for the rest of the day.

G12 No. 120 suffered a major failure of the engine block while powering southbound freight 314 near Herzliyya in Sept. 2002

A new 25-Ton Crane ("Manof") from Kirow of Leipzig has recently been delivered.

IC3 units.

Unit No. 31 was due into service within two weeks of my visit, to be followed at weekly intervals by units 39, 40 and 41. This will mean a total of 40 units eventually available for service - though two coaches of unit 33 (7233/

7433) are in Denmark for repair following its accident in Sept. 2002, when 1M NIS worth of damage was caused, and No. 19 was destroyed by fire. Unit 33 should be returned and reunited (coach 7033 is still at Qishon) in October. No. 41 will be the last to come, the order for units 42-48 having been cancelled. Unit 41 arrived Ashdod 27/02/03, was transferred to Ramta 03/03, and should go to Haifa 15/05/03 and enter service 17/05. Units are shipped from Aarhus. These units are also suffering from some failures, with up to ten being under repair at times.

Unit 28 tried to enter the "Kronoim" (diesel unit) shed at Haifa, adjacent to the new loco shed, at 17.30 on 26/02/03 without waiting for the door to be fully opened; the horns were knocked off the top of the cab of coach 7228.

Rolling Stock.

Some of the former "backbone" of the IR fleet are now beginning to show their age in no uncertain terms. Several of the Yugoslav (Boris Kidric, Maribor) coaches are pitted with rust holes and peeling paint; the rebuilt Esslingen trailers often show rust at the bottom sides where new steel had been patched over; some of the French coaches have rusting doors. The aim of IR is to withdraw these coaches as soon as they can be dispensed with - but such is the shortage of rolling stock, especially with the constant expansion of services, that this will take some time. Carel Fouché coach 72 was officially withdrawn 24/02/03. The German O&K and British Mk. 2's are all withdrawn, of course, so the "old" fleet (as compared to the Alstom push-pulls, the Görlitz double-deckers or the IC3's) comprises Yugoslav, Carel Fouché and rebuilt Esslingen coaches. It is possible that one coach, either 83 or 630, may be preserved, though the Museum does not look forward to the restoration work that would be necessary. The rake of former SNCF coaches was noted standing at Haifa East - apparently these are also used as little as possible due to 'problems'.

Almost all the above now have sealed windows and air-conditioning, but Coach 82 still has windows which open down (plus its original buffet counter, now disused, and a telephone mounted at one end.) The windows of 80 also open.

Interior trim and painting and layout varies considerably. Just a few notes: 617 has a vestibule painted blue and white, upholstery with red and black stripes; 602 has a cream/green vestibule, with blue upholstery. 611 has two folding wall-mounted stools in the vestibule, blue-painted walls and red lino floor covering. I am sure that, for the dedicated "rivet counter", no two of these coaches are identical.

Coaches 613 and 636 have been covered with "Harry Potter" advertising decals and are in use on trains. Apparently eight further coaches were observed (a week later) in Cellcom livery. IC3 set 7009 is in "Emek Cheese" - when looked at carefully, each coach is different. The Editor confesses that he does not approve of "all-over advertising" (as experienced also, for example, on buses in Berlin) especially when it covers also the windows. It is true that one can just about see out from inside, but the view is nevertheless restricted. Companies spend vast amounts on creating a "brand image" (and the IR livery of red, white and blue is very smart) and then cover it with a ragbag mixture of colours and images designed to promote some product that, were it to be good enough, would presumably not require this promotion.

New Coaches.

The Push-Pull sets seemed to have the locos at the north end; the Double-Deck sets the loco at the south end. A P/P set was involved in an accident on a level crossing on 22/06/2002; the car driver was killed.

The Double-Deck driving cab coaches have two large grilles for ventilation on the left side (as one faces forward) - i.e. on the west side; the other side is smooth. Double-Deck sets normally comprise four coaches, though a three-coach set was seen in use on the Rosh HaAyin service. Irritatingly, the numbers on the solebars are hidden by platform edges.

Three further four-car sets are due for delivery in April 2004, and a further six

sets from May-July 2004.

Coach 457 has been at Lod since being sideswiped by loco 601 at the depot in Feb. 2002. Driving trailer 408 was involved in the same accident near Lod as loco 746, on 11/02/2002.

Two-wheeled Refreshment trolleys (complete with Kashrut certificate!) are wheeled up and down the main line trains, but of course they have problems on the double-deck sets.

One coach per train (the driving trailer in double-deck trains - it is normally the northernmost coach in any case) is marked "Mekomot Shemurim", "Reserved Seats"; special tickets at 3 NIS permit use of a specified seat, the numbers being marked above the windows. "Alef" and "Bet" on one side of the aisle, "Gimmel" and "Daled" on the other, similar to aircraft. "Alef" and "Daled" are therefore "Halon" - Window, whereas "Bet" and "Gimmel" are "Mavar" - Aisle.

Stations.

Each station seems to have been "themed" with a standard colour used throughout a particular station - on pillars, canopy metalwork and trim; the platform coverings are usually of bricks and blocks but with varying colours and patterns - it is probably that no two are quite alike. Hutzot HaMifratz is in bright red, Caesarea in a turquoise-green, for instance, and Petach Tikva in yellow; Platform and other signs have a dark blue background, and station names appear in Hebrew, English and Arabic. Outside several stations are a red/white/blue banner pillar, bearing the "Israel Railways" title and logo and sometimes a clock. Lev HaMifratz is accessed via a footbridge from a large commercial complex on the east side of the line; the station master can give the 'Right away!' from the bridge, looking at the train guard; Hutzot HaMifratz is adjacent to Qishon Works' scrap sidings, providing a good view of stored museum and other vehicles; the platforms are linked by subway, the station building is on the east side.

Station naming still seems a bit confused. Trains bear signs for "Ashdod Darom" (South) for instance, yet the station is called "Ashdod Ad Halom" - "Till Here". The sign on the coaches says "Pardes Hanah - Caesarea", but the announcements are "Caesarea - Pardes Hana", as are the station name boards. Ticket automats bear whole lists of sta-

tions that do not yet exist, such as "Rishonim", "Ashqelon", "Petah Tiqwa - Qiryat Arie" and "Gane' Aviv" - presumably a rare example of advance planning on such matters; if one presses the button for such as "Beth Shemesh" or "Modi'in" a message "Not yet in service" comes on screen.

At the ends of the platform ramps at almost all stations there is now a barbed-wire barrier, installed apparently after a series of suicides.

The old platform face at Pardess Hannah still stands, just south of the southbound platform at the new station. In fact, the new station is quite pleasant - two platforms joined by subway with main building on the west side including ticket office and buffet and extensive canopies on both platforms. Intriguingly, the east side (southbound) also has a large entrance with ticket automat machines (wrapped in plastic) and locked doors, facing onto a ploughed field ! Clearly it is intended eventually to build a car park and second entrance on this side.

Running is on the left (even though car drivers drive on the right in Israel), but double track lines are bi-directionally signalled for use when necessary.

Freight Traffic.

The line to Betzet closed from 01/07/2001 and there has been no traffic since then. North of Haifa the freight traffic is only to Deshanim/Haifa Chemicals, to Qishon itself, and to the wheat silo of Mamgorot Milovar some 4km., south of Akko - presumably the siding adjacent to the scrapyard. The silo on the east side of the line just north of Qishon is no longer rail-connected - the point used to be where one of the platforms of Hutzot HaMifratz station now stands. The line to Nesher is totally blocked by rubbish and is derelict. (Some items for the Museum are still stranded at the sidings at the far end).

While the line from Rosh HaAyin to Lod has been being refurbished, freights have had to use the Ayalon line to get to Lod. There is no longer sign of freight traffic at Herzliyya or Binyamina; Binyamina Quarry is still very much in use and as the siding connection faces north, loaded wagons are 'tripped' north to Zikhron Ya'akov. There is container traffic at Hadera Maarav and Bnei Beraq. But put simply, one sees fewer items of freight rolling stock around - and less variety



A desolate Jerusalem station in the snow, tracks torn up and rubble scattered around.

- than a few years ago, basically just grain and containers, plus ballast. (Two petrol tank wagons, possibly USATC types and labelled "Delek" were noted at Haifa Mizrach). Even the yard at Lod looked relatively empty on my visit.

Southbound freight 327 passes Bat Galim at 19.35, and another at 21.40.

A rake of grain hoppers was visible at the silo at Devira, on the Beer Sheba line.

Trains 314/315 traverse the main line in daylight.

Tickets.

The need to pass through electronic barriers means that the former "Kartisia" in which holes were punched when used is no longer feasible, nor the paper pull-offs for free travel for the military. All tickets have to be of uniform size with magnetic stripe for swiping. Instead, those purchasing "commutated tickets" (the origin of the word 'commuter' - 12 for the price of 10) now get a wad of 12 tickets printed "Kartisia: Kartis 01 mitoch 12" i.e. "No. 1 of 12" and so forth. Tickets bought on the train are still the old pull-off paper type, and require a payment of three times the normal fare. Free Tickets for the military are of standard form and marked for the journey to be undertaken with starting and destination station, but printed "Hasaat Chayalim" ("Soldiers' Journey") with the price "0.00".

"Kivun Echad" means "One-Way", "Haloch VaShov" means "Return". The lowest printed line will specify

"Chayal" (Soldier), "Mevugar" (Adult), "Student" (self-explanatory), "Vatik" (Elderly/Pensioner). etc. Tickets are also issued, free, for use of the foot-bridge at Tel Aviv Merkaz (Gesher HaBoursa").

Some sample **Fares**:

Tel Aviv - Haifa 24 NIS. (Reserved seat: 3 NIS extra).

Tel Aviv - Bat Galim return: 46.50 (with reserved seat on one way.)

Haifa Merkaz - Hutzot HaMifratz Return: 20 NIS.

Haifa Bat Galim - Haifa Merkaz. 5.50 NIS.

Haifa - Binyamina: 15.50 NIS.

Bat Galim - Binyamina Return. 34.50 NIS. (Student).

Haifa - Hadera. 15.50 NIS.

Universita - Haifa. 22.00 NIS.

Bat Galim - Netanya: 18.50 NIS.

Tel Aviv Merkaz - Kiryat Motzkin. 30.00NIS. (Student).

Tel Aviv - Haifa. 10.00 NIS. (Pensioner).

(Carmelit: 5.40 NIS single. This is also the Egged ticket price for urban stretches. Jerusalem - Tel Aviv North (route 480) single was 19.50 NIS; Ben Gurion - Tel Aviv (route 222) 13.20 NIS.)

For comparison: At this point, the US dollar was between 5 and 6 NIS. A canned drink cost 7 NIS.

Some Technicalities.

Michael Bar-Noy of IR desired a device that would check if even one axle in a train had derailed; (Such an inci-

dent can cause substantial damage to track and following wagons before it is noticed and a train stopped). The Shahal factory of the Israel Aircraft Industries developed such a device but it was not refined or marketed further, and now a Swiss product is to be acquired. In addition a device for detecting obstacles on the tracks is being or has been developed.

Ramta works, in conjunction with the Matta works in Jerusalem, is also rebuilding helicopters, and developed a new and smaller form of bundling trunk cabling; this has now been bought by the Danes and incorporated in later batches of IC3s.

Odd Relics.

While travelling by bus along the coast road from Herzliyya towards Dov Joseph (Sdeh Dov) airport, an old PR coach body painted white was noted still lying on a slope on the left side, towards the Gelilot depot.

Two BR Mark 1 coaches in blue/white were also noted in a scrap yard at the Bnei Tzion road junction, before Bazra Junc., south of Netanya.

Observations and Journeys.

Sunday 23rd. Feb.

The 222 bus from Ben-Gurion Airport to Tel Aviv Tzafon (and hotel *s t r i p*) runs only hourly, departing on the hour and costing 13.20 NIS. (Return buses are at XX.30 from the bus station). Soon there will be a rail service from the new terminal still under construction. 7023 was noted from the bus, also 704 and 708 standing on stock at Darom, and 707 heading northbound (see below).

At Merkaz, the 16.45 south to Haganah was formed of 737 on 66 (Generator)/ two coaches in Harry Potter livery (see above - numbers were totally obscured!)/ 73 / 112 / 607 / 78 / 608 / 81 / 114. A Netanya train had 755 pushing four D/D's including 456 / 451. 707 pushed a Rosh HaAyin train of 409 / 449 / 450 (i.e. only three coaches) from Plat. 3 and then crossed onto the third track northbound. 751 (with its red rear lights on at the front!) headed south for Beer Sheba hauling 433 / 432 / 431 / 401. The 17.04 to Haifa was formed IC3's 7235 / 7218 / 7234 / 7222. 747 was on 446 / 447 / 448 / 415 for Rehovot at 17.04.

North from Tel Aviv Merkaz there are now three tracks, and a fourth forming a turnback siding accessed from the south end.

At the University station the IC3 set 7209 in "cheese" advertising livery headed south as part of a multi-unit rake. The station here has two island platforms; Plat. 1 is for northbound 'main line' services, Plat. 2 for southbound; Plat. 3 is used bidirectionally for services from/to Rosh HaAyin, which diverge immediately north of the station and pass under the road flyover. Plat. 4 has track alongside it, but at the north end this is not yet connected to the running lines and at the south end it stops abruptly before the drop to the busy road, awaiting an additional bridge to be built before it can be joined to any lines. It is strange that track has been laid within the station itself!

Tel Baruch signal box still stands, though looking faded. The single-track spur joins the main line, with a lengthy headshunt. Beyond the headshunt there are still traces in the ballast, almost as far as Herzliyya, on the east side - presumably not a third track but relics of a slight realignment a few metres to the west.

South of Netanya there is much building for the "Sha'ar HaIr" (gate of the City) Development. At Netanya two sidings run still parallel to Plat. 3, forming loops, with headshunts at north end from tracks 3 and 5, and two tracks also from the south end for P-Way vehicles. There are still loops, crossovers and the small buildings at Shefayim and Kfar Vitkin. At Hadera W. 70 015 Shin, 60 047 Shin, 54 007 Shin and others were noted in the container yard. At Caesarea at 17.30 a

southbound freight passed behind a G12 or G26. North of the Binyamina Quarry siding some stabilization works had been carried out on the east side, to retain the hillside.

Monday 24th. Feb.

A day of heavy rainstorms in the centre of Israel, with high winds. Travelled from Bat Galim to Tel Aviv. At 07.37 122 headed the top'n'tail with 116 / 631 / 643 / 115 / 53 / 121. The 07.44 Bat Galim - T.A. formed of 305 / 326 / 335 / 338 / 318 / 336 / 341 / 321 pushed by 732. We passed a Co-Co on Yugoslav coaches, and 2x IC3. At Binyamina (08.15) G12 117 stood in the yard, a D/D set with 741 in Plat. 3; 749 was heading northbound on 82 / 609 / 77 / 80 / 635 / 618 / 628 / 626.

4 camels in a field south of Hadera. At Kfar Vitkin 3 x IC3 passed at 08.30; at Netanya a Bo-Bo and 4 D/D stood in Plat. 3 at 08.32; we passed a Bo-Bo pushing N-bound at 08.35 and a Bo-Bo pulling N-bound at 08.37, then a Bo-Bo pushing D/D set; at Universita 734 headed N-bound on 603 / 601 / 627 / 621 / 84 / 625 / 612 / 633 (Generator).

At T.A. 707 was pushing 409 / 449 / 450 for Rosh HaAyin at 08.55.

I visited IR Spokesman Benny Naor at his office, and heard that the advantages of the new "Company" structure for a "stand-alone" (albeit Government-owned) Israel Railways in 2003, separate from the Ports Authority, will be that borrowing at commercial rates will be allowed; a sinking fund for rolling stock will be established. The new timetable for 15th. March will be delayed a little. [Later I heard it is due to be implemented on 12th. April.] Expansion plans include Ramle station,



Ashdod Ab Halom - on the right the station building, at the left the new platform in use, at centre the new platforms and other buildings under construction.

Beit Shemesh, Kfar Saba and the airport line, plus Beer Yaakov - Rishon leZion; By 2005 Modi'in will be reached. Service to Dimona is to be developed, tracks doubled to Kfar Saba, from Kiryat Motzkin to Akko, from Lod to Na'an and from Rehovot to Peleshet Junc. IR Director-General Yossi Snir's vision requires investment of 35 Billion NIS. 20M passengers will be carried this year, and by 2013 70M are envisaged! In 1992 1.5Bn. NIS was invested in infrastructure, whereas now 2.5Bn is being invested in eleven new projects; 600M NIS will be spent on rolling stock including 9 D/D sets, 9 IC3's and 11 locos. In this week a full list of all assets needed to be given to the Government; then four months are allowed for debate with the Treasury, to decide which land assets will be retained. If no agreement is reached, then all will be retained! The old disused lines, such as the 'inland line' were never transferred to the PRA but remained always Government property. A Development Plan for strategic investment is then to be agreed. The labour agreement with the workers is to be renegotiated by June 2003, and if there is no new agreement, the existing PRA rules will be continued.

From T.A. Merkaz I then took a train to Universita and found myself in the middle of a typhoon with wind blowing at me from all four sides and driving rain soaking me..... the shelters and overall roof are fine but clearly not intended for such cyclonic conditions. On the west side earthworks and some buildings are complete for what will be a form of Travelator connection up the hill to the University complex. I then caught IC3 7029 to Rosh HaAyin. Only one track is still laid under the two openings of the road bridge; doubling should be relatively simple, though the available space for this appears to be on the north side at some stretches and the south side at others.

At Bnei Berak G12 125 stood near the throat, and on the headshunt at the level crossing end stood two of the few remaining four-wheel ballast hoppers, 24 001 Resh and 24 038 Resh. We crossed 707 on 450 / 449 / 409.

At Petah Tikvah Segula the second platform has now been built on the loop on the south side. The junction for Kessem looked complete, the line diverging left as we commenced the curve right to Rosh HaAyin station Plat 2., where 7237 was waiting in the other platform and trolley 988 on the third track. 7237 (from Plat. 1) then formed the 10.15 back to Tel Aviv, implying that

units have a half-hour wait here. At Bnei Berak we crossed 707 pushing 409 / 449 / 450 heading back for Rosh HaAyin. Arrived HaShalom station 10.50, where this train terminated (to run e.c.s. to Lod) and where work was in progress on building a second island platform on the Ayalon side.

737 headed southbound on 641 / 74 / 620 / 624 / 71 / 622 / 113Bet / 638. I caught 7035 north to Haganah, then 755 came in on a service from Ashdod, arriving TA 11.04 and reversing in Plat. 1. (The siding at the north end was now empty - earlier three IC3 sets had been noted in it.) Transferred to the 11.08 to Binyamina, D/D set. At 11.20 a G26 in green livery passed us southbound near Herzliyya on a container train.

At Hadera W. loading was at work at 11.42; wagons included 60 140 Tet, 70 149 Shin, 70 064 Shin, 70 001 Shin, 70 016 Shin, 70 324 Shin, 70 013 Shin, 70 335 Shin. 731 passed south on 79 / 629 / ... At Bat Galim 749 headed south at 12.22 on 623 / 640 / 635 / 80 / 77 / 609 / 82; trolley 741 was in the bay Plat 1a. Arrived Merkaz 12.25; 113 was shunting the Dagon sidings, and brought its rake into Merkaz, Plat 2, comprising 60 043 Taf, 60 009 / 048 / 501 / 104 / 055 / 025 / 520 / 105 Taf, and 66 007 Taf. It then ran round using Plat. 1. Crane 11 and a trolley were in Plat. 3 and then headed for the Dagon throat to recommence work on relaying the two sidings nearest the main line.

Tues. 25th. Feb.

This was a further day of heavy rainstorms throughout the centre of Israel, and heavy waves along the coast. In addition, Jerusalem was cut off by snow blocking all roads.

At Haifa Bat Galim, the 09.46 northbound was 788 on / ? / 642 / 639 / 606 / 111 / Generator.

I caught the 09.47 Bat Galim to Lod, 742 on 632 (Generator), 602 / 617 / 75 / 117 / 611 / 76 / 116.

At Zikhron Yaakov there are still two loops on the west side of the line, opposite the (now disused) station building; 19 bogie hopper ballast wagons stood here, presumably worked from the Binyamina quarry, amongst stacks of sleepers and rail panels. The quarry is still busy and the sidings filled with hopper wagons. At Binyamina (km. 41) an industrial estate is being built on the west side of the station. There are still two short tracks to the P-Way trolley shed, three platform lines and two loops on the west side - no sign of any freight traffic here at this time, though a G12 acting as 'Binyamina Pilot' stood on one loop. A train of D/D's for Ashdod Darom stood in Plat. 3.

The line from Remez Junc. to Hadera E. looked in use - it is apparently still served by a daily freight; on Sunday it had appeared a little rusty but this followed a weekend and some rain. In the scrap yard on the E. side of the line the severed hulk of half a wooden PR coach is still, amazingly, there in the grass. The large shed on the west side of the line just north of the level crossing at Hadera W. is largely dismantled, just the frame left. At Hadera W. there are again three platforms, with a loop on the west side (and another, disconnected) used for loading and unloading containers - there were stacks of the things and ten flat wagons. Noticeable at Beit Yehoshua are the vast car parks, well-filled - on the west side a solitary shortened siding still



Haifa Railway Museum's newest acquisition, a 25 Resh ballast wagon.

remains, accessed from the north. There are two trailing crossovers.

At Herzliya the level crossing just north of the station has been closed with metal crash barriers, and a new road overbridge crosses the line at the south end of the current platforms. The red footbridge is getting a bit faded, the wooden platforms look rickety. Work has begun on new concrete structures just north of the current station - the new replacement. There is a third track for freights, and a further loop, but although the old tipper between the tracks is still present and a mechanical digger stood by, the unloading line looked disused and semi-overgrown.

At Haganah (11.00) we crossed 7026 / 7023 heading north. Near the Shapirim Interchange the two tracks diverge slightly to pass under the road bridges, and here the works for the underpass to Ben Gurion were in progress - the Tel Aviv-bound road lane has been kinked temporarily outwards to make more space for the building vehicles and the machines to construct concrete walls, which are then excavated to make the new trackbed.

The former Sarafand Junction has almost disappeared - the branch has been disconnected, the derelict former signal box demolished, a bit of track is visible running parallel to the main line and the curve to the south can be made out. On curving into Lod the line crosses a new road underbridge; there is no sign of any new halt serving the now-extensive suburbs. The former main line north has been relaid. (At the point where the Jerusalem main road crosses it, further north, there was new ballast but no track).

At Lod the station is being refurbished - new signs going up to replace the former ones, some platform resurfacing etc. All four platforms remain busy. The old water crane has been "restored" and left in place in an inset at the south end of Plats. 1/2. From the platform a good view can be had over the relaid and reorganised former Loco Yard, now including sheds for IC3 units, for D/D trains, sidings for Permanent Way vehicles etc. At the south end of Plats. 3/4 a row of ticket barriers has been built, and a new ticket office.

We arrived Plat. 2. 747 arrived on a train of D/D's to Ashdod in Plat. 4, 745 stood in Plat. 3. In the yard stood a Co-Co on a southbound container service,

and a rake of bogie ballast hoppers. From here, with Sybil Ehrlich, I caught the 11.26 Lod - Beersheba service, formed of IC3's 7025 / 7021 and '188 7009' (the latter in its 'Emek Cheese' overall advertising livery), and stood in the cab getting good forward vision.

The line is still single to Na'an; the new Ramle station looked complete but not yet opened, a single platform, in yellow paint, on the south side of the line, some 200m. before the former station (still visible but largely demolished). The former spur left to the cement works is almost totally invisible, new roads and bridges cover the area, a solitary signal stands amidst the grass, there is no point and all track appears recovered.

At Na'an the station has three tracks but the siding to the old trolley shed (still standing) had been removed. Electric signals replaced the old semaphores (a bracket signal from here is now at the Museum). As we entered from the north 7215 and another IC3 entered from the south - good time-keeping. The refurbished line to Jerusalem curves off, protected by a red track derailer by the junction.

The line to Beersheba remains single. Km. 0 is at Na'an. At km. 5.7 a new overbridge and embankments for the Trans Israel Highway are under construction. We paused at the Level Crossing at km. 9 as one of the barriers had been broken off. A bridge was noted at km. 11, a signal at km.14.4 and a loop at km. 15.5. There is a L.C. over a country road at km. 23.5. In addition to Devira and Kiryat Gat there are loops at Ahuzam at km. 40, Tel Nagila at km. 47 (we crossed three IC3's), Lehavim at km. 64 (crossed a crane and P-Way trolley). At Kiryat Gat Burro Crane No. 9 and flat wagon 40.102 stood outside the small P-way shed; the siding to the silo is still connected, other tracks no longer. An IR container was marked or "neutralising materials", presumably for chemical spills. At Beer Sheba Tzafon, the former 'only' station in town, the station is basically unchanged on the south side of the track on a loop off the main running line, and a single platform. The new Beer Sheba Universita station a little to the north (though no signs were seen) will probably replace rather than supplement this. (The ticket machines referred to elsewhere refer to Beer Sheva Merkaz and Universita, not to Tzafon.) The town has expanded significantly in recent years northwards on both sides of

the line, and there are new road underbridges.

G26 No. 608 stood alone on one loop, the container depot looked empty of stock, one rake of hoppers filled the rear siding. Crane 003 and bogie flat 1232 were present. On the right on departing, past the wagon works, several vehicles were under repair; the hulk of a BR Mk. 2 (No. 683) was also in one track here, and the gutted remains of a G12, No. 110. The story here - obtained later from Evyatar Reiter - is that the coach was used in an army training exercise at Tel Nagila in Sept. 2001, involving a "hostage on train" scenario, and was then moved here for breaking up; the loco was sold by tender to a Canadian firm ("Canadian Allied Diesel") who have taken the Prime Mover and other parts away in a container, leaving the remaining hulk to be scrapped.

As we departed and passed the Ramta works, diverging right onto the new line to Merkaz, a northbound freight could be seen approaching from Dimona with a G26. From the single line to Beer Sheba Merkaz the old Turkish viaduct can be made out at a couple of points. Two very different eras! The station comprises two side platforms, tracks diverging on the road underbridge before the throat, from whence a single siding also tails back. Expansion to a third or even fourth platform on the outer faces would be relatively simple. The station building is of stone and quite substantial, a circular hall with side 'nave' for the ticket office and an arched entrance to the platforms which are at a slight angle. Outside, a city map already showed the third side of the triangle by Ramta, even though there is nothing to be seen on the ground !

The 14.03 from Beer Sheba was formed of 753 pushing 405 / 437 / 429 / 430.

The heavy rain had created a paddy-field effect in places; all culverts and drainage ditches were filled with rushing streams. The Ayalon channel was almost overflowing on this day! Occasionally one reads in old PR reports of "washouts", and on this day one got a good impression of what might have occurred.

At Lod we rebooked for Ashdod. Track is double to Rehovot, and a headshunt from the depot runs parallel for some hundred metres - until a

level crossing - linked by crossovers. At Beer Yaakov a bridge and some embankment works for the Rishon line were seen curving off to the west, south of the station. At Rehovot, a Binyamina service was seen comprised of 466 / 440 / 442 / 441 with 745 at the rear. The former station building has been "re-built" and there are now three platforms, with the Plat. 1 still unusually on its loop from the main running line. A subway links the platforms. The line is still single beyond Rehovot but doubling works are under way around Yavneh (still only a single platform on the west side) and even a short stretch seems to be being realigned with a new cutting that might be intended for two tracks cutting across one curve. At Ashdod station itself there was a scene of great activity; the former line into the low platform next to the dark blue corrugated-metal building has been almost totally covered with a new high platform, adjacent to which is a brand-new high island platform. Track was at this date only laid into the outer face of the new island platform - I assume Plat. 3. The 'old' (not so old really) station building was still in use, but under construction were new buildings on platforms, a bridge etc. This will be a hi-tech 3-platform passing/terminal station, akin to Rehovot, when the service is extended to Ashkelon. A freight track still runs past the passenger platforms.

At Rehovot on the return journey were noted 750 on 443 / 444 / 445 / 407, ready to form the 16.44 to Binyamina, and 755 on 451 / 456 / 455 / 411. Both locos at the south end.

I caught the 16.44. At 17.05 749 and 788 were standing at the TA Darom sidings on rakes of (unidentified) Yugoslav coaches, and 742 on 632 / 602 / 75 / ? / 611 / 76 / 116. The train filled up totally at T.A. Haganah and Hashalom, with commuters. At 17.30 a southbound freight passed Beit Yehoshua; at 17.43 my train halted in the dark at Kfar Vitkin (unscheduled) - in the middle of thunder and lightning - and did not move off until 18.04. On arrival at Binyamina (Plat. 3) we waited only a short while for our connection which had also clearly been delayed - it comprised 749 (see above) on 619 / 82 / 77 / 80 / 635 / 618 / 628 / Generator 623.

At Hof Carmel 7211 was noted, lights off, standing in bay Plat. 1.

Wed. 26th. Feb.

Travelled from Bat Galim to Merkaz (single: 5.50 NIS). The 07.40 from Bat

Galim was formed of 'top'n'tail' set, comprising G12 loco 113 on 631 / 643 / 115 / Half-Generator 53 / G12 loco 117. Trolley 739 was at the buffers on Plat. 1a.

(On the building on the corner of Atzma'ut and Khayat Streets is a metal plaque commemorating a bomb attack on 29/9/1947, employing a flat-bed lorry.) Thence by Carmelit to Merkaz HaCarmel. Traffic was very quiet.

In the afternoon - travelled to see Lev HaMifratz and Hutzot HaMifratz stations. In Plat. 3 738 was coupling onto a rake of 56 (Full Generator, no windows) / 111 / 606 / 639 / 642 / 634 / 629 / 79. It was noticeable that these coaches were in poor external state, with paint peeling on 642, 634 full of rust holes, and the door edges of 79 very rusty and corroded.

IC3 7211 was on the 16.04 "Parvarit" (i.e. Suburban) from Haifa Merkaz. The train halted (unscheduled) at Mizrach. A set was noted in sidings, 641/74/ 620 / 624 / 71 / 622 / 133 Bet / 638; also the ex-SNCF still present. 601 stood by the diesel shed, a Yo-Yo had half its bonnet removed, a G12 was cannibalised. At Lev HaMifratz 7205/7204 headed southbound; 748 headed northbound on P/P. In the scrap yard at Kishon 251, 103, a G12 and an Esslingen cab coach were noted amongst the weeds. In Mizrach Yard were two "Delek" tank wagons, apparently former USATC wagons, and coach 626. Yo-Yo 263 was shunting, 262 was under repair; noted were 115, 122, 112 and 261.

Within the Dagon silo complex, new track for two sidings had been laid almost half-way down the west side of the silo - concrete sleepers except for wood at the point. Crane 11 and trolley 987 with Flat wagons 60 027 Shin and 50 029 Shin were used for materials.

60:10

A CRANE SAGA ON THE PALESTINE RAILWAYS.

From papers in the "Ginzach HaMedinah" in Jerusalem (State Archive) can be extracted a largely fruitless debate over the need for further rail cranes. Cranes are not "revenue-earning", but they are essential both when things go right (and a new building or signal needs to be erected) and when things go wrong (whether by accident or sabotage.) Clearing up a mess is a nuisance but a necessary one - otherwise locos and wagons can stay out of service for even longer. Every railwayman knows this; but how to convince the civil servants ?

The first item seems to concern smaller cranes for civil rather than breakdown use:

In microfilm G93/108, file 371/24, GM letter ref. GM.3750 of 5th. April 1935 to the Chief Secretary:

"In the programme for 1933/34 provision of £P 1900 was made for two travelling steam cranes.

The intention at the time was to take over the two cranes from the Harbour Works but owing to the Oil Dock construction and the Jaffa Port Improvements it has not been possible to do so and, especially with the possible extension of the wharves at Haifa in view, it is very uncertain when we shall be able to take them over.

We have had to continue to use our old cranes, the boilers of which are in bad condition, and it is now essential to renew these boilers.

It is understood that the boilers of the Harbour Works cranes are in poor condition owing to the bad feed water and it was always the intention to renew the boilers when we took the cranes over. The amount in the Renewals Fund provides for this.

With your agreement I propose now to use about £P.300 of this amount to renew the boilers in our cranes....."

So an opportunity to acquire some cheap second-hand materials had been foiled by the need of the construction contractors to keep them in use, and PR would now

have to maintain its existing low-power and worn-out stock.

Item 2: The Minutes of the 'Combined Military and Civil Railway Board' of 2nd. March 1939 indicates the pragmatic approach one would expect from these people after three years of 'Arab Revolt'; derailed locos were still awaiting recovery more than a fortnight after the incidents.

"In connection with the large number of recent derailments of locomotives and rolling stock due to sabotage, the Board took note of the fact that three breakdown cranes only are possessed by the railways. There is one 25-ton crane located at Haifa and another at Lydda. The third crane (20-ton) is based at Kantara, and is, therefore, not available for salvage work in the area where sabotage occurs.

Salvage of the engines which were derailed near Qaqun on 15. Feb., and at Kilo 17 on Jaffa - Jerusalem line on 25. Feb., are awaiting certain necessary repairs being carried out on the Haifa crane.

The Board are strongly of the opinion that another breakdown crane of not less than 35-ton capacity should be regarded as an essential addition to the railway's equipment, both to facilitate salvage work by its greater capacity and in order that there may be one crane in reserve. (In all major salvage operations the use of two cranes is essential.)

The Board appreciates that it is not within its sphere to make a direct proposal that an additional crane should be purchased; but is anxious to record its opinion, in view of any action in the matter which General Manager, P.R. may see fit to take."

So the Military especially, after three years of conflict, a much higher incidence of derailments than would otherwise be expected, and another war looming, wanted at least to cover its back, or to provide the civilian railwaymen with an excuse to go ahead.; but the committee had no direct purchasing powers.

C. R. Webb, the GM, accordingly wrote on 6th. March to the Chief Secretary, (ref. 33/1/8) enclosing the above extract from the Minutes, and adding:

"A break-down crane of higher capacity would be very useful to us even in normal conditions and, of course, particularly so in the present circumstances when the occasions for the use of the crane are so numerous and when, therefore, it is more frequently unavoidable that the lower capacity cranes must be

overloaded and strained. The recent damage (now nearly repaired) to one of our cranes has delayed the lifting of two derailed engines and in a third case it was fortunately possible to re-rail without this crane.

The question of the purchase of a heavier crane has been considered before but it was not pursued owing to the high price.

I have no accurate information at present but the cost of a new 35-ton crane would probably be about £P 12,000 and since, particularly in the present circumstances in England, it would be many months before the crane could be here I find it difficult to recommend the expenditure.

I doubt if it would be possible or desirable to get a second-hand crane but it might be worthwhile asking the Crown Agents for the Colonies to make enquiries."

This seems to be remarkably negative - "on the one hand, it would be useful, indeed desirable, on the other hand, it would take a while, so let's not bother !"; Webb had been handed a bit of useful ammunition and he had failed to use it. The response from those who would have had to find the money was therefore (28th. March 1939) "...in the circumstances it is considered that enquiries should not be made of the Crown Agents... at this stage." End of discussion.

Item 3. It is not known how often the above decision was cursed in the coming years. However, by 20th. April 1942 Arthur Kirby had taken over and was giving the system a much-needed shaking; a surviving letter in the file (also ref. 33/1/8) is addressed to the D.Q.M.G. Mov. & Tn. (Divisional Quartermaster General, Movements & Transportation) at General Headquarters in Cairo. It is a response to another letter (not survived) ref. Tn.5/1742 of 8th. April. Presumably the military were clearing some stocks out of the Canal Zone or Western Desert, or were simply aware of the problems facing P.R. Kirby, of course, has to beg politely and drop hints that he cannot pay !

"A 35-ton breakdown crane is essential as a stand-by for the clearance of incidents expeditiously. I assume that in offering "another crane" you refer to Ransome 36-ton breakdown crane mentioned in the D.Q.M.G. Mov. & Tn.'s letter CRME/7601/H/2/TN(2) of the 12th. October 1941. If so will you please arrange for this to be despatched to Lydda as early as possible.

I am not in a position to purchase this crane, nor do I suppose that it was your intention that this should be done. I propose that it should be loaned to this Department under similar conditions to those which apply to the loan of locomotives.

Will you please advise me when the crane will be handed over at Kantara and send particulars to the Chief Mechanical Engineer of this department at Haifa."

The crane came, and the final item on file is Ref. R/9/47: Letter by A. F. Kirby, dated 13th. June 1947 to the Chief Secretary: "Since the year 1942 we have had on hire from the Army a Ransomes & Rapier 36-ton Breakdown Crane and several time during the war we attempted to acquire this crane outright to avoid the possibility of its being transferred elsewhere. The crane has now been declared surplus and these Railways have been given the first offer by the British Disposals Mission. Allowing for depreciation, we can acquire the crane for a sum of £P 8,000, as compared with the c.i.f. landed cost Middle East of £P 14,000.

It is absolutely essential that we retain this crane, because all our other cranes are old and unsuitable to cover present day requirements, especially to deal with the constant cases of train derailments by sabotage. I recommend, therefore, that we should acquire the crane forthwith. It is anticipated that, because of the non-delivery of materials this year, it will be possible to cover the cost from savings under Abstract 'F' of the Railway Estimates."

On 10th. July C.G.M. Heathcote, for the Chief Secretary, replied formally but positively: "I am directed to refer to your letter No. F.6/16/1 dated the 13th. June 1947, and to convey approval for the purchase of a Ransome and Rapier 36-ton Breakdown Crane for the sum of £P 8,000 provided that the cost will be met from savings under abstract 'F' of the Railway Estimates.

I am to add that although the British Disposals Mission have declared the crane to be surplus, it is not clear whether you mean that unless you offer to purchase now, it will be withdrawn without further notification. I assume that if a formal offer to purchase is expected the transaction need not be concluded until the offer is received."

(i.e. So long as it cost nothing extra, there was no objection, but it would not hurt if payment could be delayed as long as possible !)

Kirby's response was snappy and forthright - dated 17th. July 1947 - he had to deliver the Palestine Administration a quick lesson in procedure, and he did not want to let this knock-down price opportunity to be lost in mutual squabbling by the Palestine and British treasuries:

"It is not until equipment is declared surplus by the Army, or any other service, that such equipment is handed over to the British Disposals Mission for sale. The object of the Disposals Mission is to dispose of the equipment as soon as possible and to the best advantage to the British Treasury.

A formal offer for the crane has been made by this Administration by the British Disposals Mission and unless this offer is accepted, the Mission will hold itself free to dispose of the crane elsewhere."

The much-needed crane was, it seems, finally purchased.

60:11

A WHITCOMB SNIPPET

Paul Cotterell.

"I certify that MR WOLF GELBLUM P.R. LOCO INSPECTOR has been given 2 weeks training on driving and preparation of Main Line Whitcombe [sic] Diesel [sic] Locomotive.

Provided that he continues to observe the instructions he has received during his training, he is fit to work these engines.

9/9/43. (Signed) QMS Tyldesley.

Diesel Inspector TN.5 G.H.Q."

Normally I wouldn't bother with just a couple of short sentences such as those in the above memo, but even the briefest official mention of Whitcomb diesels is a rarity. Not that this one provides any enlightenment on the locos themselves !

Wolf (Zev) Gelblum began his career on Palestine Railways as an engine driver in 1921 at the age of only twenty-two, eventually becoming Locomotive Inspector on both PR and IR. He can be seen at the right of Plate 84 on page 86 of 'The Railways of Palestine and Israel', aboard Baldwin 4-6-0 No. 920.



"A grubby Baldwin 4-6-0 at the original Tel Aviv (South) station in 1936. Not the best of snapshots by any means, but it does show the severe curvature of the lines here - an inheritance from the metre gauge J&J. In the background the line curves round to the left on its way down to Jaffa. Zev Gelblum stands third from right. (Paul Cotterell: IRM Archives.)"

60:12.

ACCIDENT AT BINYAMINA ON 18th. FEBRUARY 1940.

Paul Cotterell.

A quantity of PR Accident Reports has been found at the IRM Archives. Most record minor incidents; the sort of slight mishap which happens on all railways, particularly during shunting operations. But even the most banal and benign derailment can throw interesting light on daily workings, and I hope to present a series of short articles based on these reports. They date from the late 1930's and early 1940's. The first accident to be featured here certainly does not fit into the banal category.

Summary of Accident:

On the morning of 18/2/40 an armoured motor trolley preceded freight trains Nos. 71 and 75 southwards from Haifa. They were all being worked "in convoy", this being similar to the 'permissive block system' used on British railways which allows more than one train at a time to occupy a section. Normally, of course, only one train is allowed into a block section but wartime conditions apparently demanded abnormal measures.

At about 07.25 Train No. 71, headed by Kitson 2-8-4T No. 3, became divided at Km. 44.300 on the hill between Binyamina and Hadera (this, incidentally, being near the present-day station at Caesarea/Pardess Hannah). A drawbar hook broke on PR box van No. 2024, marshalled 21st. from the engine and 36th. from the brake van. The rear portion of Train 71 ran back down the grade of 0.86% and collided with Train 75, headed by Baldwin 4-6-0 No. 879, which had passed slowly through Binyamina station at about 15 km/h to exchange staffs with the signalman and collect a "Caution Ticket". (The staff for a single line section was always with the last train in a convoy which, in addition, was issued with a "ticket" or printed form to caution the crew that something else was in the same section ahead of them). The driver of Train 75 saw the runaway approaching him and was able to get his engine into reverse and begin moving backwards. The initial collision

occurred at the Up Outer Home Signal. The crew of Baldwin 879 were unhurt, despite their engine being hit a second time by the rebounding runaway wagons. After the first impact the driver and fireman of 879 saw the guard of Train 71 thrown out of his brakevan. His injuries were "only superficial" but he was detained in hospital for observation.

Train 71 consisted of 57 wagons (mostly empties) and a brakevan: 120 axles, 543 tons. [i.e. two of the wagons must have had bogies. Ed.] The first 15 wagons were vacuum fitted and the vacuum was coupled up. Rails were wet but it was thought that "with this light load" here was little slipping up the hill. However, severe snatching occurred, with the guard "flying violently about in the brake van and ... more or less stunned in consequence."

At about Km. 44.300 the coupling hook broke on the rear end of PR box van 2024, leaving the unfitted (and therefore unbraked) rear portion of Train 71 to run back towards Binyamina. In the subsequent collision brakevan 4829 was completely smashed; ESR refrigerator van 20014, ESR open wagons 8134, 5993, 5347, 6895 and 5587 were derailed and piled up; two other ESR wagons and PR box van 2463 were derailed. Train 75 seems to have been undamaged, the brunt of the collision being borne by Baldwin 879 which was described as "badly damaged" and was worked dead to Haifa later that day.

The Haifa breakdown train and crane arrived at 13.33. The Lydda crane happened to be in Train 76, being worked to Qishon Workshops, and it was detached for despatch to Binyamina, arriving at 14.15. The main line was cleared for traffic at 15.22 on the 18th., with salvage work being completed at 05.50 the following morning.

Disruption to other traffic was severe. Passenger Train No. 1 (Haifa - Kantara) was delayed by 389 minutes, and Train No. 2 (Kantara - Haifa) by 203 minutes. Freight Train No. 72 was delayed by 362 minutes, No. 76 by 424 minutes, and No. 79 by 260 minutes.

The Joint Enquiry.

This smash at Binyamina was not the sort of minor accident which could be quietly swept under the carpet, and an Internal Joint Enquiry was convened at Haifa on 27th. February 1940. Members of this enquiry were the District Engineer, District Traffic Superintendent, and Locomotive Inspector, all of Haifa. Six witnesses gave evidence:- the driver and fireman of Train 71, the driver and fireman of Train 75, the guard of Train 71, and the relief assistant station master from Binyamina.

I do not intend to go into the details of these statements (far too lengthy). It was found that the evidence "of the Driver and Fireman of Engine No 3 on Goods 71 is most unsatisfactory" while "all other evidence is consistent and clear".

The enquiry committee, after visiting the accident site, found that the breakaway was caused by The misjudgement of Driver of Kitson No. 3 in closing his regulator when at the summit of the grade at Km. 44.300 thus causing buffering up and subsequent severe snatching."

The brake in the guard's van of Train 71 had not been applied, but it was considered that as the guard stated he was "nearly unconscious" as a result of the recorded severe snatching, and since there was no evidence to contradict this, "the committee must accept his statement as correct."

The Joint Enquiry recommended that action be taken against the driver of Kitson No. 3 on Train 71 "for the manner in which he handled his engine and the way in which his evidence was given". It was also recommended to take action against the fireman "whose evidence is also unsatisfactory."

The Wages of Sin:

So far as retribution is concerned the file is silent. Perhaps relevant papers are missing or were filed elsewhere. It seems, though, that the troubles of the unfortunates aboard Kitson No. 3 that day were far from over, as there is a definite hint that the Mandatory Government was alerted by the severity of the smash and its consequences. On 8th. March 1940 the Acting General Manager of PR, G. M. Campigli, sent a memo to three of his chief officers with the ominous information that the "Chief Secretary has asked to be informed of the extent of the damage and the financial loss involved in connection with this accident".

Also under this heading it may be pertinent to point out that the final remark recorded on the deliberations of the Joint Enquiry was that the "Committee understands that the Convoy System has now been cancelled and that normal traffic working has been restored." Which just might be as close as the notables on such committees come to collective critical self-examination and admission of complicity."

60:13.

OPERATING LMS RAILWAY STANIER 8Fs IN THE WESTERN DESERT. By Bren Campbell.

This article appeared in the "Black Eight", journal of the 8F Locomotive Society, No. 111, Summer 2002, pp. 32f.

It is noted as having been initially produced for the New Zealand Railway Operating & Construction Group (2nd. N.Z.E.F. 1940-1943) publication. The Royal New Zealand Engineers were responsible for the construction of the line from Similla (near Mersa Matruh) to Belhamed, and the operating of trains from Alexandria to Belhamed. They relieved the 10th. Royal Engineers at El Dabaa (in 1941) who for a period were under the command of Lieut.Col. A.F.Sage, and working the line from Alexandria to El Dabaa in 1942.

"My copy of the 'Model Engineer' Vol. 82 No. 2027, Thursday March 14, 1940, price sixpence in UK, one shilling and threepence in N.Z., was prophetic in the direction that my life was to take through the next three years. On p. 272 was a diagram and description of the class of steam locomotives that the British War Department was ordering for service in war affected countries. In the latter half of 1940 my unit, the 16th. Railway Operating Company, Second New Zealand Expedi-

tionary Forces, was located on the El Dabaa - Mersa Matruh section of the Egyptian State Railway. There we worked war supplies and troop trains with a selection of relatively time-expired Egyptian State Railways 2-6-0 locomotives.

Toward the end of 1940 we made our first hands-on acquaintance with the newly-arrived Stanier 2-8-0 class 8F's that we duly dubbed "WD" class to distinguish our references to them from the locomotives to which we had become accustomed. As numbers arrived we noted that they came from the works of North British, Vulcan and Beyer Peacock.

At the time we left New Zealand we had only just come to terms with the home-workshops-built new "Ka" and the newly imported North British-built "J" classes of locomotives. When we met face to boiler front with yet more new engines, the smell of new equipment was still in our nostrils and comparisons were rife. The boilers, cylinders and valve gear technology broke even, but the operator convenience and comfort suggested that staff in Britain must have been easy to recruit and retain.

...
A tour of inspection revealed a pleasing profile. All-welded steel fabricated smoke-box saddle and frame braces, a central dart and clamping screw to secure the smokebox door, neatly designed Walschaert's valve gear, running board mounted sand boxes and twin mechanical pump lubricators for the cylinders and driving axle bearings. The tender was carried on six wheels. In the cab with similar working space to that of the "K", things were very plain. Left hand drive, central swing across throttle lever, screw reversing with 13 turns from forward to back gear with a percentage valve travel indicator. This reversing system became quite laborious when the engines were used in train marshalling yards. There were two boiler water level gauges each with the water and steam cock levers linked by a tie rod, a whistle valve hand lever near the cab roof and a chimney blower valve mounted above the fire door. Twin steam valves high up on the boiler front served the left and right injectors mounted beneath the footplate. Their water metering valve stems projected up through the floor to below the windowsills. There was a sliding ventilator in the cab roof and spring-loaded fold-up wooden seat boards for the driver and fireman. A concession to comfort was made by having circular depressions turned in the seats.

The gap between the engine cab and

tender was closed up to breast height by spring loaded folding doors. On the tender was the screw hand brake, the two open/shut water cocks for the injectors and an excellent feature in the form of a long horizontal tunnel within the curve of the coal bunker side for the accommodation of the fire irons. The vacuum brake systems were something new to us. They consisted of large and small steam jet vacuum exhausters with single lever train and engine brake controls and vacuum serve cylinders that actuated the engine and tender steam brake valves. The exhausters and control equipment consisted of compact unit assemblies mounted on the driver's side of the boiler fronts. The exhausters discharged via long pipes from the cabs to annular rings cast into the main exhaust blast pipes. The smaller of the vacuum exhausters was used when working on-brake fitted trains, while the larger was brought into play on trains with brake equipment.

The spring suspensions on the engines were not compensated between the axle boxes but they rode well over some quite bad track irregularities although the axle boxes would bump against the tops of their guides at the limits of their travel. The cabs were relatively rattle free.

The boilers were very free steamers compared with the performances of some of our NZR engines that bore narrow furnaces. They could and did blast up 19km. 1 in 200 grades with up to 1300 tons behind without steaming difficulties. Over the mainly flat terrain steaming was easy and they were economical on fuel and water. Most of the coal was imported Welsh slack which the British engineers described as being very poor stuff, but we found it quite good compared with our own Waikato coals. Coal from India and South Africa was imported for the E.S.R. and sometimes this comparative rubbish got fiddled onto us. There was no electrical equipment on these engines. No water gauge or steam pressure gauge illumination, we carried kerosene lanterns as part of our tool kits. The fire grates did not have hinged drop sections, the firebars were cast in pairs and we hooked out two or three pairs when cleaning fires. The ash-pans were deep with flat floors, no hopper doors, open at the rear ends and had to be raked out following fire cleaning. The fire doors were split sliding type with manual levers. For obvious reasons at night times the drivers opened and closed the doors for their firemen between each shovel of coal. We kept the bottom slides of the doors well oiled.

Starting and stopping the boiler feed water injectors was a bit of a chore compared with home practice. First one opened the water valve on the tender, opened the steam valve on the top of the boiler front, checked the injector overflow to see that it was working dry and finally adjusted the feed rate by the control in front of the fireman's seat. The minimum setting satisfied most boiler demands for water.

Other differences that were notable, were the very feeble chimney blowers of the British engines, the absence of the pant of Westinghouse air pumps and no singing turbo electric generators. The vacuum release valves on the external steam pipes to the steam chests were upside-down to those on N.Z. engines and remained shut unless sucked open when drifting with the throttle closed. At low speeds they would clatter open and shut. On first opening the throttle there was no "phutt" which was a characteristic of our home engines. Another novel feature to us was a jumper ring in the main exhaust blast-pipe nozzle. This was an annular valve that lifted at a predetermined exhaust back pressure and opened a ring of holes in the throat of the blast nozzle to divert some of the exhaust to a larger ring of holes that discharged above the nozzle back into the main jet.

These engines were normally very free from steam leaks and we took care to maintain them that way. We had only one fill up with supplies, nine tons of coal and twelve thousand gallons of water 4,000 in the tender and two 4,000 gallon tank wagons or water batteries, to see us through the out and back journeys. The round trip usually took two to four days depending upon enemy air activity against the railway, and accidents. Five to eight trains a day were worked to the railhead. There were usually 60 to 65 four-wheeled wagons that made up to 1200 to 1300 tons gross. The railhead bound loads were every kind of war supplies, petrol, aerial bombs, armoured tanks with their crews, and troops with their equipment. On the homeward trips we brought out troops being relieved and battle wreckage. Captured enemy fighting equipment and prisoners of war were brought out under heavy guard. We ran ambulance trains to clear out forward casualty clearing stations.

Dust storms that could be active from two to five days played up with our eyes, breathing and guts. The air-borne sand took its toll on the engine crosshead slippers and the piston rod packing glands that blew like gunshots. By the second day of running. In normal serv-

ice crosshead slippers and brake blocks were replaced about every two weeks.

Through 1941 the supply line was extended westward about 370kms. with railheads established at Mashiefa, Fort Capuzzo and a point 19 km. short of Tobruk. Construction progressed or halted as the war front advanced or retreated. From Similla near Mersa Matruh the then Egyptian Railways railhead and port, the Western Desert extension had to make its way up 30 kms. of circuitous track on a rising grade of 1 in 120 to gain the height of a plateau about 10 kms in from the coast. This grade was not steep by New Zealand standards but testing enough with sixty to sixty-five non-braked wagons. They were loose coupled and depending on whether the three link chain couplings were in tension or the buffers in compression, a train would vary in length by 100 feet.

From Similla, banking locomotives assisted the trains. This practice served two purposes. The first was a safety measure in case of coupling failure on the 30 km. climb, and the other was to help conserve the train engine supplies that were just adequate for the round trip. At start off when the signal to proceed was given, the pusher engine started first and nudged the train against the lead engine which then gradually opened up to take its share of the load. At Mohatfa crossing station, at the top of the grade, the helper engine was unhooked and the lead engine alone took the train over the remaining 130 kms. to the railhead.

Living on locomotives on rough rations and no spell out of one's work clothing for up to four days did put one's enthusiasm for railway working to the test. At the rail head, the trains were given over to the dispersal crews and servicing gangs took over our locomotive to clean the fires, trim the remaining coal forward, reverse the water batteries, oil the engines and turn them on the triangle ready to return. The homeward runs usually accounted for about one third of the time for the round trips. After twelve to eighteen hours break crews were again booked on for another round."

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60:14.

CONSTRUCTION WORKS IN THE CANAL ZONE.

From Martin Allen I received a copy of "Pay on Constructional Work by the Directorate-General of Works, Air Ministry, in the Middle East, 1939/1945", by Franklin Leonard Fay, M.C., A.M.I.C.E. (and former Air Commodore, RAF). It describes various problems connected with the establishment and construction of airfields, especially as regards differing (and mostly unsuitable) soil conditions, problems of drainage, water supply, power supply etc. etc. Unfortunately the source is not given but appears to be from the Journal of the Institute of Civil Engineers, possibly from the 1950's, and the pages I have are numbered 225-234.

From 233f.: "The cost of R.A.F. works in the different sectors of the Middle East Command varied considerably. In no case did it approach costs in the United Kingdom, except possibly in Palestine where labour rates are comparatively high.

In spite of transportation costs of imported materials from abroad, it would appear that the average total expenditure on any one major service in the other sectors of the Command was not more than one-third of the cost of similar types of construction in the United Kingdom, and the rate of construction was not inferior.

Much of the unskilled labour in Egypt is imported by labour contractors from Upper Egypt; the labourers work in small gangs under a headman on task work. They are usually accommodated in tents on the site of the works, or find their own accommodation in the nearby villages, and are supplied with the necessities of life through their conditions of contract. Their feeding is, therefore, usually no concern of the main contractor or, in the case of direct labour works, of the Department.

A measure of the value of a Saida labourer can be judged when it is realized that his task for instance in a levelling operation would be to excavate desert land and deposit that material into skips at the rate of 3 cubic yards per working day, and perhaps 30 per cent of that material would require to be loosed by a pick. For that task he would be paid about 7 piastres a day, the equivalent of 1/5d.

The actual cost of the extensive earthworks on one of the new Canal Zone stations in Egypt, involving approximately 750,000 cubic yards, was less than EP 20,000, and the only mechanical plant used, and indeed available, was a system of decauville track, locomotives and tip-trucks. That task was accomplished with a labour force of 1,500 men in rather more than 4 months; the greatest depth of excavations was 30 feet."

60:15.

THE DIESEL GIANT MAKES ITS DEBUT.

This is an article by Sh. Ben Miriam which Giora Goodman of Kibbutz Kfar Hanassi found in the Hebrew newspaper "HaDor" (NOT "HaDoar", which was a different publication) of Sept. 22nd, 1952. The translation is courtesy of Sybil Ehrlich, who writes the following introductory comments:

"This article is a marvellous picture of railway operation - and life in Israel - exactly 50 years ago. Some of the descriptions seem a little muddled, though. The 'professional colleagues' were presumably fellow journalists - our man obviously hoped for a scoop. Since he had only "a few moments" to jump on a steam train to Jerusalem, it must have been very close behind the diesel.

This very loco, 102, is now at the Haifa Railway Museum. One hopes it has happy memories of its first trip to Jerusalem!

The track laying at a rate of a kilometre a day seems incredibly fast. Is this usual? The line from Hadera to Tel Aviv North (Bnei Berak) opened of course May 14th. 1953. (Israel's fifth independence anniversary. Ed.) The 'parade ground in Jabotinsky Street' presumably disappeared under the new Tel Aviv Central station, which opened on November 4, 1954."

[It appears the loco hauled freight up to Jerusalem and took a passenger train down to Lod again. Ed.]

“The Diesel Giant Makes its Debut.

Successful maiden voyage - Joy in the Hartuv transit camp. Saving in Fuel and Personnel - Additional stations in Tel Aviv.

The journey to Jerusalem by train is nothing new. The first train ran to the capital 60 years ago, pulled by a steam locomotive. This occasion was the first experiment to take a diesel locomotive through the Jerusalem hills. I must confess that at first I didn't have any luck with it. When I arrived in Lod by train from Tel Aviv and met, by chance, professional colleagues, I wasn't too happy.... The freight manager, who was responsible for the maiden voyage of the freight train, refused my request to travel. He was not authorised to take a stranger with him on the trial run. He didn't yet know how things will go and whether the experiment would really succeed. I had no alternative but to use the few remaining moments to jump onto a train heading for Jerusalem with two steam locomotives.... and when I had arrived I was embarrassed to go back 'empty-handed'. To my joy, here I was lucky. While I was at the taxi rank I phoned the railway station to ask if the diesel train had arrived. When I was answered in the affirmative, I went to the station. This time things were different. The freight supervisor told me joyfully that the experiment had succeeded and even reached a record speed. For the first time a 16-wagon freight train had made the journey with no problems.

The Giant Cries Out.

Those passengers from Jerusalem who arrived at the Jerusalem station that afternoon were surprised by the sight of the locomotive, a clean and polished giant with no sign of smoke no steam escaping and no fire bursting from it at intervals. Now I could see the number clearly: 102, in a clean glass frame.

The large crowd 'explored' and 'examined' the new vehicle, that stood proudly like a 'bridegroom'. Only its whistles forced the passengers to get into the carriages, and others to stop their automobiles, and all movement around the station halted as people thought they had heard a warning siren. When the train moved, the immigrants living in the transit camp of Mekor Haim and Talpiot, together with their children, waved their handkerchiefs in greeting - and even the inhabitants of the neighbouring country (as you know, part of the track goes through no-man's land) who heard the 'warning sound' and saw the new locomotive, stayed in their houses and closed the shutters.

The Celebrants.

The real 'celebrants' were the residents of the Hartuv Transit Camp [A 'Ma'abara', where Bet Shemesh now stands. Ed.], of whom some were privileged to see the new locomotive hauling the freight wagons. Now all the transit-camp residents stood alongside the railway tracks, as far as the local sta-

tion, and greeted the train with 'Welcome!' and 'Shalom!'

At Hartuv station the train had gained 11 minutes, although it was forced to wait, but it managed to gain a further 10 minutes by the time it reached Lod. To the disappointment of all the passengers, the timetable has not been updated, and they had to wait about 10 or 12 minutes until the train left (now with an ordinary locomotive) for Tel Aviv.

Advantages and Disadvantages.

There is no doubt that it will be economical - it needs only one-eighth of the amount of fuel that an ordinary loco does. There is no need to fill it with water, and no need to heat it in advance. There is also a great saving in personnel.

The track in this country was built decades ago. The weight of the rail is 35 kg. per metre, and the number of sleepers is 1,450 per km. The track was built for the locomotives of those days. And things are not so simple. There is a problem of coach axles that can make only a certain number of revolutions in a given time, and even the matter of couplings (the connections linking the coaches) is a whole chapter in itself. From this you can understand that the maximum speed must be limited, not based just on the full strength of the new locomotive. However, even now, in its 'ordinary trips' it will doubtless be competitive with automobiles at 70 km. per hour.

Everything Taken into Account.

The railway management, eager to improve rail transport, has taken all the defects into account, and in building the new track from Remez Junction in Hadera, south to Tel Aviv, has laid more solid rails. They were bought in France. They weigh 46 kg. per metre and the sleepers are closer together - 1,720 per kilometre. The tracks are now being replaced between Haifa and Remez Junction.

There is only one cause for regret - there are not enough locomotives. These locos work 24 hours a day (with different crews), according to the railway workers. But they hope that with the signing of the reparations agreement with Germany, foreign currency will be budgeted for the purchase of additional locos.

Hadera - Tel Aviv Line in 3 Months.

The coastal line, whose construction started when the state was established, is almost finished. This line will pass through old-established settlements. The track is already laid, and the rest of the preparation (filling-in, embellishments, from Remez Junction to Netanya to the north [sic] and from Tel Aviv to Herzliya. The sleepers have already arrived for this section, and in the next few days they will be laid along the embankment (about 20 km.). The track workers lay a kilometre a day - but the supplementary work (laying sleepers, strengthening with stakes,

spreading ballast, etc.) needs more time.

Thus the final preparations are being made for moving the additional line from Tel Aviv North station (through Wadi Musrara [Nahal Ayalon] to the parade ground in Jabotinsky Street. This work won't be completed for another year. The railway engineers are continuing to study plans for the construction of the future Tel Aviv South station from the Avoda neighbourhood. This station needs to be moved to Wadi Musrara.

A New Station on Thursday

A temporary passenger station was opened at South Tel Aviv, where the freight platform is. For the first few days passengers will be able to enjoy only shelters and a few benches, but eventually there will be a proper passenger station there.

By Sh. Ben-Miriam."

60:16.

THE BAGHDAD RAILWAY.

From the 'Railway Magazine' of April 1941, Vol. 87, No. 526, pp.145-148; At this time the links were still very new, and it is in a way surprising to read this article published in the middle of wartime. One wonders what has changed by the present war! The place names are those in the original article.

"A railway project first mooted nearly ninety years ago, and begun fifty years ago, was not brought to completion until July 17, 1940, when the final link in the Baghdad Railway was opened, south of Mosul, and through running for the first time became possible between Haida Pascha (Istanbul) and Baghdad. In the 1850's a concession to build a line from Alexandretta, at the north-east corner of the Mediterranean, to Baghdad, but considerable delays occurred in beginning the work, and after a large British interest had been obtained in the Suez Canal, the Euphrates Valley scheme was allowed to drop. It was Germany that next evinced a pointed interest in the development of railway communication in the Middle East, and after a second visit by the German Emperor to Abdul Hamid in 1898, plans were made to extend the Anatolian Railway from its terminus at Konia, in Asia Minor - due north of the western end of Cyprus - via Aleppo to Baghdad and Basra. The first railway in Anatolia had been built by a French company, from Haidar Pacha to Ismid (58 miles) in 1873, and from 1880 had been leased to a British company; in 1889 it was taken over, on the formation of the Anatolian Railway Company, by German interests and a 312-mile extension to Ankara

was opened at the beginning of 1903. The first German proposal was to extend the Ankara line south-eastwards to Baghdad, via Kaisarie, Sivas and Diarbekr to the head of the Tigris valley, and to build a branch from Eski Shehr, on the Ismid-Ankara section, to Konia; but whereas the latter was completed in 1896, the Ankara - Baghdad scheme was not proceeded with. Instead a formal concession was obtained in 1902 to extend the Konia line to Baghdad, but it has taken another 38 years to bring the proposal to completion.

The Baghdad Railway Company was incorporated in 1903, and work began at once. From the start, however, it was destined to be held up at two key points owing to the extreme difficulty of the terrain in the Taurus and Amanus mountains, immediately west and east respectively of Adana, at the point where the route makes its nearest approach to the Mediterranean; incidentally, for strategic reasons, Turkey favoured the keeping of her main routes inland, in order to protect them as far as possible from attacks delivered from the sea. Political complications caused further delay, and after the opening of the Konia - Boulgourlou section in 1904, seven years elapsed before the opening of the Boulgourlou - Ulukisla section in 1911, bringing the line to the western side of the Taurus. Between the two last-mentioned dates a new company had been formed, called the 'Société pour la Construction des chemins de Fer de Turquie', with headquarters in Switzerland, and a board consisting of 5 Germans, 4 French, 2 Swiss and 1 Austrian member. Next the Dorak - Adana - Mamoure section - which incorporated the already existing Yenice - Adana section of the old Mersia - Tarsus - Adana Railway, opened in 1896 - was opened between the Taurus and Amanus ranges, in 1912; and at various dates between 1912 and 1915 further sections were opened carrying the line from Islahie, east of the Amanus to Ras-el-Ain, near the eastern border of Syria. Branches had also been opened in 192 from Mouslimie to Aleppo, and a year later from Toprak Kale to Alexandretta, and construction had been begun at the Baghdad end by building a line from that city up the Tigris to Samarra. Much of the later construction had been held up by financial difficulties resulting from the Balkan wars of 1912-3, but on the entry of Turkey into the world war at the end of 1915, the German Government took matters over, financing the construction, and making a serious effort to tackle the difficult gaps through the Taurus and Amanus mountains.

The Germans first laid Decauville or 2 ft. gauge railways through both the mountain gaps, and pushed on with the standard gauge construction to such purpose that opening throughout was completed in October 1918, less than three weeks before the British occupation of Aleppo. Also the main line had been extended eastwards from the previous railhead at Ras-el-Ain to Nisibin; while the British, who had obtained control of the Baghdad end by the spring of 1917, had extended this section as far as Shargat, 186 miles north of Baghdad and 60 miles south of Mosul. A gap of 174 miles, between Nisibin and Shargat, thus remained in 1919 to be bridged, and over much of this distance the earthworks were completed. The length of line open from Konia to Nisibin was 684 miles. However, the gap was widened by the dismantling of 54 miles of the Baghdad section north of Baiji. Early in 1919 British forces assumed control of the Anatolian Railway, and in October of that year established an express service between Haidar Pacha and Konia; by the end of 1923, however, the administration of the system had passed into the hands of the Turkish Government, which in 1928 purchased the rights of the old company, and of the Mersina - Tarsus - Adana Railway at the same time.

Of the former property of the Baghdad Railway, the Turkish Government took over the Konia - Yenice section, and finally, in March 1933, the French handed over the section from Adana to Fezipasa. The French, however, with their mandate of Syria, were responsible for working the line east of Yenice, and various companies were formed in succession for purposes of administration. In 1933 the railhead was extended eastwards from Nisibin to Tel Ziouane, and the Iraq Railways Motor Service linked the two portions of the line with a service between Tel Ziouane and Kirkuk; Kirkuk, however, is not on the Tigris Valley line but on a metre-gauge line well to the east of it. Further extension to Tel Kotchek, on the Iraq frontier, was completed in 1935. The railways of Iraq had meanwhile remained the property of the British Government, but administrative responsibility was assumed by the Iraqi Government in 1923, and a formal transfer of ownership took place in 1936. Shortly afterwards the closing of the last remaining gap was taken in hand; the section from Tel Kotchek to Mosul was opened at the end of March, 1939, from Baiji to Qayarah in January, 1940, and the remaining Mosul - Qayarah section on July 17, 1940. As each section was opened, the Iraq Railway motor service was accordingly shortened.

The major engineering works on the route are those on the Taurus and Amanus mountain sections. On the former the railway, after crossing the Anatolian plateau at an average altitude of 3,000 to 3,500 ft., crosses the mountain range at 4,845 ft. before descending to Yenice, which is only 100 ft. above the sea. On this section there are 12 tunnels with a total length of over 7 1/4 miles, mostly through hard limestone which has needed no lining; the longest is one of 2,300 yd. The biggest viaduct, that of Giaour Dere, has three 98 ft. 5 in. spans, three of 39 ft. 4 in., four of 32 ft. 10 in. and one of 19 ft. 9 in., and in its 705 ft length carries the rails 226 ft. above the floor of the gorge. It contains 23,500 cu. yd. of ashlar masonry, and the line at this point is on a gradient of 1 in 52 1/2. At Adana, the Sheihun river is crossed by a steel girder bridge with a principal span of 315 ft and four 177 ft. spans, carried on masonry piers which in their turn are founded on oak piles driven in coffer-dams of sheet piling. The Tikun bridge, also near Adana, is similar but smaller, with

four 164 ft. spans. beyond Toprak Kale, the junction for Alexandretta, the line rises again to get through the Amanus mountains, and in the 21 miles between Marmoure and Islahie there is further heavy engineering work. At an altitude of 2,500 ft. it passes through a tunnel 5,365 yd. (over 3 miles) long, the total length of tunnel on this section being 6 miles. On the descent eastwards a viaduct of note is that over the Here Dere gorge, carried on steel trestles, with five spans - three 243 ft., one 131 ft. and one 46 ft. - at a maximum height of 279 ft. above the valley floor; the gradient here is 1 in 67. Finally the River Euphrates is crossed near Jerablus by means of a ten-span steel viaduct, each span being 262 ft. long. The connecting link of line most recently constructed involved little heavy work except for some major bridges and also on the 30-mile section southward from Mosul, where a good deal of rock excavation was needed, and a tunnel 1,039 yd. long. The deepest cutting has been carried down to 61 ft., and the largest embankment is 84 ft high.

The later development of the Haidar Pacha - Konia express service, first introduced in 1919, is the Taurus Express, which was inaugurated in 1930 with International Sleeping Car Company's stock, as an extension into Asia of the Simplon-Orient Express. At first it ran only between Haidar Pacha and Aleppo, with a rail connection to Tripoli on the Syrian coast (and thence by road and rail to Palestine and Egypt), and an air connection to Baghdad, but later it was extended to Nisibin, and was connected with Baghdad via the Iraqi motor service to Kirkuk already mentioned. By May 1935, when the Taurus Express was further extended to Tel Kotchek, new lines built by the Turkish State Railways enabled it to be rerouted from Eski Shehr via Ankara, travelling thence via Boghazkeny to Ulukisla, where the original Konia route is rejoined just short of the Taurus mountain section. Subsequent extension of the service was made to Mosul, and now at last the 90-year old dream of a through rail route from the Bosphorus to Baghdad is realised."

[Ed. adds - the dream also of course included a 'Berlin to Baghdad' element, which in April 1941 was not necessarily something to be stressed....]



Back Cover.

Photos of Iraq Railways are rare and may become rarer.....

The Editor was amazed to find this picture in "Die Welt" of 21/02/2003, p.10, showing new Chinese-built Co-Co DEM 2727 hauling DDR-built coaches, while the Father Of His People was being given a brush-up on a poster hoarding in Baghdad.

