TEK TIMES

Visitors to Tek U.K.

Steef Van den Berg, 200/400 series Programme manager, from EMC Holland, visited Tek U.K. recently to give an FE training course on the new 468 Digital Oscilloscope. Our photos show Steef putting the 468 through its paces. On the same occasion, Hans Hesselman (7000 Series Programme Manager, EMC Holland) gave a training session on

the recently introduced 5223 oscilloscope.

An unusual visitor to Tek U.K. Harpenden offices a week or two ago was this quaint delivery vehicle.* The van was here to collect instruments after repair. Hand built on a Ford framework, the van is owned by Express Delivery Services.

* (see picture bottom left).









Eastern Region's MDA specialist, Dave Barber with the first Post Office order

Tek MDA Order Breaks The Intel Stronghold

Recently, Eastern Region's MDA (Microprocessor Development Aid) specialist, Dave Barber, received the very first system order from the British Post Office.

For various reasons the P.O. is well entrenched in Intel systems and

this order is seen as a very significant one since it is hoped to pave the way for more Tek systems in the future. Dave said "This order took more work than most, but it was worth it. My secretary, Karen Thompson, gave a lot of helpful support which has proved invaluable".

When in Rome . . .

E GRAINED HARD... BUG IG SEEMED GHAG EVERY GIME WE WERE BEGINNING GO FORM UP INGO GEAMS WE WOULD BE RE-ORGANISED... I WAS GO LEARN LATER IN LIFE THAT WE TEND GO MEET ANY NEW SIGUATION BY RE-ORGANISING, AND A WONDERFUL METHOD IT CAN BE FOR CREATING THE ILUSION OF PROGRESS WHILE PRODUCING CONFUSION INEFFICIENCY AND OF ORGANISION OF PROGRESS WHILE PRODUCING CONFUSION OF PROGRESS WHILE PRODUCING SONFUSION OF PROGRESS WHILE PRODUCING CONFUSION OF PROGRESS WHILE PRODUCING SONFUSION OF PROGRESS WHILE OF PROGRESS WHILE OF PRODUCING CONFUSION OF PROGRESS WHILE OF PRODUCING SONFUSION OF PRODUCING SONFUSION OF PRODUCING SONFUSION OF PRODUCING SONFUSION OF

petronius arbiter 210 BC. ~

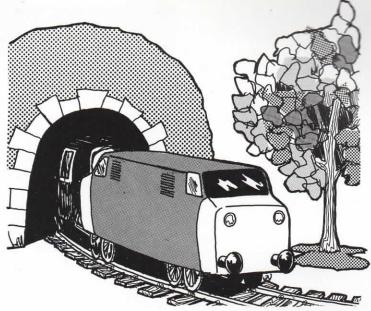
One of our readers, an amateur student of palaeography and socioindustrial history, recently came across a comment on early Roman organisation and methods, which we reproduce above — translated for your convenience!

NEXT AREA REP MEETING
Thursday 12th June, 1980 Hoddesdon at 11.00 a.m.
Management Representative — Maurice Parker

"You've Got What?"

5.00 p.m. arrived, I was whacked after a really busy day. Outside it was pouring with rain and I wasn't looking forward to walking home in that. But once outside I couldn't have cared less about the rain, I was suddenly very happy because there stood my husband, soaked to the skin with a 6' × 2' piece of chipboard under his arm, and I knew at last he was going to do it. What, you might ask? Build new shelves for the kitchen or a new wall unit? No the 6 × 2 was the first board of a model railway layout. Nothing unusual in that you say, except the layout is mine. Yes, mine! "But you're a woman!" is the remark I hear most often. So what, I say. "Huh! Playing with trains" is the other remark usually made, but for those of you who don't know the difference I'll explain. "Playing with trains" is having a perfect circle of track, putting a bright red, yellow and blue "train" on it and watching it go round and round and round and round. But, constructing a model railway layout, as most men will tell you, is an art unto itself. The art lies not only in constructing buildings, platforms, trains and scenics but also in fitting up, as realistically as possible, a railway in a very limited space.

It can have some very funny moments too, like last weekend we built the platforms for the station which are 6" long and curved slightly at the ends. Now locomotives, when they go round corners, do some very odd things, the wheels follow the curve but the body remains straight. To be as realistic as possible the platforms were measured to very



close limits. Made and put in place to check the width, a loco was duly sent from one end of the platform to the other and its wheels and body checked for clearance. All O.K. next job glue the platform to the board. This done we sat and admired our latest piece of handiwork, when my husband suddenly jumped up, dived across the room, shouting "We didn't try the longest loco we've got". This being a lovely Class 45 diesel which is about 12" in length, but absolute murder to put on the track because of its articulated bogies. So after half an hour we finally managed to get it on the rails and test it. It ran fine down three

quarters of the platform then stopped dead. It happened on a set of points, and thinking it was the points at fault, (as some locos don't go over points very well) we started filing the points checkrail to clear the wheels. Realisation dawned about half an hour later, after nearly filing the points away, that (you've guessed it) it was hitting the platform, not the points. After rectifying the platform I've now got to replace the points as all the locos go "clong" down a rather large gap and guess who used tacks for holding the rail down? Me!

The scenics are the bit modellers usually enjoy most. To be able to

do this realistically you need to observe reality in the things around you, an ability, it would seem, few people possess. I've known some people go to extreme lengths to obtain realism. Take for instance a normal house brick, when scaled down to 1/72nd (00 scale) its approximate dimensions are 1mm by 3mm. Now look on your ruler and see just how small that is. And I've known people who have built prototype buildings and cut that size of brick out and stuck each individual one in place. When you consider there's approximately 2,000 bricks to one side of a house, that's some patience! That is something I wouldn't do . . . yet, as the brick papers you can buy are pretty good.

My own "thing" in railway modelling is people. Scaled down people are about 7/8th of an inch tall. They can be bought pre-painted or not painted, but having seen the same painted people standing on stations on most model railways, I decided to buy the non-painted and paint them myself including the hair, eyes, ties and shoes — I've even painted the stripes on the guards' trousers!

So come on ladies, next time your hubby says he wants to build a model railway don't think of it as "playing with trains" but admire the patience and skill of your hubby. In fact why not help — you'd be surprised how interesting and involved it can be. After all, you don't really need any more shelves do you?

And remember not to throw piles of little bits of paper away, it could be the side of a signal box!

Eileen Kercher Maidenhead

Poetry in Motion

Frustration 'cause the words won't fit the rhyme is out of time trying to find the words to finish in the final line it doesn't rhyme in places and then again it does depends on how you read it and where you place your thoughts.

Struggle to make sense of it realise it's not right wonder how to phrase it another restless night attempt to go to sleep on it it whirls around your brain feed it to the Tek computer it still comes out the same.

Now in despair and anger you tear the whole thing up deciding now you shouldn't have the act was too abrupt you memorise the structure find the final line then once again rewrite it and thus complete the rhyme.

Jayne Gerrard

POETS CORRER

Indispensable Man

Some time when you're feeling important,

some time when your ego's in bloom,

some time when you take it for granted, you're the best qualified man in the room,

some time when you feel that your going,

would leave an unfillable hole, just follow this simple example, and see how it humbles your soul.

Take a bucket and fill it with water, put your hands in it up to your wrists.

take them out and the hole that remains.

is a measure of how you'll be missed.

You may splash all you please when you enter,

you may stir up the water galore, but stop and you'll see in a minute, that it looks just the same as before.

The moral of this is quite simple, just do the best that you can, be proud of yourself, but remember, there is no indispensable man.

Anon.

Ode to Miranda

O' Sumptuous Maid Of the twinkling eyes Progenitor of a thousand sighs

Diana fair of the Two wheeled clan Far above mere mortal man Who could aspire To claim the hand Of the goddess of The Bicycle band

With twinkling wheels and sparkling eyes Miranda of the thousand sighs With lofty brow and noble pride You twice a day Through the warehouse glide

What scene so fine What view so fair this golden girl With flowing hair

To all our throats You bring a lump But don't forget To test your pump

George Maidenhead

TEK TIMES MEETS CEEFAX

Those *Tek Times* readers who also see copies of *Tek News*, our customers publication, may remember the article in last November's issue, which gave an entirely personal comment on the BBC's Teletext service.

Teletext is a new way of trans-mitting a "newspaper" by means of televison. Every complete television picture is made up of about 600 lines containing picture detail, and two of these lines are now reserved for this new Teletext service. The two lines carry information in digital form and in order to build up a Telextext page, you need a receiver equipped with a Teletext decoder. In practice, the two Teletext lines on each conventional TV picture are fed into a memory until the whole page is available. The viewer can then read the entire page. By transmitting Teletext pages sequentially, a Teletext newspaper (or magazine) can theoretically have any number of pages, but in order to keep the page cycle-time down to a reasonable level, the number of pages is restricted to a hundred or two.

Like other "publications", Teletext magazines have their own names. The services on BBC 1 and BBC 2 channels are called "Ceefax". The service on ITV is given the name "Oracle".

Each has an index, usually page 100 or 200, which gives the page numbers of all the main sections such as news headlines, football results, cricket scores, shopping news, financial news and weather forecasts. Apart from these information pages, others are devoted to quizzes, chess problems, cookery recipes, gardening notes and more specialised pages such as sub-titles for the deaf and an alarm-clock!

Teletext services are just now being recognised as an important new form of broadcasting. They are just as informative and interesting as a daily paper with one or two very big advantages. In the first place, you don't have to go out and buy today's edition, it's there waiting for you if you have a Teletext receiver.



Quote

Memo from executive to his lab manager:—

I don't care who you buy your oscilloscopes from — as long as they're blue and come from Beaverton, Oregon.



And even more important, it is updated as soon as the change is received in the Ceefax or Oracle office. By 3.15, you can expect to be able to dial up the results of the 3 o'clock race at Newmarket! You can get the news headlines almost as soon as the news happens, and a recent innovation, "Newsreel", removes the need to dial several different pages to read all the latest news stories. Instead, anything up to 15 pages are "cycled" in comfortable reading time.

Tek Times was able to see all this being put into action during our visit

to the BBC studios in Wood Lane, London, a few weeks ago. The Ceefax studios are at the top of the impressive Television Centre, looking just like any busy newspaper office, except for a large array of TV display screens and typewriter keyboards.

This is where the Ceefax journalists update the pages under their control, taking news stories direct from teleprinters, changing weather forecasts, and writing up the latest road and rail travel conditions.

The Editor of the BBC's Ceefax service, Colin McIntyre, is a broadcasting journalist of long standing reputation and has a wide experience of the medium, whether it be in the radio or TV fields. For him, Ceefax is a logical development of the art and he is convinced it has a tremendous potential.

This enthusiasm was very evident as he led us around the Ceefax studios. He has also very kindly offered to write an article on Ceefax especially for *Tek News* and it will appear in the next issue, due out in September.





Guernsey Recipes of the 18th Century

1) To Make Flummery
Ingredients
One ounce Isinglass
One quart milk
Cinnamon
Lemon peel
Bay leaves
Rose water
Sugar
Method

Boil half a pint of milk with a little cinnamon, lemon peel and one or two bay leaves. Pour it over the isinglass and allow it to stand until dissolved. Add the rest of the milk and heat until it boils again, stirring all the time. Strain it and pour into small cups. Let it stand overnight, then add rose water and sugar to sweeten to your liking.

We have kept the best recipe until

2) To Make Shrub

Mix 2 gallons of orange juice, 2 gallons lemon juice, 10 gallons of Jamaica Rum, 5 gallons of Cognac Brandy. When completely mixed stir in 25 pounds of lump sugar until dissolved. (The recipe gives no further details. We assume that none are needed!)

Blackberry Wine the Easy Way

As any winemaker knows, it's possible to make wine from many things other than grapes. Here's a simple way to make blackcurrant wine using the minimum of equipment. Although it probably can't impress the connoisseurs as much as a good burgundy it is nevertheless worth trying.

The main ingredient is Ribena, which is available almost anywhere, the only winemaking hardware needed is a 1 gallon demijohn and an airlock.

What you need

3 lb Sugar

12 oz. Bottle Ribena Winemaking Yeast

½ Teaspoon Citric Acid (or a couple of squeezes of lemon juice)

Yeast Nutrient.

How its done

First mix the Ribena with about a pint of water and boil for 10 mins. This is to remove any preservative in the mixture. Allow to cool then add to the demijohn put in the sugar, yeast nutrient, citric acid and yeast. All that remains is to top up with water, fit the airlock, and leave to ferment in the usual way. For best results leave for 6 months before drinking.

Andy French Hoddesdon Test Department

Around the Exhibitions — Tektronix on Show

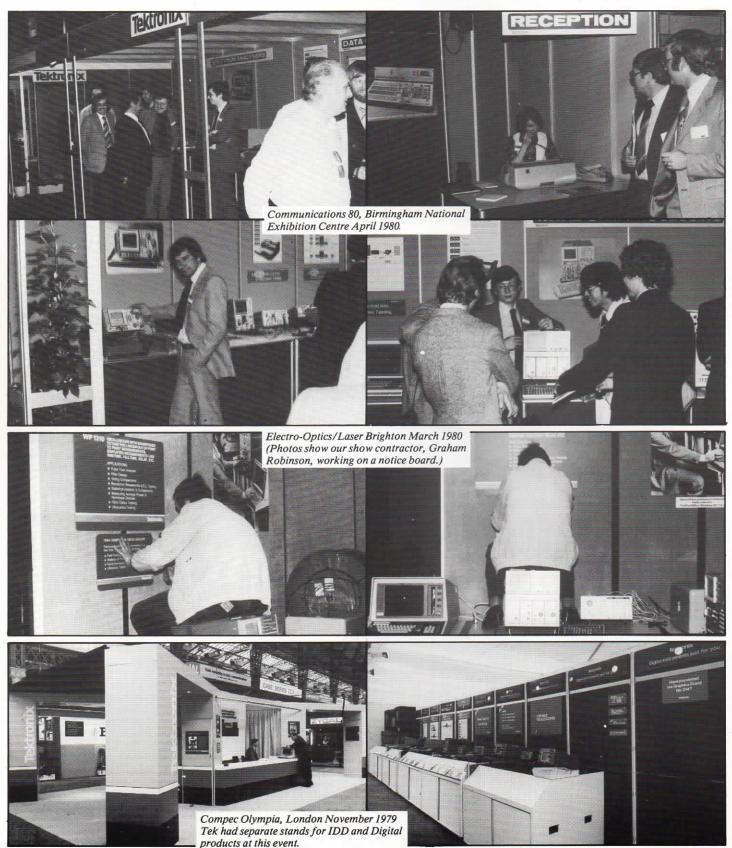
Tek U.K. take part in a large number of exhibitions throughout the year. Many of these are local in character, involving no more than one or two Tek people and often held in a hotel. Others are big events held in places like Olympia, Earls Court, the Wembley

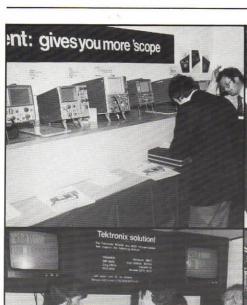
Conference Centre, and the Birmingham Exhibition Centre. There are also a number of specialised exhibitions in Universities — the annual Leeds Electronics Exhibition is one extremely successful show of this kind.

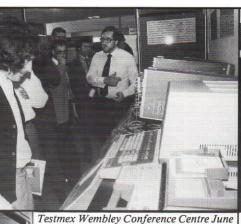
All of these exhibitions are important to

Tektronix because they give our regular customers the opportunity to come along and see our latest products, as well as giving our sales personnel the chance to meet new customers.

Our gallery of photos shows the exhibition scene over the past few months —

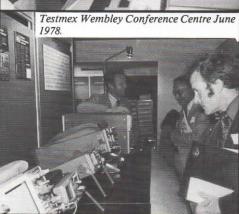


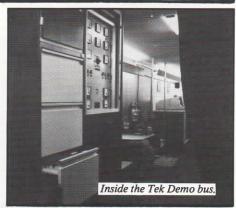




















And now one from the archives!

This one shows John Thompson and Keith Retallick at the Livingston Laboratories exhibition stand at the Radio and Electrical Component Manufacturers Federation show in 1961.

Livingston Laboratories were U.K. distributors for Tektronix products before Tek U.K. Ltd. was formed.



The man who developed one of the most profound concepts of the twentieth century is practically unknown



Edsel Murphy

to most engineers. He is a victim of his own law. Destined to a secure place in the engineering hall of fame, something went wrong.

His real contribution lay not merely in the discovery of the law but more its universality and in its impact. The law itself, though inherently simple, has formed a foundation on which future generations will build.

In fact, the law first came to him in all its simplicity when his bride-tobe informed him of the impending birth of an heir to the family fortunes.

Many people have heard of Murphy's Law, few have had the opportunity to study it in detail. Tek Times now reveals all.

The Contributions of Edsel Murphy to the Understanding of the Behaviour of Inanimate **Objects**

Abstract - Consideration is given to the effects of the contributions of Edsel Murphy to the discipline of electronic engineering. His law is stated in both general and special form. Examples are presented to corroborate the author's thesis that the law is universally applicable.

I. INTRODUCTION

It has long been the consideration of the author that the contributions of Edsel Murphy, specifically his general and special laws delineating the behaviour of inanimate objects, have not been fully appreciated. It is deemed that this is, in large part, due to the inherent simplicity of the law itself.

It is the intent of the author to show, by references drawn from the literature, that the law of Murphy has produced numerous corollaries. It is hoped that by noting these examples, the reader may obtain a greater appreciation of Edsel Murphy, his law, and its ramifications in engineering and science.

As is well known to those versed in the state-of-the-art, Murphy's Law states that "If anything can go wrong, it will". Or, to state it in more exact mathematical form:

1 + 1 > 2

where pris the mathematical symbol for hardly ever.

Some authorities have held that Murphy's Law was first expounded by H. Cohen1 when he stated that "If anything can go wrong, it will during the demonstration". However, Cohen has made it clear that the broader scope of Murphy's general law obviously takes precedence.

To show the all-pervasive nature of Murphy's work, the author offers a small sample of the application of the law in electronic engineering.

II. GENERAL ENGINEERING

II.1 A patent application will be preceded by one week by a similar application made by an independent worker.

II.2. The more innocuous a design change appears, the further its influence will extend.

II.3. All warranty and guarantee clauses become void upon payment

II.4. The necessity of making a major design change increases as the fabrication of the system approaches completion.

II.5. Firmness of delivery dates is inversely proportional to the tightness of the schedule.

II.6. Dimensions will always be expressed in the least usable term. Velocity for example, will be expressed in furlongs per fortnight.2

II.7. An important Instruction Manual or Operating Manual will have been discarded by the Receiving Department.

II.8. Suggestions made by the Value Analysis group will increase costs and reduce capabilities.

II.9. Original drawings will be mangled by the copying machine.3

III. MATHEMATICS

III.1. In any given miscalcu-lation, the fault will never be placed if more than one person is involved.

III.2. Any error that can creep in, will. It will be in the direction that will do the most damage to the calculation.

III.3. All constants variables.

III.4. In any given computation, the figure that is most obviously correct will be the source of error.

III.5. A decimal will always be misplaced.

III.6. In a complex calculation, one factor from the numerator will always move into the denominator.

IV. PROTOTYPING AND PRODUCTION

IV.1. Any wire cut to length will be too short.

IV.2. Tolerances will accumulate unidirectionally toward maximum difficulty of assembly.

IV.3. Identical units tested under identical conditions will not be identical in the field.

IV.4. The availability of a component is inversely proportional to the need for that component.

IV.5. If a project requires n components, there will be n-1 units in stock.4

IV.6. If a particular resistance is needed, that value will not be available. Further, it cannot be developed with any available series or parallel combination.5

IV.7. A dropped tool will land where it can do the most damage. (Also known as the law of selective gravitation.)

IV.8. A device selected at random from a group having 99% reliability, will be a member of the 1% group.

When one connects a IV.9. 3-phase line, the phase sequence will be wrong.6

IV.10 A motor will rotate in the wrong direction.7

IV.11. The probability of a dimension being omitted from a plan or drawing is directly proportional to its importance.

IV.12. Interchangeable parts won't.

IV.13. Probability of failure of a component, assembly, subsystem or system is inversely proportional to ease of repair or replacement.

IV.14. If a prototype functions perfectly, subsequent production will malfunction.

IV.15. Components that must not and cannot be assembled improperly will be.

IV.16. A dc meter will be used on an overly sensitive range and will be wired backwards.8

IV.17. The most delicate component will drop.9

IV.18. Graphic recorders will deposit more ink on humans than on paper. 10

IV.19. If a circuit cannot fail, it will.11

IV.20. A fail-safe circuit will destroy others. 12

IV.21. An instantaneous powersupply crowbar circuit will operate too late. 13

IV.22. A transistor protected by a fast-acting fuse will protect the fuse by blowing first.14

IV.23. A self-starting oscillator won't.

IV.24. A crystal oscillator will oscillate at the wrong frequency - if it oscillates.

IV.25. A pnp transistor will be an npn. 15

IV.26. A zero-temperaturecoefficient capacitor used in a critical circuit will have a TC of -750 ppm/°C.

IV.27. A failure will not appear till a unit has passed Final Inspection.16

IV.28. A purchased component or instrument will meet its specs long enough, and only long enough, to pass Incoming Inspection. 17

IV.29. If an obviously defective component is replaced in an instrument with an intermittent fault, the fault will reappear after the instrument is returned to service. 18

IV.30. After the last of 16 mounting screws has been removed from an access cover, it will be discovered that the wrong access cover has been removed.19

IV.31. After an access cover has been secured by 16 hold-down screws, it will be discovered that the gasket has been omitted.20

IV.32. After an instrument has been fully assembled, extra components will be found on the bench.

IV.33. Hermetic seals will leak.

V. SPECIFYING

V.1. Specified environmental conditions will always be exceeded.

V.2. Any safety factor set as a result of practical experience will be exceeded.

V.3. Manufacturers' spec sheets will be incorrect by a factor of 0.5 or 2.0, depending on which multiplier gives the most optimistic value. For salesmen's claims these factors will be 0.1 or 10.0.

V.4. In an instrument or device characterized by a number of plusor-minus errors, the total error will be the sum of all errors adding in the same direction.

V.5. In any given price estimate, cost of equipment will exceed estimate by a factor of 3.21

V.6. In specifications, Murphy's Law supersedes Ohm's.

REFERENCES*

No references are given, the source material was misplaced during preparation of this paper (another example of Murphy's Law). In accordance with the law, these misplaced documents will turn up on the date of publication of this paper.

Ouote

Manchester Grammar School Sixth Former reporting a cycling accident, "I was descending a declivity with such excessive velocity that I lost my centre of gravity and was precipitated into a portion of the macadamized thorough-

The Jews and the Arabs must learn to live together like true Christians.

John Foster Dulles

Contribution from "John" (Commissionaire, Manchester) via Paul Smith

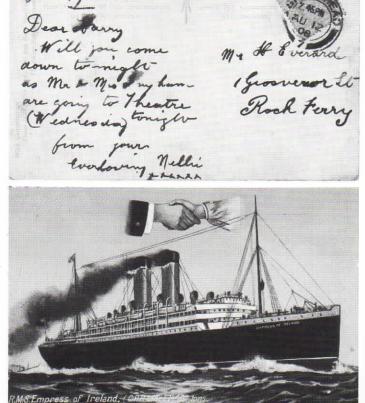
The Other Side

I was a philatelist for about forty years before being smitten with the postcard bug so I have always been a close inspector of 'the other side'. My speciality is transatlantic liners and related paquebot or other maritime postmarks. Below is the reverse of a card of the Cunard 'Mauretania'. Its postal significance is the fact that one could expect delivery in the same town on the day of postage! Although Nellie was careful to mention that it was Wednesday when she hoped Harry would pop over. The year was 1908 and I wonder if they spent the rest of their lives together? Was Harry a distant relative of Larry Grayson's friend?

John Seaman, Harpenden

The card reads - Dear Harry, will

you come down tonight as Mr & Mrs Ingham are going to the theatre tonight (Wednesday) from your everloving Nellie. Another fascinating story which has come my way I have called for My Costume



'The Other Titanic'

The 'Empress of Ireland' was built by the Fairfield Shipbuilding Co., and launched in 1906 displacing 14,191 tons. Under the command of Capt. Kendall, R.N.R. she left Quebec at 4.30pm on May 29th, 1914, bound for Liverpool. She carried 1,477 persons inclusive of crew and passengers. The night was alternately fine and foggy, as the fog lay about in patches. When altering course some 20 miles below Rimouski the look-out observed the lights of another steamship coming up the river, which would normally pass the liner on her starboard side. The fog then swept over the water and enveloped both ships and Capt. Kendall therefore put his engines astern and signalled by three blasts of his siren that he had done so. The fog was now very thick when suddenly the bows of a big ship loomed into sight and crashed into the starboard side of the liner. The oncoming vessel proved to be the 'Storstadt', 6,028 tons, Capt. Anderson, belonging to the A/S Maritim of Norway. The 'Empress of Ireland' was struck between the

funnels and a huge hole torn in her side, running from the engine room aft. The boiler rooms were flooded and the watertight bulkheads rendered useless. Capt. Kendall at once hailed the 'Storstadt' and requested her to keep her engines going so that her bow might remain in the hole and thus serve to keep the liner afloat. This request could not be complied with, as the bows of the 'Storstadt' were too crumpled by the collision, she was therefore obliged to back away, permitting a torrent of water to rush into the doomed ship. Within 15 minutes of collision, the 'Empress of Ireland' had foundered, going down in some 19 fathoms, five miles E. of Father Point.

The disaster occurred at 1.55am and the passengers were asleep in their berths. Only a few of them found their way to the upper deck. Five minutes after the ship was struck her position was hopeless. Her wireless failed after the first S.O.S. messages had gone out, she was listing heavily and it was almost impossible to launch the lifeboats. although four ultimately got away. The total lost was 1,014 while 463 persons were saved, including Capt. Kendall. He was also the Captain of the 'Montrose', when some years previously he had wirelessed the news to England that Dr. Crippen, the murderer was on board.

John Seaman, Harpenden.

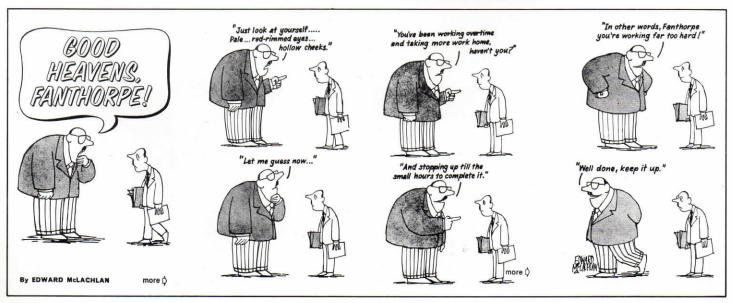


'The Other Titanic', 'Empress of





Collier 'Storstadt' which collided with the 'Empress of Ireland' on May 30th, 1914. The lower picture shows the landing of the dead at Quebec. In all 1,014 people were



Maidenhead maidens go to school

The riotous scenes depicted here took place recently at a fancy dress party in St. Albans. The centre three schoolgirls in the first picture are Maidenhead employees Jenny Seaman and Debbie Dimmock, and from Harpenden Sue Smith. Jenny,

Debbie and Sue Jones are also in our second photo, on the far left of which is Gary Kent and Gordon Knapper. *Tek Times* wishes to refute the rumour that Gordon was not in fancy dress and that he usually looks like that anyway!





Didn't we have a loverly time, the day we went to Dieppe!

Just mention the words "Day trip to France" in Hoddesdon and before you know it, there's a queue for tickets.

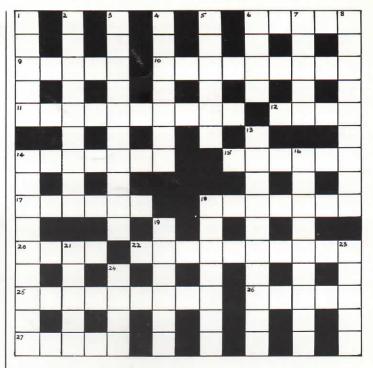
Tek Hoddesdon's Social Club organised such a trip recently and 53 people booked seats at £12.50 each. The early start may have put off some less hardy travellers — you have to be enthusiastic to board a coach at 3.00 a.m. so as to arrive at the Channel port of Newhaven in time to catch the 7.00 a.m. ferry!

The party reached Dieppe at noon local time and were then free to explore the area in their own individual ways. Some toured the shops, others tried testing the

delicious French pastries, visiting restaurants and Bistros or just simply relaxing on the rather pebbly beach.

Dieppe was found to be a typical French coastal town, and consisted of one long main street containing most of the shops and an interesting market. In general, the prices in the shops were higher than we meet in the U.K., except for wine — as we expected. Tourist restaurants gave good value, however.

The weather stayed very warm for the visit and, despite the long travelling time, was thoroughly enjoyed by all.



Crossword

ACROSS: 6 Antiquated (5); 9 Musically very slow (5); 10 External protective body covering (9); 11 The Lion Rampant (2,4,4,); 12 Fitzgerald perhaps (4); 14 Science of life on earth (7); 15 The good — and the ugly (3,3,); 17 Having strength or patience exhausted (6); 18 Conciseness (7); 20 The joint of a stem (4); 22 Inflammation of membrane surrounding the brain (10); 25 Timber noted for durability and fragrance (5,4,); 26 Man eating monsters (5); 27 The means of living (5).

DOWN: 1 Arctic accommodation (5); 2 Northerly point in the heavens and on earth (5,4,); 3 Hall of Justice (5,5,); 4 Bed covering (7); 5 Pains acutely (6); 6 Stag (4); 7 Spoken in India (5); 8 Shrinking from danger (9); 13 Harry, Peter and Spike (5,5,); 14 Neurological examination (5,4,); 16 10 across becomes this when

exposed to excessive radiation (9); 18 Mark with spots or streaks (7); 19 Popular place for summer holiday (6); 21 Christian name of author of the Hundred and One Dalmatians (5); 23 Prepared fibre of Mexican plant (5); 24 Malayan dagger (4).

Bob Orrock Product Control Hoddesdon

Answers to issue 18

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	F		R		N		Μ		E		U		Ε	
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Derek Smith.

Chess

A three-move problem, involving critical play by White. A white critical move, followed by white self-interference on the critical square, for the purpose of relieving stalemate. (allowing the black K a flight), and finally a discovered mate.

Chessplayers' Chronicle, 1845, by H. A. Loveday, who was at the time Chaplain of the Bengal Ecclesiastical Establishment. His problem shown here, is most famous in problem history, and is called Indian, because of the time and place.

Problem No. 6

White to play, and mate in 3 moves.

