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MORSUM MAGNIFICAT is published quarterly to provide international in-depth coverage of all aspects of Morse telegraphy, from its earliest concept to the present time. MORSUM MAGNIFICAT is for all Morse enthusiasts, amateur or professional, active or retired. It brings together material, which would otherwise be lost to posterity, providing an invaluable source of interest, reference, and record, relating to the traditions and practice of Morse. MORSUM MAGNIFICAT is produced by:

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Welcome to the first issue of the English language edition of MORSUM MAGNIFICAT! As you may already know, there has been a Dutch edition for the last three years. A "one-off" English version was published last year to find out if there was any interest in such a magazine in the English speaking world, and the result is now in your hands!

Everything here is about Morse in one way or another. Old telegraphers tell us what it was like in the "good old days", historians go back farther and tell us about the struggles and achievements of the early telegraph pioneers. Amateurs, old and new, soldiers, sailors, and airmen recall their experiences, "Sparks" on merchant ships and ocean liners, post office, railway, and press telegraphers, users of Morse around the world, tell us their stories in these pages.

If you have a memory of Morse, the editorial team would like to hear from you. You can write it out in full, you can send some notes or a letter, or have a chat on the telephone. The important thing is that we should bring together the worldwide story of Morse as it really was, as its participants experienced it, from its earliest days to the present time.

In case you think we are only backward looking, we will also welcome small modern circuits to help today's operators, and views and comment on today's (and even tomorrow's) Morse scene. So there you are! Morsum Magnificat is for all Morse people, written by Morse enthusiasts for Morse enthusiasts. These are early days, and we are producing the magazine by photo-copy process to begin with. When our circulation justifies it, we want to have Morsum Magnificat properly printed on good quality paper, to do justice to the many fine photographs and illustrations we have on our files, and to those we hope to obtain, or borrow, from our readers.

So on with the first issue! If you like it, write and tell us! If you don't, tell us why! We welcome your comments or suggestions, and look forward to hearing from you.





#### SHORTEST TELEGRAM ?

SHAKESPEARE SAID THAT "brevity is the soul of wit". It would be true had he added "humor" to that famous line.

A missionary priest was giving amission at a parrish and a visiting priest asked the missioner to come to his parish next. Permission from the missioner's Superior was first needed, so the missioner "wired" for it. A prompt and waggish answer came with the letter I for the text, two dits, no more. I in Latin is the single imperative form of the latin verb "ire", meaning to po.

Latin verb "ire", meaning to go. The answer I (no more) said: "Go". Was there ever a telegram shorter than two dits?



D&D.

# It's never too late to learn . . .

AT 84 YEARS old Mr Jack Sykes, of Slaithwaite, has invested in a new gadget to help him in his old age - a computer !

So taken up is he with his word processor that Mr. Sykes is to put in a planning application to convert the car port at his home in Lingards into a computer room.

"Many grown-up people see young children nonchalantly poking a finger at a computer keyboard and think it's beyond them. But that's not the case. No-one can beat the young-uns except the old-uns", he said.

He bought the computer to assist him in his hobby of writing.

A past president, and still treasurer of Huddersfield Author's Circle, he specialises in short stories but is also writing a novel, about the trials and tribulations of a heart transplatant surgeon, and also plans to write his autobiography.

"I've had some of my work published in America and in Holland, but mostly I write for my own amusement," said Mr Sykes, of 7 Hill Top. He sees the computer as a way of increasing that amusement.

"It's jolly good fun. As long as someone can read and reason then they should be able to tackle a computer. And why should the young folk have all the fun?" His proposed computer room, which he hopes will be completed by the spring, will also house his radio set-up. The active octogenarian is also a keen radio ham.

#### THE TIMES FRIDAY MARCH 7 1986



## Morse code man, 84, to go modern

Mr Jack Sykes, aged 84, who is believed to be the only remaining British manufacturer of Morse code keys, working in the kitchen at his home in Slaithwaite, near Hudders-field, west Yorkshire. Mr Sykes, who

He also runs his own business, Lingards Electronics, from a kitchen worktop. He manufactures morse keys and headsets for export all over the world.

"There are now 50.000 of my morse keys all over the world" says Jack, who is not just the oldest but the only maker of morse keys in this country. "I've no intention of retiring. I shall wear

out, not rust out,

If I was a tennis player then J would have had to give it up long before now, but why should I have to give up things that require the use of the brain ?"

Mr Sykes is a former pupil of Nields County School, Slaithwaite, and his first job was a twister-in in a local mill. But not for him a career in the Colne Valley mills.

He joined the Merchant Navy as a radio officer and later emigrated to America, where he lived for 10 years.

"I arrived in Houston with £100 in my pocket 10 days after the collapse of Wall Street. I had no job but did have a wife and baby and was at my wit's end".

Eventually he found work at a broadcasting station and after a variety of other jobs, including selling vacuum cleaners door to door, ended up as a geophysist exploring for oil.

"I bluffed my way into that job but they never found me out", said Mr Sykes. On his return to the UK he set up an electrical engineering business in the Orkneys and for 25 years he and his second wife, Averina, ran a radio correspondence school. The couple moved back to the Color Valley 17

The couple moved back to the Colne Valley 17 years ago.

"It's been a full and interesting life and I've been very fortunate," said Mr Sykes, who still regularly takes walks of up to 10 miles.

"I've enjoyed good health all my life and put that down very largely to the fact that since being 18 I've always had two hours' nap each afternoon."

We will meet Mr. Jack Sykes regularly in the coming issues of Morsum Magnificat..... (Huddersfield Examiner)

....but start them young!



= Seen at GBØRAF, special event station of the RAF Amateur Radio Society, RAF Museum, Hendon, 12th July, 1986 =

photo G4FAI





## ENSG-

## SHSG

## VHSG





More, better, higher, wider, stronger, faster.... These are the criteria people use to measure sporting achievements. It will not surprise you, therefore, that in 1951 a "High Speed Club" was founded, not among racing car enthusiasts, or racing cyclists, but among practitioners of Morse telegraphy.

It was, initially, a small club of speed buffs who could handle the key faster than 25 wpm which, after all, is quite a respectable speed.

But, of course, there are always talented people who can go a lot faster, and after nine years of the HSC, inevitably, the Very High Speed Club was founded, with a speed requirement of 40 wpm.

Who said fast? In Belgium, there are some even faster operators. Its the same in Britain, but in Belgium they want it known! In 1983, two more clubs were born, the SHSC, and the EHSC, and you can guess what those initials mean!

- The aims of these QRQ-boys are very worthy:
- to produce clean and fast telegraphy
- to aim for faultless Morse
- to help other operators improve their speed
- to maintain spirit and discipline on the bands

Membership requirements for these clubs are: HSC - a QSO of 30 minutes at 25 wpm. Plus five written recommendations. Applications to DL1PM. VHSC- a QSO of 30 minutes at 40 wpm. Four written recommendations. Applications with 10xIRC, or equivalent in money, to PAØDIN. SHSC - 30 minutes at 50 wpm.) Two written recommend-EHSC - 30 minutes at 60 wpm ) ations. 10xIRC. To ON5ME or ON4CW.

For all these clubs, keyboards and decoders are not permitted for the qualifying QSO and a written statement, confirming they have not been used, is required with each membership application.

Membership is for life. We cannot list the members of all these clubs, but will make an exception for the "crême de la crême", the EHSC.

EHSC (Extremely High Speed Club) 300 BPM 1. ON5ME 2. ON41E Honory member 3. ON7VU 4. ON5GK Honory member 5. ONSLU 6. ON4CW 7. ON4IM 8. DF4KV 9. DF8XS 10. DL2FAK 11. PA3ADM 12. ON7GO 13. DF5JT 14. G4ENV ON 5ME-DF4KV 15. UF6FFF ON7GO-PA3ADM 16. EA2DY G4ENV-DF4KV-ON5ME 17. HB9CSA ON4IM-ON4CW EA2DY-HB9CSA-ON4CW 18, F6IFY 19. PA3BWK DF4KV-EA2DY 20. DL6SAZ DF8XS-F6IFY 21. LZ2RS ON7GO-EA2DY 22. YU1RL EA2DY-ON4IM 23. DE2CWM (SW1.) ON7GO-ON4IM 24. F6ENN EA2DY-F6IFY 25. DL2KBH ON4IM-HB9CSA 26. DL9BAI HB9CSA-ON5ME 27. DL6MAA ON5ME-HB9CSA-DF4KV 28. DF9TF DF5YT-DL9BAI 29. DL5ZAS ON4TM-ON4CW 30. OHILA DL2KBH-HB9CSA 31. YU1FD YILLRL-OHILA 32. YU1BM YU1FD-YU1RL OH1LA-DL6SAZ-DL4KV 33. HA3NU 34. HA8LKE ON 5ME-DL9BAI 35. OE7RKH DL6MAA-EA2DY 36. LU2EMK EA2DY-HB9CSA 37. HABOV HB9CSA-DL6MAA 38. LASDW OH1LA-LZ2RS 39. HAIXJ HA8LKE-DL6SAZ 40. LA4DCA OHILA-EA2DY 41. G41LW 42. YU1KT EA2DY-HB9CSA RA1XJ-RE9CSA

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## Return to Hendon! Reg Sadler G4MRP(1.) and Mike Davidson G4WRU(r.) operating GBØRAF



Back in 1940, Reg Sadler, now G4MRP and then an RAF wireless operator, was sent on his first posting from training school - to RAF Station Hendon, in London.

Since those days, the RAF Museum has been built on part of the site of the old station, and Reg has never been back to his old stamping grounds.

Not, that is, until 12th July, 1986, when the RAF Amateur Radio Society set up special event station GBØRAF at the museum. Reg, who is a member of RAFARS, returned that day, determined to get on the key at Hendon once again and, as our picture shows, he was successful.

Working in tandem with him is Mike Davidson, G4WRU, who has recently been appointed by the RSGB as a Morse Examiner for Greater London.





## The spirit



## of Morse.....



Straight key night last year made us aware that it is still not necessary to regard our old brass handkey as an ancient monument. It seems to us that advanced technology has tried to oust the handkey but hasn't succeeded so far.

We now have electronic keys, automatic keys, keyboards, and computers, that can make perfect Morse, and sometimes receive it too. But wouldn't it be a pity if we tuned around the bands and only heard this antiseptic machine-CW, with the recognisable characteristics of the personal fist, and unique individual style, lost forever?

We don't want to stop progress, but we think there is room in every shack for the things of yesterday, as well as for those of tomorrow. It is in the character of the ham, and the spirit of amateur radio, that we regard with interest, and respect, the achievements of the past while looking, at the same time, to the future.

The key has its part in this process. "When we take the operational end of our handkey between thumb and two fingers, feeling as if they were specially created for signalling, we imagine ourselves in communication with the early pioneers of 'wireless', while we dream with them of technological improvements and progress in the field of communications".

If we radio amateurs ever lose this view, we may as well take our licences off the wall, and look around for another hobby.





## bex, PAøDW

This audio sidetone oscillator monitors a transmitter's CW keying. A pick-up wire carries a small amount of RF power from the tx to the input of the monitor. After voltage doubling and rectificating to d.c.,

this controls a transistor switch to activate a multivibrator, producing a fb tone of about 850 Hz.



The low-level audio signal is fed into the receiver's LF amplifier via a 20K potentiometer as shown, while

diode D3 prevents oscillation caused by leakage through transistor T3, when it is switched "off". I can't remember where I originally saw this circuit, but it is very useful, and maybe someone else can find a use for it too.

LEX.

PS. Do not use silicon diodes in place of D1 and D2.







### TELEGRAPHIC AMBIDESTRY.

Dick Johnson, Manager of RCA's Marine Division at San Francisco gave me my first RO job avoard the SS Lurline, WML, in 1925. I never saw him do it, (others claim they had) but he allegedly could send a message with both hands simulteanously - using American Morse with one, and Continental Morse with the other hand. Frank Fisher of Lankin, Texas, says he doesn't doubt it because of a personal experience he witnessed in a town near Salinas, Kansas (he's forgotten the name). He says "I was standing by the ticket window waiting for a train watch the agent-operator sending a bunch of manifests. While I was watching and listening he was called on another wire. Without pausing in his sending with his right hand, he opened the calling wire with his left hand, acknowledged, and closed the key, picked up a message blank, slipped it in his t typewriter, rolled it into position and proceeded to copy that message with one long bony finger of h's left hand all the time continuing to send the manifests with his right hand.

D&D.



When it is a sign of advancing years for a person to compare the present with the past, I find myself among the older people. The strange thing is, I am not so old at all. How is it then, that I am philosophising, and so melancholic, in a radio magazine?

The reason is the way amateur radio has developed, and that doesn't please me at all! Take for example, behaviour on 2 metres. All right, these people enjoy it or they wouldn't be there, but what has it to do with experimental radio-investigation, testing transmitters, and/or receivers? - Nothing!

The black box comes straight from Japan. The same applies to the whip-antenna mounted on the Toyota. The important part of the conversation is not the technical side of the "box", but the price.

They dare not open it, because then the guarantee expires. There is no point in soldering when one does not even possess a soldering iron. According to a well-known dealer, this last fact is more a rule than an exception.

I will not talk too much about repeaters. They seem to have been put there for pirating, and for communication between two people living two streets apart. Long live VHF-DX!

Now we come to HF, 80 to 10m. It is often called LF. Strange! I always thought LF had something to do with loudspeakers and those kind of things.

I listen sometimes to the SSB part of the 20 meter band. The QSO's there make me think I am listening to airfield traffic. This is very interesting! There is a kind of staccato screaming, "QSL?", and suchlike. It does not refer to QSL cards, but is a question asking if reception is satisfactory, the answer being, "ROGER-QSL" ! (without call-signs of course, as that's not customary).

Nice little QSO's, the only problem is understanding them! In the CW part of the band they also know how to deal with new developments. Newcomers don't exist anymore. Tremendous, isn't it?

It used to be possible to judge experience from one's speed. Nowadays you can hear it around 30 wpm, but that's tricky. Those 30 wpm are not produced by a flexible wrist, but are coming out of a box with i.c.'s (TONO for example, at £300 plus), or from an el-bug set at too high a speed.

I am not talking about TONO, I just hate talking to a robot! Copying for these speedy operators is something else. They are lost in a fog, responding with "SRI QRM, QRN" etc, and it soon becomes clear that their knowledge is restricted to RST, QTH, NAME and, eventually, RPT PSE....

After all my years as an amateur, I can find only a few real CW-men, with 90 percent of them coming from G-land.

It's raining at the moment, and it is all very dull. Is that the reason why I'm so disconsolate?



3553 khz MM Kag-chew ØRG!



Celerity of

Morse's telegraph



The celerity of transmission attainable with the Morse telegraph, which of all the forms of telegraphic apparatus hitherto invented is the most extensively used, is very considerable, but varies perhaps still more than the needle instruments, with the skill of the telegraphist.

In this instrument, it will be remembered that the transmitting agent plays upon a key-commutator, the letters being severally expressed by repeated touches of the key succeeding each other after longer or shorter intervals. At the station receiving the dispatch, the armature of the electro-magnet moves simultaneously with the transmitting key, and at each of its motions towards the magnet, it produces a distinctly audible click.

The receiving agent acquires by practice such expertness and quickness of ear, that by listening to this clicking he is able to interpret the dispatch, and to write it down or dictate it to a clerk without using the apparatus for impressing it upon the paper ribbon.

Different telegraphists acquire this power of oral interpretation of the dispatches with different degrees of facility and precision; but all are more or less masters of it. So much so, that in most cases on the American lines, it is by the clicking of the magnet that the messages are taken down, being afterwards corrected, if necessary, by comparison with the indented paper ribbon.

The telegraphist is placed at a table, upon which the instrument stands, having before him the paper on which the message is to be written, and at his left a provision of blacklead pencils ready cut and pointed, usually half a dozen. When the transmission of the message commences, the electro-magnet dictates it to



him, letter by letter, at the same time indenting it upon the paper ribbon. He writes it down, and, in general, it is delivered by the magnet as fast as he can write it, availing himself of all such abbreviations as are intelligible to those who may have to read it.

As the points of the pencils are successively worn he lays them on the table at his right hand. A person engaged exclusively in that process, visits his table from time to time, repoints the pencils lying on his right, and replaces them on his left. This person passes round the telegraph office, from table to table, keeping up a constant supply of properly pointed pencils at the hand of each telegraphist. The most expert telegraphists are able to take down the messages in this manner by ear, without any reference to the ribbon, and so correctly that there is no need of subsequent verification.

When the message is concluded, the sheet on which it is written is handed to another clerk, who is provided with a stock of envelopes, in one of which he encloses it; and, writing the address upon it, delivers it to a messenger, who forwards it to the party to whom it is addressed. Meanwhile, the paper ribbon on which the message has been indented in the telegraph ciphers, is cut off, folded up, and preserved for reference.

It is only, however, the most expert class of telegraphists that can operate in this way. Others, less able, are always obliged to verify and correct what they have taken down, by comparison with the indented ribbon, after the message has been concluded; while others less able still, cannot trust themselves to take down by ear, and sit before the ribbon as it is discharged from the roller, writing out the message from it by eye.

The salaries allowed to different agents vary according to the skill they attain in these operations. One who acquires the power of taking down rapidly and correctly by ear will receive twice the amount allowed to him who can only take down by eye, the latter being always much slower than the former.....

from Lardner's "The Electric Telegraph", 1854.













### by Willard K. Baker. (silent key)

TRUE NAMES AND places are used in this story because the branch line and stations have long since been torn up, and, excepting myself, the principals have long since passed on, including Minnie and Mr. Potts.

Many years ago I was assigned the agency at Taos Junction, N.M. which was located on the "Old Chili Line", branch of the Denver and Rio Grande Western Railroad. The entire branch was isolated and Taos Junction station the most isolated of all.

The morning I was to leave Alamosa Colo. on the once-a-day narrow gauge mixed train. I stopped in a butcher shop to purchase a few supplies to take with me. There were several customers in line ahead of me and while patiently waiting for my turn. I happened to notice the engineer buying a soup bone. Now it had to be just so long, not too big around and it especially had to have a bit of meat on it.

After he went out, I remarked to the butcher that our friend was awfully particular about a fifteen cent soup bone. The butcher laughed and replied, "That bone was for Minnie." That bothered me and I felt that I had to know who Minnie was. The butcher told me, that if I were going to Taos Junction, I would find out who Minnie was. After the train pulled out, I sat down in a seat on the right side so I could keep an eye upon the engineer. When Old Jim-Phenney came along to collect my pass, I inquired if he knew Minnie and he replied: "Certainly I know Minnie" and walked on. We passed through three stations and nothing happened. There being one more station before Taos Junction, I commenced to think, that Minnie was some character at that village. As the train stopped at Servilletta to put off a single bag of mail, I noticed our engineer climb down from his cab, walk over to a little spotted dog sitting very still with her two paws in the air.



He very carefully placed the package with the bone in it between her teeth by the string and on the other side of her mouth hung a rolled up and tied newspaper. After patting her on the head he turned around, walked back and climbed aboard his engine. The little dog very daintly walked across the road to deliver the paper to her homestead master and then to eat her bone. This was my first introduction to Minnie. Later I learned that Minnie had been sitting there with her paws in the air at train time for over ten years, every day except Sunday. She was just a little dog of unknown pedigree but what attracted the trainmen other was the little old lady face, her dainty actions and the fact, that she never barked. Most everyone between Alamosa and Santa Fe knew about Minnie and she made the wire Services on two different occasions.

In the old days, trainmen often brought papers and magazines to the homesteaders and toys to the children along the line. This kindness was the highlight of an otherwise drab day. Before radios were in general use, the newspapers and magazines thrown to the homesteader were often his only contact with the outside world. Of all the dogs along the "Chili Line" that met the train each day, Minnie was by far the most popular. She was too small and dainty to catch the paper so it was always delivered to her.

Minnie had a son that someone had named Mr. Potts. Mr. Potts wanted desperately to follow Minnie when she met the train, but this she would never allow him to do. Instead, he had to be content to stand on the porch and wag his tail, while Minnie attended to her railroad duties.

One day the train pulled into my station and I immediately sensed that something was wrong, because the usual laughter and story telling was missing. The homesteader had met the train with Mr. Potts and told the boys, that Minnie, then nearing the age of fourteen, was full of rheumatics and was going blind and was unable to meet the train. Mr. Potts would have to take over. The engineer handed Mr. Potts the paper, but not the bone. Instead, he walked over to the porch and delivered the bone to Minnie. This three or four minutes delay to the train was always easily made up; however; soconer or later the Superintendent would find out about it, when he made his regular inspection trip along the line.

The day came, when Superintendent Carpenter

was riding the train. When the train stopped at Servilletta, the engineer climbed down from the cab of the engine and Superintendent Carpenter climbed down from the coach. Each had a package in his hand. Both deliveredtheir packages across the street to Minnie. By joining in this human act, Superintendent Carpenter became one of the most respected officials on the railroad.

Almost a year later, the train pulled into Taos Junction and there was hardly a dry eye on the little train.

Minnie had passed away the night before and had been buried just a few feet from the spot she had waited for her bone and paper so many years. It wasn't long before a little wooden cross with "Minnie" carved upon it along with a little white picket fence appeared around the grave. No one knew, who built the fence and no one inquired. It just seemed natural for the marker and picket fence to be there. Flowers would appear on the little grave at least once each week, but I never heard Minnie's name mentioned again.

Mr. Potts was young and excitable. When he saw the train smoke in the distance he would start running around in a circle and when the whistle blew for the station, his speed would increase. The trainmen were always kind to Mr. Potts. He would get his bone, but it never again seemed the same.

Eventually the "Chili Line" was abandoned, the tracks were torn up and the stations were torn down.

When I left Taos Junction for the last time and drove through Servilletta, Mr. Potts was sitting there looking in the direction the train came from and wondering no doubt, why the train never came any more. I stopped and placed wild flowers on Minnie's grave and proceeded my way.

## Dah dit dah dit dah





It was only the promise of an award for making 50 CW contacts in the first year of having my licence (one a week, I thought to myself), that spurred me on to grasp the key in my shaking, sweaty, hand, and call CQ.

After calling three times, I paused and listened, hoping no-one would reply. The seconds ticked by, no sound in my headphones....phew.... deep breath, dah dit dah dit, dah dah dit dah, three more times. Pause, listen, silence. Another deep breath, and the key again tapped out its horrifying invitation. Pause, listen.... "Oh my God, someone's replying!"

Grab pen, lean over pad, think, "What's he saying?, dash dash dot, something, something, something.... what does it all mean?" "I know, I'll pretend there's QRM on his signals, and send QRZ?, then I'll get a second chance to copy him".

And so I completed my first chaotic Morse QSO, lasting about ten minutes in all. At the end I pulled off my headphones, slouched back in my chair, and wiped my brow. My mouth was dry, my hands sticky, and my pulse rate over two hundred, but I had done it! "Thank God that's all over for a week", I sighed.

Next night, I was babbling into the mike, when I noticed the key sitting there, daring me to use it again. "Well, maybe I might just listen to a bit of Morse tonight", I thought, "just to keep my ear in. I tuned the lower end of the band. "These guys are much too fast for me, I'll stick to SSB".

"Chicken!" said the key. "You're right", I said, "its ok for you, you've only got to send it. I've got to copy it as well".

It was no good. The challenge was there, as it is when some people have to throw themselves off high buildings - just to see what its like!

The QSO that followed was much like the previous one, brief, chaotic, and exhausting. I was glad to bid my contact 75, and pass transmission back to him for his final. I didn't bother to listen to that. It wouldn't matter what he said, I had already told him I was going QRT, so he wouldn't expect me to reply. At last he signed off, bu+ what's this I hear?

Another signal. What are they saying? They are calling me, someone's tail-ending my contact. I'm not ready for a second bout tonight.... help!

There followed a most ridiculous QSO. It took all my concentration just to copy down the Morse, leaving none of my brain free to actually read what I was writing. I became totally panic-stricken and, reading from my crib sheet, told my contact I was having trouble with the receiver, and had to QRT....

All this happened a long time ago, about six months actually! Now, I rarely use any other mode than CW. It is so much more satisfying. You don't get people wasting time with hmmmms and haaaas, and with international CW abbreviations there is less of a language barrier. CW also has the advantage, of course, that it can often reach parts that SSB cannot!

So to all amateurs, I say this - if you have a key, use it, preferably with a CW filter in the receiver, it makes copying a lot less tiring. Stay cool! If you really can't copy the other station's signals, say so. He won't be offended, and if his CW is too fast, send QRS (or "QRS more", HI). Only the most arrogant operators will refuse to slow down, and they aren't worth working anyway.

Finally, don't give up after one or two QSO's. If, after fifty, you honestly feel no attraction to the mode, then put your key back in the drawer. Good luck to you, and see you down the log. 73, de GØCGB.



## Tom Edison -Telegrapher







A legend in his own lifetime, Edison is remembered mainly for his work with the telephone, the phonograph, the motion picture camera and, above all, for his introduction of the world's first public electric lighting system. His life was so active, his inventions so numerous, that many books have been written about the young country boy who became a figure of world influence. What is not always made much of, however, is that at the beginning the greatest influence on his life, and his greatest motivation, was the Morse telegraph.

When he was a boy, the new telegraph was spreading across the United States. Like many of his contemporaries, he followed with intense interest the fortunes of the pioneering telegraphers as they drove through the American West, across prairies, over mountains, facing hasards of nature, geography, and hostile Indians, finally spanning the continent in advance of the railroad.

His first job was as a newsboy on the Grand Trunk Railway, travelling between his home at Port Huron, Michigan, and Detroit, and it was through this he first realised the potential of the telegraph. He had noticed that when the papers printed news of battles in the civil war, his papers sold better than on other days. To estimate his needs he had taken to visiting the printing shop of the Detroit Free Press to read the headlines in advance of publication.

One issue, in April, 1862, contained accounts of a battle resulting in 60,000 believed dead or wounded. He ordered a thousand copies of the paper, instead of his usual two hundred, and arranged with a friendly teleg-



## Thomas Alva Edison (1847-1931)

rapher to send brief headlines to each station along the way, to be displayed on bulletin boards before the train arrived.

At every stop there was a clamouring crowd waiting for his papers, which he sold for increasing prices as he proceeded along the line. As a result of this he decided the telegraph was "just about the best thing going.... I determined .... to become a telegrapher".

### Deafness

He studied the railway's telegraph equipment, learning all he could, made his own key, sounder, and wet cell battery, and rigged up a line from his home to that of a friend, half a mile away, practising Morse often until gone midnight. From the age of 12 he had suffered from deafness, but he found that this did not prevent him from hearing the telegraph instrument. He said later, "From the start I found that deafness was an advantage ... While I could hear unerringly the loud ticking of the instrument I could not hear other and perhaps distracting sounds.

In 1862, he rescued a stationmaster's 3 year old son from the path of a shunting train. The father repaid Edison by offering to teach him to be a telegraph operator. During the next five months he took lessons every night, learning the techniques, procedures and abbreviations necessary to become a railway second class, or "plug", operator.

As such, he was able to find work anywhere since, during the civil war, hundreds were needed by both sides. At the age of 17, he became an itinerant telegrapher, travelling thousands of miles throughout the United States and Canada, taking job after job as his fancy, or circumstances, dictated.

### Meddling

While working nights as a railroad dispatcher in Ontario, he devised a clockwork attachment to the telegraph which automatically signalled for him at certain times in the quiet hours, when he was supposed to call the main office to show he was awake and alert. Needless to say, this device was discovered, and he was reprimanded for sleeping on duty. His disposition to "meddle" with the equipment to try to improve it, his habit of neglecting the traffic while he drew diagrams or read a book, his habit of playing practical jokes, and his general disregard for authority, led to dismissal from job after job as he wandered across the country.

Once, in Canada, he failed to stop a freight train entering a single track line when another train had already started in at the other end. Fortunately, the engineers saw each other's lights and stopped the trains before a crash occurred. Edison claimed the telegraphed instructions had arrived too late to be acted on. His angry boss told him he could go to prison for his presumed negligence. Badly frightened, he jumped a freight train to escape to the safety of the United States.

These were rumbustious times. When working in Indianapolis, handling an urgent military message, the wires were cut and Edison tried an alternative, roundabout, route via Louisville. After a long delay he succeeded in contacting that office, from whence a relay of horses delivered the message. Later, the reason for the delay was discovered. Of the three operators supposed to be on duty, one had fallen from a horse and broken his leg, one had been stabbed in a gambling house, and the third had gone to see a hanging, and had been unable to return on time.

#### Winning

By 1865, Tom Edison had become a "first-class" operator, working long hours at 45 wpm. He was said to have few equals, sometimes entering, and winning, inter-city Morse speed contests.

He invented a repeating device, allowing high speed signals from a Morse register (receiver) to be fed into a slower machine, enabling him to produce beautifully clean and accurate copy with which to bewilder his superiors. "The manager used to come and gaze at it (the copy) in silence with a puzzled expression.... He could not understand it; nor could any of the other operators; for we used to drag off my impromptu recorder and hide it when our toil was over".

He used the idea again later in Memphis, when traffic

from New Orleans, which previously needed to be retransmitted manually to New York, was re-transmitted automatically, providing a direct link for the first time. He developed a style of writing, leaving out all superfluous whirls and flourishes, to assist in taking down fast press reports, and retained this style for the rest of his life.

He went east in 1867, to work as a telegrapher for Western Union in Boston. The other operators, thinking him a country hick, put him to take press copy from the fastest operator in the New York office. The story goes that he kept up easily, pausing occasionally to sharpen his pencil while the message ran on. Then the New York operator began to slur his signals to confuse Edison, who was familiar with this trick. Finally, Tom broke in to send, "Say young man, change off and send with the other foot".

#### Obsession

He became obsessed with the concept of multiplex telegraphy, the practice of concurrently sending more than one message over a single wire. Others had already worked on the idea, and J.B. Stearn's practical duplex version was already in use, allowing two messages to be sent, in opposite directions, at the same time. Edison modified and improved existing systems, and in 1869 became a fulltime inventor, advertising his "double transmitter" for four hundred dollars.

Tests of his invention on the wires of the Atlantic and Pacific Telegraph Company were not successful however and, heavily in debt, he decided to go to New York, where he obtained a post with the Gold Indicator Company, ensuring that their telegraphic machinery, serving the world of high finance, functioned properly, modifying and improving it at the same time.

He went into business again, as an electrical engineer, and constructor of various types of electrical devices and apparatus useful in the telegraphic art, selling many of his inventions to Western Union who, in 1870, asked him to work directly for them.

An indication of his stature by then is given by the occasion when he discussed his fees, for services rendered, with WU. He wasn't sure whether to ask for three or five thousand dollars. "Suppose you make me an offer?", he said, and was barely able to control himself at the reply, "How would forty thousand dollars strike you?"



... he went into other lines ...

### Telegraph war

He improved an automatic telegraph invented by an Englishman, George D. Little, and in tests this achieved 1000 wpm. He tried to interest the British Post Office, but was unsuccessful. It was also rejected by Western Union, but was taken up by their great rivals, Atlantic and Pacific. A telegraph war developed between the two companies in 1874. Automatic Telegraph, a subsidiary of A&P, challenged WU to use their manual system in a contest against the Little-Edison automatic machine.

AT transmitted an 11,130 word message over a single wire from Washington to New York, in the record time of 69 minutes. WU used eight lines, sending manually, and took 70 minutes.

It was not such a victory as it seemed at first sight. AT used ten clerks to punch the paper perforations, two operators to control the sender, and thirteen more to take the copy in New York, a total of 25 in all. By contrast, WU used only eight operators at each end, demonstrating that, in terms of economy, automatic systems were not yet in a position to replace the traditional manual key. A few years later, A&P abandoned the automatic sender, except for auxiliary use and, for the next forty years, reverted to manual transmission.

Edison was still working on the multiplex idea. He invented a diplex instrument, permitting two messages to be sent in the same direction at the same time. He combined this with Stearns' duplex, and was able to send two messages in one direction, and two in the opposite direction, over a single wire. His quadruplex system, as he called it, doubled the capacity of existing lines, and was installed throughout WU in 1876.

### Amalgamation

Over the years, Edison had suffered financially, or had been frustrated in various ways by Jay Gould, a financier controlling A&P. In 1881, WU and A&P amalgamated under the control of Gould. Edison had worked for both companies at different times, but he saw little future for himself in the new giant concern. "When Gould got the Western Union, I knew no further progress in telegraphy was possible, and I went into other lines".

Given his subsequent achievements in those "other lines", one cannot but speculate what further developments would have taken place in telegraphy had he remained in that field, and what other means he would have found for transmitting his beloved Morse code.

In 1875, for example, while experimenting with an electric circuit, he produced sparks across gaps to which existing instruments would not react. He decided that this phenomenon was non-electric, and named it "etheric" force or current. A newspaper report, apparently quoting him, suggested that telegraph conductors might, in future, no longer need insulation, and that existing systems would be completely revolutionised.



...again and again...

He demonstrated the new "force" to scientists in New York. He was subsequently criticised and ridiculed, and

he abandoned his experiments before he could realise the true possibilities of the electro-magnetic waves he had created.

Later, he experimented with, and patented, various ideas for an inductive telegraph, and some of these patent rights were purchased by Marconi's radio company in 1903, to prevent them falling in the hands of opposing interests.

#### "Edison-effect"

In 1883, when seeking improvements to his incandescent vacuum lamp, he discovered that a third element inserted in the bulb, and unconnected to the lamp circuit, would take off a portion of the current flowing through the bulb when it was alight. He adapted this discovery to provide a sensitive monitor of lamp voltages, but again failed to realise where his experiments could have led him. The "Edison-effect" lamp, as it came to be called, was, in fact, the direct forerunner of the thermionic valve, brought into practical use at the beginning of the 20th century.

In his later years, he ruefully acknowledged what might have been. "What has always puzzled me.... is that I did not think of using the results of my experiments on "etheric force".... I have never been able to understand how I came to overlook them. If I had made use of my own work I should have had long-distance telegraphy". (Copyright reserved)





GA DOOM

OVIO am

## "Before the flying doctor"

### 

### by Dick van de Pol

Deep in the outback of Australia, one evening in 1917, Jimmy Darcy fell from his horse, trying, with others, to control a cattle stampede.

Like so many others, fighting for existence in the outback in those days, Darcy was a spartan character. He suffered from neglected malaria, and chronic appendicitis, staying in the saddle as long as the fever and pain allowed, but his fall put an end to this.

When he regained consciousness, it was clear that he needed medical attention, or he would die. But there were a few problems. The nearest doctors were at Wyndham and Derby, one 250 and the other 500 miles away. There was no telephone, there were no automobiles, streetcars, or aeroplanes, and the only road was a sunbaked mud trail.

His friends decided to take him to Halls Creek, a settlement 60 miles away, where the postmaster had some first-aid knowledge, and could contact the outside world by telegraph.

Darcy was carried on a small cart with iron wheels for 12 hours, and when the cattlemen woke the postmaster at midnight, he quickly ascertained that treatment was far beyond his capabilities.

After telegraphing for some time, he discovered that the doctors at Wyndham and Derby were not available. The only solution was to telegraph a doctor at Perth, some 2500 miles away. The telegraph system of 1917 was not able to carry a message directly over such a distance, and it was relayed from one station to another by hand until, at last, it reached Perth.

From this message, Dr Holland, in Perth, diagnosed a torn bladder, requiring an emergency operation. Postmaster Tuckett objected by telegraph that he could not undertake the operation, not only through lack of knowledge, but also through lack of medical equipment.

The doctor was insistent, if Tuckett did not operate immediately, the patient would die. Around dawn, Darcy was tied to a table ready for an operation by the postmaster, who used a pocket-knife in accordance with telegraphic instructions from the doctor a few thousand miles away.

The operation took 7 hours, and a day later Tuckett asked for new instructions as he saw no progress. The doctor told him a further operation was inevitable. Again the telegrapher used his knife, but there was still no improvement in Darcy's condition.

Dr Holland decided to travel to Halls Creek, a journey involving 1500 miles by sea to Derby, and a further 500 miles along the mud road. When he finally arrived, Jimmy Darcy had died the day previously.

The autopsy showed the cause of death to be neglected malaria. The doctor declared that the surgery had been carried out perfectly, and the bladder showed no sign of infection whatsoever. Had there been normal medical care available, Darcy would have survived.

Exceptional as this story may sound, it is not unusual even today, in the immense deserted wilderness of the Australian outback, for such crises to occur. If the Royal Flying Doctor Service did not exist, the outcome could be the same too.



OVOXO

S B M B




THE KEYS ILLUSTRATED in this "Showcase", and in coming issues of Morsum Magnificat, are part of the collection of John N. Elwood, W7GAQ, who very kindly sent the photographs from the USA.

These were taken by Ray Nelligan, USA. If anyone can provide additional information about any of the keys, for example details of manufacturer, or the type of key, where this is not shown, we would be pleased to hear from you.



1. EGB VEB Elektrogeräte BA4 Leipzig – Elekt.werte: 0,1A bei max.65V.



2. Fire-alarm key



3. Japanese, similar to the J-38 (American)



4. L.S.Brack MFG Co. J-7-A Newark, N.J.



5. Speed-X Model 501 Les Logar Co., Sar Francisco



6.Unknown - Nick name: Moby Dick



7. J.37



The wreck of SS Manalgi

WE HEARD THE whistle blast of a steamboat nearby, but the fog-enshrouded ocean made it impossible for us to see anything at a distance of more than a few hundred feet. We ventured down the cliff and made for the beach to determine the source of the whistle we had heard.

In the distance we could faintly see the outline of a ship. She had run upon one of the reefs that fringe the coast between Point Eeyes and Point Bonita, an area known to mariners as the "Potatoe Patch".

Soon the fog lifted a bit. A self-righting, self-bailing boat with three men aboard came from Pt. Lobos life-saving station, in answer to a distress call sent from the ship whose whistle we heard. The men in the boat were unable to get close to the stranded ship and it overturned in the churning waters.

The ship in distress was the lumber schooner Hanalei, equipped with a United Wireless installation and operated by Marconi with two wireless men. The senior operator was Adolph J. Svensen, the junior operator Loren A. Lovejoy.

The Hanalei launched a lifeboat, which was quickly dashed to bits on the reef. Then a second boat was launched, but it too failed to survive. Two sailors were drowned in the effort. An attempt was made to fire a mortar shell ashore, but it fell short of its mark. The mate then loaded the gun with a double charge of powder for the next shot; the gun was torn from his lashings and struck the officer in the chest.

Our chief rigger, George Hanson, established anchorages on the cliff and prepared to rig-up

a breeches buoy in the event that a line might be run from ship to shore. About sundown a young man named Schwerin volunteered to swim ashore from the Hanalei with a line. but it became untied, and when he reached the shore it was gone. At dusk, our men found a corpse in the surf and carried the blue body to one of the fires, that had been started along the beach to aid in rescue operations. Soon the corpse moved its eyes and we took it to the kitchen of the hotel where the wireless operators lived at Point Reyes. We revived the man. He was Captain Clark, one of those who failed to get safely back into the surf boat when it overturned. He was caught in a rip tide and swam all afternoon before landing on the beach, where he fell into unconsciousness.

Meanwhile a group of reporters from the San Francisco Examiner arrived. Finding that nothing much was being done to rescue those aboard the Hanalei, they called their office to request help. On telephoning the Golden Gate Saving Station the Examiner was told that no personnel could be dispatched to Point Reyes because there were no funds available for travel. The Examiner then hired a truck at its own expense and dispatched it with a crew of rescuers which arrived on the scene at about one o'clock in the morning.

The life-saving crew eventually managed to get two lines aboard the stricken Hanalei, one fore and one aft, while the ship was rapidly breaking up. Her cargo of railroad ties, her wooden doors and furnishings were all washed ashore. Eighty-three persons aboard were huddled on the ship's bridge and in the pilot house as she began breaking up.

The wireless shack was put out of commission soon after Svenson sent out his first distress call. Lovejoy, the other operator, then climbed the rigging to the mast-top where, with flashlight in hand, he calmly began communicating with those on shore.

About two o'clock the ship broke up. We could hear the wails of the people aboard. Then the wireless operator's flashlight signals were seen again. He was communicating from a piece of wreckage to which he was clinging. telling us that the water was covered with fuel oil and that some people were being suffocated by it.

The next morning, when all was over and the . Hanalei no more, 23 out of 83 persons aboard were gone. Among the dead was wireless operator Svenson. Captain Carey was saved, as was the first mate.

Following an investigation into the cause of the disaster, the Captain's license was suspended for one year.

Later he served as master of a Dollar Line vessel, which stood by the S.S. Vestris. when she was in distress off the New Jersey coast.

Following the wreck of the Hanalei a lifesaving station was established at Bolinas. but it has long been discontinued.

I made the following verse:

It is a tale by all asserted, Near Bolinas by the sea. Upon the rocks that shoreward skirted Was piled the steamship Hanalei.

At noontide on a day of mist. From her course far led astray. She quietly settled with a heavy list, Unsheltered either from sea or spray.

Now all that remains of the little ship. Are some sticks and timbers on the sands. Tossed hither and thither by the grip, Of the swells beneath where Marconi stands.

Haraden Pratt.





by John Lingards Sykes.

"FOR TWO PINS I'd ram the Eddystone light and find out whether rats really leave a sinking ship. If it is true I would be happy to go down on the bridge of my rat-free ship". The captain was just about at the end of his tether and none of us around the mess table had any word of comfort.

All ships provide food, accomodation and free transport for SOME rats but the S/S Edendale, when I was her radio officer in the midtwenties was a rodents' paradise, the most popular rats' boarding house afloat and with a very distinguished clientele. The vessel, a steamship with auxiliary sails. or, if you prefer, a sailing ship with auxilliary engine, had been built to serve the Australian immigrant trade but had long since been converted to a bulk freight carrier without any loss of her classical lines. With her three tall masts, clipper bow and a handsome figurehead representing Eve holding a golden apple in each hand, she aroused interest and admiration wherever she appeared. I am confident that Eastman Kodak made more money from her than did her nominal shareholders.

All her officers and crew adored the old lady but not more so than her rats none of whom had ever been seen to leave her. The Chief Officer, hoping against hope, that some of his fourfooted charges might be tempted to jump ship at Marsailles, a port greatly favoured by rats of all nationalities, had purposely omitted to affix rat guards on the mooring lines, but all he had to show for it was a whacking big fine and the Captain's formal if half-hearted repremand.

After more than a hundred generations of inbreeding it was not surprising that our pedigree pets had developed complete immunity from every known brand of rat poison and disdain for every known breed of cat. Our four non-descript moggies would only patrol in pairs and insisted on spending their nights in the crows nest. It was no wonder, that the Captain was at his wits end and the rest of us appathetic, but when the Captain announced, that he would pay fifty pounds to any member of the ship's company who would evict his unwanted tenants, there was a new surge of interest.

The engine-room staff produced an ingenious spring-loaded catapult intended to flick overboard any rat unwary enough to step on it.



It worked perfectly when tested with one of the Chief Engineer's shore-going shoes, but no rat approached within a yard of it.

A long, slim, well greased plank projecting over the bow and baited with salt fish turned out to be a novel and amusing arrangement for feeding dolphins and its inventor, 'Chippy' had visions of patenting the device and selling it to cruise liners, but it didn't drown a single rat.

My own attempt, bare electric wires stapled to the wooden deck failed dismally, but how was I to know, that a diet that included rubber boots would produce insulated feet ? Anyway I did bag a couple of barefooted seamen and might have got more if a sudden tropical rainstorm had not short-circuited the ships generator.

Such then was the state of play as the S/S Edendale put into the German port of Bremen at the mouth of the River Weser. Most of us in the Officers' mess had either forgotten about the Captain's proffered reward or had given up trying to win it: but not so our young Third Officer. A born romantic and something of a poet, he seems have been the only man aboard to appreciate that 'Hamelin town is in Brunswick' and that "the river Weser, deep and wide, washes its walls on the southern side'.

He had a hunch, that the town of the Pied Piper could hold the solution to our difficulty and he determined to go there on his day off. He was well aware, that the Pied Piper himself had disappeared into a hollow mountain along with the town's children, but he reasoned, that over the years, the shocked townsfolk could have discovered a better way of dealing with a rat-problem. In the event the Third Officer's enquiries led him to the Municipality's senior Pest Exterminator, who listened with respect and sympathy to the English youth's story before asking: "What colour are your rats ?"

On being told, that they were common or garden brown, he smiled and looked relieved; there was no problem at all!! Half-a-dozen Siamese White fighting rats, if released below deck, would gobble-up a ship-load of common browns though naturally it would take some time. On being asked where white Siamese fighting rats could be purchased, it 'transpired' that the Pied Pipers successor had only that morning received a small consignment from Bangkok and would be happy to release not more than six at the nominal price of fifty-thousand Marks (about £3.00) each plus something for a traveling cage. Nineteenpounds and six caged rats quickly changed hands with much good will on both sides. Nemesis was about to strike...



Back aboard the S/S Edendale the Captain, looking ten years younger, congratulated his junior officer and handed over twenty pounds with an assurance, that the money would not be deducted from the reward, which would become payable, when the ship arrived rat-free at a British port. The White Siamese fighting rats certainly looked their part, half as big again as our poor Brownies and with teeth like marlinspikes, but in the officers' mess rejoicing was more muted than might have been expected. In a strange way I think, we all felt a bit self-conscious and not a little ashamed over releasing the rodent equivalentof Bengal tigers among our innocent and unsuspecting fellow travellers. Such stratgems might be acceptable in Siam and even in Hamelin, but the S/S Edendale flew the red ension and what ever the name of the present game, it wasn't cricket.

Never-the-less when our cargo of maize had been discharged a white Frankenstein was released in each of the four holds, another in the engineroom and the sixth in the paint and rope locker.

After bunkering and loading a cargo of coal at Cardiff it was back to Buenos Aires for grain. It was a melancholly passage for those of uw who were sensitive to the masacre taking place below. The Third Officer became insufferable recounting how he intended to spend his reward. The Captain was even more self satisfied and called for a daily count of rats seen on deck. The number decreased steadily from 50 on passing the Longship light to three on the day we picked up our pilot at the mouth of the River Plate. So overjoyed was our genial Captain, that he promised a day's leave to every man in the forecastle and a slap-up dinner ashore to all his officers.

The announcement was made in the officers mess with unexpected results.

The Chief Engineer, a cynic if there was one and still bemoaning his lost shoe, put forward a counter proposal, that the celebratory dinner should be held aboard and that we should dine on rabbit.

The Captain's fury was terrible to behold. "Rabbit, Mister? What the devil do you mean, rabbit ? If this is some kind of joke I would remind you that I have no sense of humour, none whatever".

"I only mean that the Second Engineer, the Donkeyman and a couple of stokers have all reported seeing large brown and white rabbits in the stokehold. I know, that the Donkeyman has been known to see pink elephants on occasion, but never at sea. The Second is a lifelong tetotaller and I have no reason to doubt the veracity of the stokers, both of them have sailed with me ever since I became Chief".

There was only a moment of deathly silence before the truth dawned. The Third Officer's face went white, the Captain's purple. The second Officer collapsed in a fit of hysterical giggles and several others at the table appeared to be choking.

Yes, you have guessed it ! The brown and white spectres were not rabbits but hybrid rats, twice as large as their Siamese dads and three times the size of their British mums. Where there had been scores before there were hundreds now and this was only the beginning, but a good point to end my story.

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HOW TO FIND A WIFE circa 1928.

Spark-gap 3

I WAS BACK home "between jobs" when I learned that there was a new lady manager at the Western Union. Being single, and about 20 years old, I decided to "look the situation over", so to speak.

Always the jokester, I introduced myself to the new manager and told her, that I would like very much to learn how to telegraph, and wowld she enroll me as a sudent-operator ?

She was polite, but unenthusiastic and said something about having to get permission from HQ first.

About that time the relay office called her with a long day letter. I could tell she was struggling to copy it, so I walked through the swinging door and told her to get up and let me sit down at the operation position. Evidently my voice had a ring of authority to it, as she got up without protesting. Having had experience on duplex circuits, and in relay offices, I had no difficulty in copying the message.

She forgavé me for deceiving her..... and a few years later we were married.





## Short record





A nondescript nonentity, a limb of the Oppressed, I wear no badges on my arm, no medals on my chest, But though my past is colourless, my future dim and bleak, I cherish a distinction which is probably unique.

Of all the mass of traffic through the tortured ether hurled, By all the busy tells of all the navies of the world, No morse of mine impinged upon a fellow-speaker's ear, I never sent a signal in the whole of my career.

I used to wonder meekly when "Control" would let me in, To add my little quota to the universal din, Then realised my destiny, surrendered to my fate, Eternally to sit and serve by being told to wait.

But once, and only once, I found my baser self constrained, To break the wireless silence I so rigidly maintained, My weary watch was over, my relief was overdue, I gently, briefly pressed the key to see what it would do.

I often sit and wonder where that blameless dot has gone, If still through endless time and space it hurries bravely on, Disowned by its creator and dismissed the parentship, Unauthorised, attenuated, lonely little pip.

But though beyond our universe its travels may extend, It still will bear my fingerprints on reaching journey's end, And beings in some unknown world may trace it back to me, As surely as the flagship did in 1933.





