WATTS

04 - 2008
Year 78 +4m

Monthly newsletter of the Pretoria Amateur Radio Club
Maandelikse nuusbrief van die Pretoria Amateur Radio Klub.

PARC, PO Box 73696 Lynnwood Ridge 0040, RSA

web http://www.zs6pta.org.za mail:zs6pta@zs6pta.org.za

Bulletins :145,725MHz 08:45 Sundays / Sondae
Relays : 1840, 3700, 7066, 10135, 14235, 51400, 438825, 1297000kHz
Activated frequencies are announced prior to bulletins
Swapshop:Live on-air after bulletin 2m and 40m
Bulletin repeats | herhalings : Mondays 19:45 on 145,725 MHz

ZR6FD logo

Papier / Paper ZS6JPL

Drukwerk printing ZS6JPL

PARC Mega-fleamarket 8 March

more on p4

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Notules
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Lede-bedrywighede
Tegniese items
Bladsy agt

Next Meeting
5 April 2008

Time: 13:30 for 14:00
PARC Clubhouse
South Campus
University of Pretoria
SE cnr University and
Lynnwood roads

PARC Management team / Bestuurspan Oct. 2007- Sept 2008:

Committee members					
Chairman, Fleamarkets	Alméro Dupisani	ZS6LDP	chairman@zs6pta.org.za	012-567-3722	082-908-3359
Secretary, Vice Chairman Rallies, Social, Hamnet	Johan de Bruyn	ZS6JHB	secretary@zs6pta.org.za	012-803-7385	082-492-3689
Treasurer, Database, DF hunts	Richard Peer	ZS6UK	treasurer@zs6pta.org.za	012-333-0612	082-651-6556
Repeaters, Technical	Craig Symington	ZS6RH	technical@zs6pta.org.za	083-259-3233	083-259-3233
SARL liaison	Pierre Holtzhausen	ZS6PJH	zs6pjh@qtsp.co.za	012-655-0726	082-575-5799

Co-opted / Geko-opteer:					
Repeaters, technical	Johan Lehmann	ZS6JPL	jlehmann@csir.co.za	012-841-3648	083-300-8677
Auditor	Position open				
Newsletter/Kits	Hans Kappetijn	ZS6KR	editor@zs6pta.org.za	012-333-2612	072-204-3991
Asset control	Andre v Tonder	ZS6BRC	andreh.vtonder@absamail.co.za	361-3292	082-467-0287
Klubfasiliteite, vlooimark	Willie Greyling	ZR6WGR	willie@up.ac.za		082-940-2490
Webmaster (non-member)	Wesleigh				
Hamnet, projects	Roy Newton	ZS6XN	newtonr@telkomsa.net	012-547-0280	
Historian/Awards	Tjerk Lammers	ZS6P	zs6p@iafrica.com	012-809-0006	
Public Relations	Graham Reid	ZR6GJR	greid@wol.co.za		083-701-0511
	Thobile Koni	ZS6TKO	toko40@mweb.co.za		082-493-2483
Tea	Molly Peer	ZR6MOL	molly@peer.co.za	012-333-0612	
	Doreen de Bruyn	ZR6DDB		012-803-7385	082-857-9691

Minutes of the monthly club meeting of the Pretoria Amateur Radio Club held at the South Campus of the University of Pretoria on 12 March 2008

Welcome: Almero ZS6LDP declared the meeting open and welcomed all who attended.
Attendance: The meeting was attended by 16 members.
Apologies: Apologies were received from Bill ZS6KO.Lizette ZS6LZT,Suzette ZR6SVW,Roy ZS6XN,Doreen ZR6DDB,Edwin ZR6ESP and Hilary ZR6HAP.
Personal Matters/Lief en leed: Jac Roux ZS6QA had a bad fall and is currently in Eugene Marais hospital. Congratulations to Vitor ZS6VG and his sw with their first grandchild. Fred ZS6MRA back in hospital.All the best to you Fred.
Laaste maar nie die minste nie: geluk ook aan Pine ZS6OB en sy lv wat weer Oupa en Ouma geword het.
Minutes of previous meeting: The minutes of the previous meeting as published in Watts were approved. Proposed by Pierre ZS6PJH and seconded by Willie ZR6WGR.
Matters arising from previous minutes: None.

Club Activities:

Rallies: Johan ZS6JHB – Rally season in full swing Next event in Bronkhorstspruit on !9th April.Rally. HQ will be at Rally Star just outside of Babsfontein. We will be required to do comms for two National events namely the Sasol in Nelspruit on the weekend of 2nd and 3rd of May.The Total rally is scheduled for 30th and 31st of May in Ermelo. If you would like to assist with communications on any or all of the events please contact Johan ZS6JHB on 082-492-3689 or send a e-mail to johandbr@absa.co.za.
Social: Next social event will be a bring and braai after the club meeting on Saturday 5th April at the clubhouse. We did want to do a function at PMC but had to abandon our plans as the PMC premise are not available.
Fleamarket: Almero ZS6LDP - Fleamarket was a huge success – Thanks to the van Wyk's for the Hamburgers and worsrolls, Richard and Molly for the cold drinks, Willie for the sound system and everybody else who assisted Almero.
Financial Report: – Richard ZR6CK – Reported on the club's finances.
Fox Hunt – Date to be announced.
Projects: Roy ZS6XN has available: 20 x 3 LED monitor kits (R20.00) and 10 LED Battery control charger kits (R170.00) Please contact Roy if you are interested.
Contests: Pierre ZS6PJH – UHF/VHF Contest on 15 and 16th March.Pierre ZS6PJH and Pieter ZR6AHT will meet up with members who want to assist on Saturday morning and take them to the site where they will be operating from.
General/Algemeen: Membership cards:Johan ZS6JHB is waiting for feedback on prices to finalise the printing etc of membership cards.
Presentation: Hans ZS6KR - video - Hallicrafters in 1940.
Next meeting: Saturday 5 April 2008. Starting time 14.00.
Closing: The meeting closed at 21:15 .

Editorial: **I copy here a posting to the SARL forum. *The club and possibly our induviduals can do the same?***

Greetings to all. By going through the call sign lists from Div.1 to Div.6 I counted all together 7,847 call signs. 1530(1), 570(2), 83(3), 418(4), 976(5) and 4270(6) -- ONLY 1244 are members of SARL. This is an ashaming figure of only 17%.
Div 1(18%), 2(16%), 3(25% !!), 4(12%), 5(16%), 6(15%)
Come on guys and ladies: Give your heart a push. Become a proud member of SARL and thereby increase the weight of SARL locally and internationally. I like as well to challenge the members to follow my example:
I offer to pay for two non-member senior ham's or students the annually subscription fee for 2008 and 2009. Just sent me an e-mail with your request or give me the details of interested hams who cannot afford. I shall contact them by snail mail.
Lets try to bring the membership figure up to at least 20% until June 2008.
Best 73's
Klaus ZS1QO. Proud SARL member since 1984. **(Editors note:** some people have more than 1 call sign so figures are even less)

Birthdays April Verjaarsdae

01 Melanie, daughter of Peggy and Ed ZS6UT
02 Pieter ZS6PVW en Magda ZS6MVW (25)
02 Fred ZS6MRA
04 Joe ZS6AIC
07 Tamzyn, daughter of Gary ZR6GK
08 Ronell ZS6BRX, dogter van Susan en Freddie ZS6JC
08 Bertha, sw of Hans ZS6KR
08 Klasie, seun van Sylvia en Tjerk ZS6P
09 Tanya, daughter of Pat ZR6AVC and Frank ZS6GE
10 Joey, Sw of Graham ZR6GJR
10 Callan, son of Phil and Craig ZS6RH
11 Susan, dogter van Susan en Freddie ZS6JC
12 Marina, doghter van Hennie ZR6HEN
12 Jan ZS2LJ
13 Liam, Son of Heather and Vince ZS6BTY
16 Tobie,seun van Magriet en Tobie ZS6ZX
19 Anne, sw of Jac ZS6QA
21 Wynand ZS6ARF
22 Hennie ZR6HEN
22 Marieta, sw of Roy ZS6MI
24 Antonio ZS6OAJ
25 Erna, dogter van Susan en Freddie ZS6JC
25 Gerhard, son of Sander ZS6SSW
28 Tracy, daughter of Rita and Vitor ZS6VG
29 Heather, sw of Vince ZS6BTY

Anniversaries April Herdenkings

05 Chrissy ZS6JX and Dave ZS6JW (56
06 Lynn en Andre ZS6BRC ( )
07 Rae and Mike ZS6AFG (52)
08 Merilyn and Deryck ZS6KQ (47)
12 Rika and Errol ZR6VDR (39)
30 Joey and Graham ZR6GJR (25)

Joys and Sorrows | Lief en Leed

Jack ZS6QA was back in hospital after a fall that hurt his knee. Beat wishes OM, and let's hear you on 2m
Vitor ZS6VG and became a grandpa recently as well as **Pine ZS6OB** (again)
Mike ZS6AFG is to undergo a serious operation
Ivan ZS6AUT underwent a bypass operation
Ed ZS6UT 's sister is seriously ill.
Antoinette ZS6D sw of Danny ZS6AW was recently in hospital

Nuwe Lede | New members

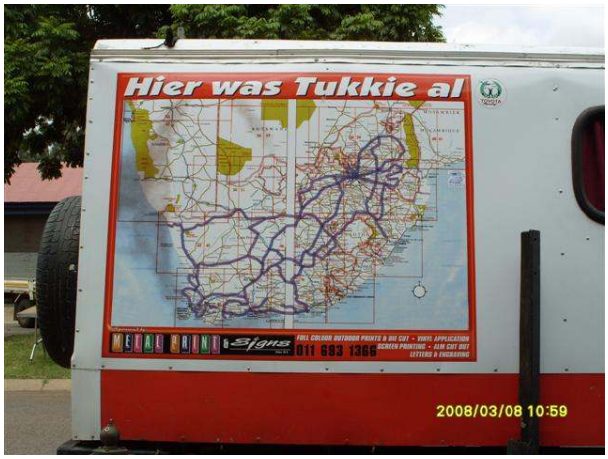
If none, let's go get some…

FUTURE MEETING DATES

Even months: Saturdays 14:00			Odd months: Wednesdays 20:00		
Jun	14	2008	May	14	2008
Aug	09	2008	Jul	09	2008
Oct	11	2008	Sept	10	2008
Dec	13	2008	Nov	12	2008

Diary | Dagboek (UTC times)

Apr	03	SARL 80m QSO Party
	05	**PARC Club meeting NB: a week earlierl**
	06	Last day for attendance booking at SARL AGM
	05-06	SP DX Contest 1500-1500
	11-13	SARL AGM in Bloemfontein
	12-13	Radio Maritime Day 1200-1200
	13	UBA Spring Contest 0600-1000
	19	SARL Space Communication
	19	Holyland DX Contest 0000-2359
	21	Closing date for Garth-Milne Technology Award

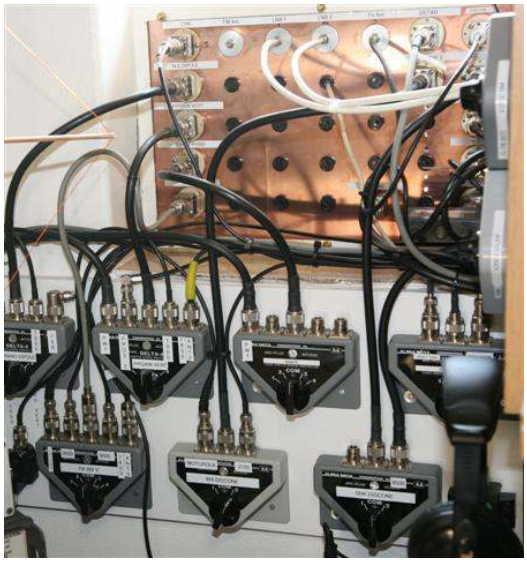


Snippets | Brokkies

- **PARC** came second as a multi-operator HF field station in the February leg og of the contest this year. Well done guys and gals! (see last WATTS issue)
- **Our 438,825 repeater** is linked to the North. (88,5 tone)
- **Chris ZS3B/ ZS6BGH** se driewiel voertuig spog met 'n landkaart waar Tukkie oorals was. (foto by PARC vlooimark geneem)
- **VHF/UHF Contest:** Our team was literally rained out from late Saturday 15 March and had to pack up on Sunday morning. Bad luck guys and we appreciate your constant enthusiasm and efforts in all the SARL contests to keep the PARC name high.
- **ZS6PTA repeater burnout:** Our repeater was held on TX for several hours on end by some inadvertently PTT'd TX during middle February. The repeater 'brick' had to be replaced and its time-out has now been set to 30min. If your radio has a time-out, please set it to 5min. That could also save your radio!

Vlooimark Maart 2008

Shack photos : Nico (soon ZS6AQ; ex ZR6VT)



TETRA. A new era in Wireless communication

Information from Marconi Communications and article from Electron June 1999 Roy ZS6MI

Tetra is a digital wireless service that offers high quality voice and fast data transfer. It is also a European standard. Not only does "good ol' analogue" look decidedly dowdy by comparison, Tetra devotees are thinking long term and global. This article offers answers to some of the most commonly asked questions regarding this new technology.

What is TETRA

Tetra an acronym for Terrestrial Trunked Radio is a standard that is being developed by ETSI (European Telecommunications Standards Institute) for a new generation of digital trunked - in other words core or backbone network - radio products. Originally known as Trans European Trunked Radio, the acronyms wording was altered to reflect a greater geographic scope and application as interest in TETRA grew. It is a TDMA (Time Division Multiple Access) based standard and, as the TETRA protagonists are quick to point out, it is the only standard endorsed by ETSI.

Who will use TETRA

The market for TETRA systems includes emergency services, construction companies, public utilities and transport networks - any group of users that has a demand for high-performance communications, i.e. fast call set-up, high-quality speech capable of overcoming noisy environments and the delivery of efficient group communications between terminals.
Today, most public safety organizations, such as ambulance services, run their own system known as PMR (Private Mobile Radio). Many other users rely on PAMR (Public Access Mobile Radio) systems and buy airtime from a PAMR network operator, such as Dolphin Telecommunications. TETRA is relevant to both private and public network users.
In short, typical TETRA users will include: Public radio network operators; emergency services; public services (such as customs or environmental protection); transport; utilities; industry (manufacturing, mining, oil) and the military.
In addition, TETRA should supplant four bits of hardware in the cab: the mobile data terminal; the PMR dispatch telephone; the cellular phone and a pager. It will convey internet protocols directly to corporate LAN's, enabling a user, for example to log directly into a stock control database or head-office sales portfolio. With compression, it can be a videophone, with real-time movement, available from a GSM/PCN-like terminal.

What does TETRA offer users

A fully operational TETRA system looks set to combine the features of digital cellular, mobile radio, wireless data and paging with national coverage, high voice quality, instant call set up and corporate VPN's (Virtual Private Networks) for workgroups.
It's combination of performance, features and facilities is not found in any other mobile communications standard, and has faster data speeds than anything currently available in mobile technology, including GSM.
The Features TETRA promise include:

- High-speed quality under poor signal conditions and in noisy environments.
- High-quality reception over cells up to 80km at 400 MHz
- Rapid call set-up (under 0.3 seconds) person to person and person to group calls can be set up quickly in comparison to a typical 0 seconds for GSM/PCN systems (the elimination of dialing and ringing improves this still further).
- Easy to use, full duplex (two-way) conversation , with PSTN or PABX I interconnection.
- Simultaneous voice and data transmissions of up to 19.2 kbps.
- Image transmission capability; video and internet access have been demonstrated successfully over Tetra using the IYU H.263 compression algorithm.
- High security, plus a choice of encryption methods: voice, data, signaling and user identity can all be encrypted as users demand. There are four options; air-interface encryption using ETSI algorithms; authentication using a challenge-response mechanism; mutual authentication for higher security; end to end encryption of the most security-critical applications.
- Efficient use of radio spectrum, via trunking and four-voice conversation in 25 MHz channels; with frequency at a premium, available spectrum has been divided, over the years , into smaller and smaller slices, reaching a channel spacing of 12.5 kHz in the United Kingdom. Users migrating to TETRA, whose capability is greater than existing methods, should free spectrum currently tied down with analogue systems.
- Direct inter terminal communication, mobile to mobile: direct mode allows terminals to communicate with each other so that, where coverage exists radios will still communicate with one another on a one to one basis, Cellular mobile phone systems cannot provide this service.
- Low cost infrastructure
- Repeater operation from standard terminals; a standard mobile terminal can be used as a repeater to extend coverage of TETRA network.
- Network broadcast facility: Transmissions can be made to all users,
- Call priority allocation: up to eight levels of priority can be set so that cells with high priority can be "overrule" those of lower priority if no idle channels ar available.
- Group call and group communication: a number of users can share the same channel, enabling many users to coordinate on a specific task or monitor the activities of other members of the group. Typical users will include vehicle fleets and emergency services.
- Automatic cell management or dispatcher control.

What about the technical details?

Tetra is based on a 25 kHz TDMA carrier (underlying transmission path) that supports up to four voice channels and on-demand data transfer at up to 28.8 kbps. The carrier includes high-level security and encryption features.
Tetra can be considered as a set of three generic standards: one for trunked voice and data, one for data and a third , direct mode that offers conventional mobile radio (voice). Depending on the user's needs, one or more of these variants can be packaged in standards-based equipment, making TETRA a flexible and powerful tool.
Moves to achieve common frequency bands in Europe are continuing. For the emergency services ,CEPT/ERC have allocated two blocks of 5 MHz in the 380-400MHz band. This will support cross-border roaming by the emergency services - a significant achievement over existing systems. It will also enable manufacturing and development efforts to be focused on a single band, delivering economic advantages in pricing and type approval.

What about investment in existing analogue systems?
It is possible to migrate from analogue systems to TETRA this has been taken into account by its creators. TETRA systems can use the same bandwidth and geographic range as many existing MPT 1327/1343 analogue systems. In many cases it will be possible to retain some of the analogue equipment and add TETRA sub-systems. Where this proves impractical , digital base stations may be added, one by one to run alongside the analogue system so that the change over period can be extended.

What are the shortcomings of GSM and analogue systems by comparison.
Current digital cellular telephony offers national coverage and PSTN access, but its data transfer rates are too low (due to be 14.4kbs). It also lacks the instant call set up and work group capability provided by existing analogue mobile radio networks. Today's analog mobile radio networks are limited to simplex (one way) operation and offer relatively poor PSTN connectivity. Mobile packet data networks offer dedicated data only services but coverage is limited, transmission rates are low by comparison and there is no voice communication.

Is TETRA a purely European phenomenon?
Far from it. In the last 18 months, for instance, manufacturers in Australia have been examining TETRA closely: some users have also requested the introduction of non European aspects into the standard. One result is the setting up of an Australian TETRA forum. The forum includes companies such as Motorola, Ericsson, Nokia and Simoco.
Yes, and we all know about our own release of the TETRA system here in South Africa..

MARION ISLAND TO BE ACTIVATED

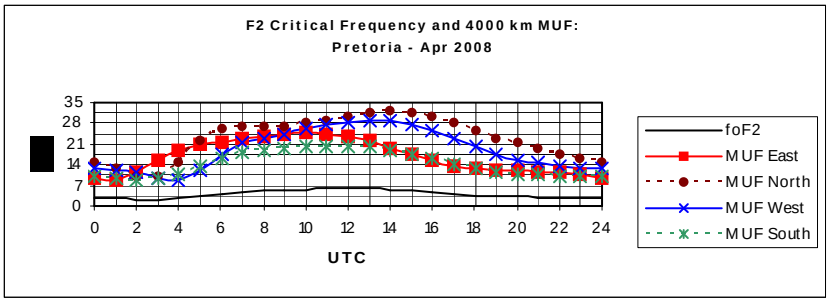
The ZS8T team consists of the following people: Press and logistics support: Rhy ZS6DXB, Finance and logistics support: Don N1DG, Finance support: Tom N4XP, QSL manager Emil LZ3HI, Website: Christian DL6KAC and Col MM0NDX, Design+ graphics: Stan SQ8X. Operator: Petrus ZS6GCM. Date: May 2008.

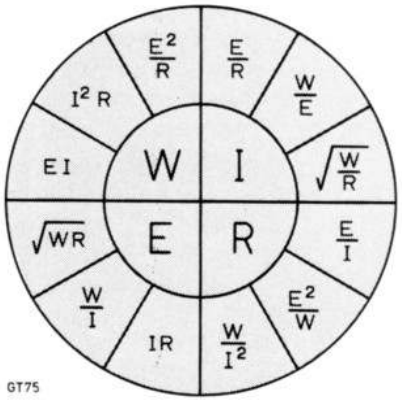
Sponsors: IC-7000 by ICOM America, 5-band HD yagi by Spiderbeam,funds from NCDXF for an Ameritron AL80 linear amplifier with with a Steppir vertical, Signalink USB interface by Tigertronics, all QSL cards and QSL management services by Emil LZ3HI as well as finacial donations made by many DX organzations and induviduals.

Petrus has undergone extensive training since his recent 3Y0X operation. Marion Island is #6 on the DX Magazine Most Wanted list.

Long Term HF Propagation Prediction for April 2008 (courtesy Vince ZS6BTY)

DX Operating
The graph shows the 4000 km maximum useable frequency (MUF) to the East, North, West and South from Pretoria for the first hop using the F2 layer.
Local Operating
The F2 critical frequency (foF2) is the maximum frequency that will reflect when you transmit straight up. E-layer reflection is not shown.





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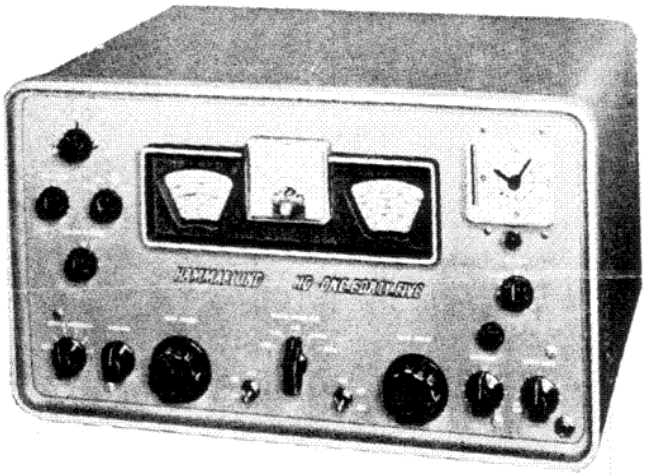

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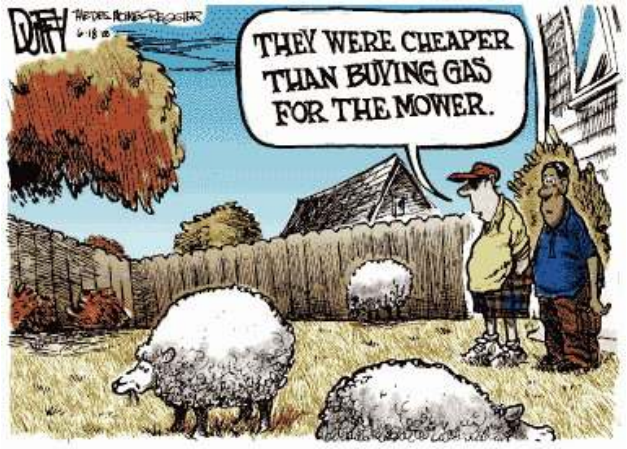

Unfortunate Husband: A man pushed his motorcycle from the patio into his living room, where he began to clean the engine with some rags and a bowl of gasoline, all in the comfort of his own home. When he finished, he sat on the motorcycle and decided to give his bike a quick start and make sure everything was still OK. Unfortunately, the bike started in gear, and crashed through the glass patio door with him still clinging to the handlebars.

His wife had been working in the kitchen. She came running at the fearful sound, and found him crumpled on the patio, badly cut from the shards of broken glass. She called 911, and the paramedics carried the unfortunate man to the Emergency Room.

Later that afternoon, after many stitches had pulled her husband back together, the wife brought him home and put him to bed. She cleaned up the mess in the living room, and dumped the bowl of gasoline in the toilet.

Shortly thereafter, her husband woke up, lit a cigarette, and went into the bathroom for a much-needed relief break. He sat down and tossed the cigarette into the toilet, which promptly exploded because the wife had not flushed the gasoline away. The explosion blew the man through the bathroom door.

The wife heard a loud explosion and the terrible sound of her husband's screams. She ran into the hall and found her husband lying on the floor with his trousers blown away and burns on his buttocks. The wife again ran to the phone and called for an ambulance.

The same two paramedics were dispatched to the scene. They loaded the husband on the stretcher and began carrying him to the street. One of them asked the wife how the injury had occurred. When she told them, they began laughing so hard that they dropped the stretcher, and broke his collarbone.