

JANUARY 20

SATURDAY

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From 12.45

**GRANDSTAND**

Introduced by **DAVID COLMAN**  
direct from **TWICKENHAM**

Featuring  
**INTERNATIONAL  
RUGBY UNION**

**ENGLAND  
V.  
WALES**



BBC outside broadcast cameras bring you the whole of today's match in the Rugby Union International Championship

The match can be seen to colour an BBC-2

Commentator: **BOO McLEANE**

Scorekeeper: **OWEN MORGAN**

Telephone introduction by Alan Milner

**RACING**

from **Longfield Park**

1.6 **Orpington Hurdle** Race (Clv. II) over 2 miles

1.36 **Westerham Handicap** Steeplechase over 3 miles

1.6 **Spaux Navico's Steeplechase** (Clv. III) over 2 miles

Commentators: **Peter O'Sullivan** and **Clive Graham**

Telephone introduction by Dennis Minger

**TEST CRICKET**

from **Trinidad**

**West Indies v. England**

Brian Johnston and David Campion report with Grandstand film cameras on the start of the First Test Match yesterday in Port of Spain, Trinidad  
See page 37

**AMATEUR BOXING**

N.W. London A.S.A. v.

Tel Aviv A.B.A.

Highlights of this international match at Grosvenor House

At 4.45 **Results Service**: Classified football results, Boxing results, Rugby League and Rugby Union results

Presented by **Brian Vanner** and **Don Sayer**

Editor: **Bryan Coghill**



**10.00 a.m.-10.25**

**KOHU MITI**

For beginners in German  
It's the Bible

with **Helm Freuter, Steber Seifner**  
Introduced by **Sabine Michael, Paul Nimmer**  
Presented by **Olga Reize**  
Shows last Sunday

**10.30 to 10.55**

**BONJOUR FRANÇOISE**

For absolute beginners in French  
Il: C'est le poisson de chef!

with **Françoise Brissacort, Helen Powers**

and **André Maréchal, Pamela Stirling**

Written by **Simon Payne** and **Joe Cassano**  
Presented by **RODOLPH SIMON**  
Shows last Tuesday on BBC-2

**12.40**

**THE WEATHER MAN**

**Graham Parker**

**12.45**

**GRANDSTAND**

See panel and facing page

- WOMEN'S HOCKEY**  
5.00 Racing  
1.04 Football Results  
1.30 Racing  
1.38 Rugby Union Preview  
1.50 Racing  
2.00 Football Results  
2.09 Rugby Union International Results v. Wales  
4.0 The Centre  
4.00 Results Service  
These times may be altered by news

**BBC Wales**

**WENDE WALE** (Dance II)  
6.44-7.15 **Hi-Well** in quiz programme



**2.20 p.m.-4.0\***

**RUGBY UNION**

**England v. Wales**

Featuring the whole of today's classic fixture at Twickenham  
Commentator: **BOO McLEANE**  
Telephone presentation: **Alan Milner**  
See Grandstand and facing page

+

**7.0-7.30 News and Sport**

**5.15**

**TOM AND JERRY**

playing Cat and Mouse in a selection from the world-famous award-winning cartoon films

Created by **WALTER DISNEY**  
and **Jim Musenda**  
The Cat and the Mousie  
... a day later!

**5.25**

**DR. WHO**

An adventure in space and time starting

**PATRICK TRUDGEMAN**

as **Dr. Who** and **Solomon**

with **MARY PEACH, BILL KEENE**

**COLIN DOUGLAS**

and **Frazer Hines, Deborah Watling**

**The Enemy of the World**

by **David Wisnawa**

Part 1

Part 1 in order of appearance:  
**SHANE BROWN**..... **COLIN DOUGLAS**  
**WILLIAM**..... **BILL KEENE**  
**ALVIN**..... **MARY PEACH**  
**Dr. Who**..... **PATRICK TRUDGEMAN**  
**SOL**..... **SOLYMAN**  
**SHANE CAPTAIN**..... **FELLYN CLEGG**  
**FRANK**..... **FELLYN CLEGG**  
**JERRY**..... **FRANK DOUGLAS**  
**FRANK**..... **FRANK DOUGLAS**  
**SALAMANDER**..... **PATRICK TRUDGEMAN**  
**FRANK**..... **FRANK DOUGLAS**  
**COLE**..... **FRANK DOUGLAS**  
**MARY**..... **MARY PEACH**  
**SHANE IS CRIPPLE**..... **SHANE BROWN**  
This issue by **BOB CAHILL**  
and the **BBC Radio/Television Workshop**  
Designer: **Christopher Pearson**  
Producer: **Kevin Linn**

Directed by **Robert Lewis**

See colour feature on centre page

**5.50**

**THE NEWS**

and **THE WEATHER MAN**

**Graham Parker**

**6.0**

**THE MONKEES**

Four young men and their music finding fun in their way-out way  
A film series starring

**DARY JOHNS, PETER TORK**

**MIRY BOBBINS**, and **MIKE NEWMITH**

Monkeys in Town

... see out as tough, mighty tough in the west!

**6.25-7.10**

**DEE TIME**

The Saturday songs

with **SHANE BROWN**

Introduces his guests

including **Graham Hill**

**Shannon Doarle**

**Long John Baldry**

**Simon Dupree**

**Kenny Daves**

**John Denver**

the **Axis Animateur Orchestra**

**JOCK MACRAE, JOE STRAWLES**

**George, Kenneth Sharp**

**Strawles, Bruce Springsteen**  
Production: **SHANE BROWN**

**Witney**

**DIRECT FROM**

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**EXCHANGE OFFER**

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**55/-**

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# RADIO TIMES MAGAZINE



## THE MONSTROUS WORLD OF DOCTOR WHO



Deleks, Cybermen, Yetis, Ice Warriors—familiar monsters guaranteed to chill the blood of anyone over the age of ten. But where do they come from? Who dreams them up? How are they made? How do they work? We sent Gay Search to find out . . .



A member of the deadly clan of Ice Warriors



The Daleks—  
Dr Who's most  
dedicated and  
invincible  
enemies

The mark of the  
Yeti, footprint  
of the Abominable  
Snowman



Silver Cybermen,  
the monsters with  
computer minds



Last week we saw how the men from Mogul, and the other oil companies, work at drilling for gas in the North Sea—and are finding it. But what they all fail to realize is that they are running an enormous risk. Because the bottom of the North Sea is the home of a very strange creature and the gas being pumped out at high speed is its food. The creature, disturbed and outraged by this human encroachment on its domain, makes its way ashore bent on vengeance.

We are now—if you haven't guessed—in the fantasy world of Dr. Who, and the creature is yet another monster for the Doctor and his companions to tackle.

In the five years that the series has been running, there have been almost as many monsters as there are dials on the Tardis' instrument panel, and most of them the brain children of the BBC's Wardrobe and Visual Effects Department.

#### A sea creature emerges

This latest addition to the family—the sea creature—is being dreamed up by Jack Elms and his team in Visual Effects. For once it will not be based on an actor. Jack has found a new substance that fits the bill admirably. 'It is hard to describe,' he says, 'but you know the foam you see collecting on rivers at weirs? Well, imagine that five thousand times bigger.'

Jack was experimenting with some a few weeks ago and in a very little time was able to get it to a depth of thirty feet. The creature is a bit like plasmas—it starts in bits that gradually come together to form the final unshaking beast. 'It's about the size of a first division football crowd!' says Jack.

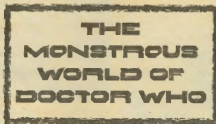
Before the advent of the sea-creature, the idea was to keep Dr. Who's enemies as villainous and as mechanical as possible. Jack's boys look to the Doctor with mixed feelings, because in every story he evaded by destroying the evil creatures and often wrecking their city—things that they spent weeks creating. 'Ah well,' says Jack, philosophically, 'I suppose the badies must always lose.'

#### The Daleks

But of all the monsters, none has caught the imagination of children of all ages like the Daleks did. They were based on an idea of Terry Nation's, and within weeks there were little figures shuffling everywhere with outstretched arms saying,

'ex-ter-min-ate, ex-ter-min-ate.' Jack thinks their popularity is due to the simplicity of their shape. Any child could make himself look like a reasonably good Dalek merely by bending a sheet of cardboard round his body.

And when Blue Peter organized a contest last year for children to design their own monster, the Dalek was one of the most obvious winners. But the winners in each group showed a good deal of imagination and originality—the octopus-like creature with hundreds of exploding arms which, incidentally, terrified its four-year-old designer when she saw it made up, the bug-eyed robot with the sonic gun in his chest, and the very sinister hyposteen with a lizard-shaped body and one huge staring blood-shot eye! Visual Effects had just five days to get these creatures made up, but they did it.



For once they had to organize only one creature of each sort, whereas they must have made dozens of Daleks in all sorts of sizes and materials.

For the big battle in 'War of the Daleks' when many Daleks had to be ex-ter-min-ated, Visual Effects built some in very lightweight balsa-wood that would fragment easily when the explosion inside them went off. The other Daleks, made from aluminum, glass fibre, plywood, cast anything up to £300 each!

Daleks' brains, the stuff that came oozing out when their heads were blown off, is a Visual Effects 'special', cellulose wallpaper paste mixed with foam rubber chippings and tinted a careful shade of green. This same mixture—minus the foam chippings—was used for the slime of the Maccra.

#### The Yeti

The Yeti were a completely different kettle of fish—or whatever the correct genre. We went with them to the foothills of the Himalayas—well, North

Wales actually—to see them filming on location. The Yeti were built on bamboo frames, padded with foam rubber and covered with fur. Their hands and feet were made of moulded rubber which did not give them a very firm grip on the wet, rather slippery, Welsh mountain.

Yeti, unfortunately, are rather like tortoises or beetles—once they have fallen on their backs they can't get up again unaided. So once they had fallen over they just had to lie there while a few mountain sheep looked on in amused detachment until help arrived. The Yeti did not turn out quite as terrifying as planned. Small children who came to watch the filming thought they were lovely and kept patting them and stroking their fur.

For their new 'adventure', 'Dr. Who and the Web of Fear', which begins on February 3, the 'Intelligence'—the oozing

operated by good old-fashioned string.

#### The Ice Warriors

The most recent race of monsters to threaten the crew of the Tardis (incidentally there are four Tardis, ranging from a full-size model to one only four inches high) were the Ice Warriors. They were all played by actors of at least six feet six inches who, by the time they got their helmets on, towered a terrifying seven feet above the ground.

Martin Baugh who designed the costumes based them very largely on reptiles.

The body part, or shell, as Bernard Bresslau (chief of the Ice Warriors) called it, is made of moulded glass fibre. Roger Jones, another Ice Warrior, says that after wearing the costume for half an hour, he felt as though he had been working down a coalmine for two days!

The sonic guns which the Ice Warriors use and their effect on people are Visual Effects' products. The way people appear to crumble and distort when the sonic guns are fired at them is all done with mirrors—literally. Highly polished foil is stretched very thinly over a frame, forming a perfect mirror. The camera then focuses on the actors' reflections and when the foil is pushed gently from behind, these distort.

#### Radiophonic Workshop

Most of these monsters have correspondingly weird voices and these, along with the title music, are created by the BBC Radiophonic Workshop.

In the case of the Daleks, the chief voice is Peter Hawkins. His words are fed into a special modulator which produces the familiar harsh jerky sound of the Daleks.

For the Cybermen a different sort of modulator is used to give them tiny voices to match their rather tiny bodies.

Apart from the monsters themselves, the Visual Effects Department are kept pretty busy with other things, from instant snow to flashing light sequences on the computers.

Perhaps the most spectacular scene of all was the glacier crumbling and melting. Very cleverly done on the model with bicarbonate of soda and steam. Dr. Who calls for a lot of work with models—lunar landscapes, views of Tibetan monasteries seen from great heights, and erupting volcanoes. But the Visual Effects boys take all this easily in their monstrous stride.