



Piccolo

THE MAKING OF DOCTOR WHO

Malcolm Hulke & Terrance Dicks



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Terrance Dicks
and
Malcolm Hulke



A Piccolo Original

PAN BOOKS LTD : LONDON

by arrangement with the British Broadcasting Corporation

First published 1972 by Pan Books Ltd,
33 Tothill Street, London, SW1.

ISBN 0 330 23203 7

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*Printed in Great Britain by
Richard Clay (The Chaucer Press), Ltd,
Bungay, Suffolk*

THANKS

We wish to thank the following people who have contributed to this book:

Charles Bowman
Catherine Dale
Jack Kine
Barry Letts
Sydney Newman
Lauraine Palmeri
David Whitaker

We also wish to thank the many other people who have helped with advice and information.

Terrance Dicks and
Malcolm Hulke

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THE MAKING OF DOCTOR WHO

How It All Began

One of the big American airlines gives to tourists coming to Britain a guide on what to see when they arrive in this country. One section of this guide tells them about shows to watch out for on British television. Top of the list is the BBC's weekly serial for children, *Doctor Who*.

After his first season as the current Doctor Who, the actor Jon Pertwee went for a well-deserved holiday in Morocco. As he was driving along in his car, a Moroccan policeman stopped him. The anxious actor immediately showed his driving licence, but the policeman waved it aside, peered closely at Jon Pertwee to be sure he had made no mistake, then grinned broadly and said in French: 'Ah, it is the Doctor Who, is it not?'

Week after week about nine to ten million people watch *Doctor Who* on Saturday afternoons. Recently, the producer, Barry Letts, asked the BBC's Research Unit for details about this enormous audience (it is as many people as live in Belgium, almost twice as many as live in Switzerland). He was not surprised to learn that these millions of viewers included people of all ages – there were as many over fifty years old as there were children under five years old.

Doctor Who has now been running over eight years, which makes it one of the most successful shows on British television. It means that there are now many younger children

who cannot remember when there wasn't *Doctor Who* on television!

An idea as good as *Doctor Who* doesn't just happen. Like the building of a bridge, or the designing of a house, a great deal of thinking and work goes into a television series before you ever see it. But there is one very big difference between building a bridge and starting a new television series. Bridge builders have certain definite, scientific rules to follow. They know that a type of metal, or a type of concrete, will carry so much weight. They can do a sum, and say quite definitely that their bridge will be strong enough to carry so many motor cars, or so many people. They can be sure that their bridge will be successful. People in television can only *guess* that their programme will be successful. If their guess is wrong, then they can spend a lot of money producing a programme which nobody wants to watch.

The idea for *Doctor Who* came from two men working at the British Broadcasting Corporation – Sydney Newman and Donald Wilson. This was in 1962, when Sydney Newman had recently moved to the BBC from ABC Television Ltd, where he had started *The Avengers*, another very successful television series. What they wanted was something new and interesting for their younger viewers.

'A Crotchety Old Man'

While there are no scientific rules to work by when planning a television series, there are some well-tryed guide-lines. For instance, there must be a hero or heroine, and they must have some reason for being able to get involved in exciting events. You will notice that television always has one or more series on about detectives and policemen, because their work naturally gives rise to interesting stories. There have also been lots

of series about doctors and spies, for exactly the same reason. One thing almost all these heroes have in common – they move about a lot and go where the action is taking place.

The first thought for the new series was to have a hero who could move about both in Time and Space, who could go back into history or forward into the future, not only on Earth but anywhere in the Universe. This meant he must have some kind of vehicle, such as a spaceship. But Sydney Newman and Donald Wilson didn't want there to be anything ordinary about this series. In any case, the vehicle had to go through Time as well as Space. So they thought of the TARDIS – Time and Relative Dimensions in Space. But what should it look like? Well, since it would be a Time and Space vehicle of advanced design, shouldn't it be able to change itself to look like something familiar to wherever it landed? Yes, that was a good idea. And, since its first trip would be to London, why not a London police box? Excellent. But then, they thought, wouldn't it be fun if something went wrong so that it never changed again, and wherever it landed from then on it would still look like a police box? That was agreed, and the TARDIS has remained with its flashing blue roof light ever since.

Then they thought about their hero. What should he be called? They agreed that his name should remain a mystery, but that if he *did* have a name it would be Doctor Something. Doctor who? Yes! Of course – Doctor Who. And what sort of man should he be? Tall, handsome, young, pleasant – the typical hero? No! 'Let's make him a crotchety old man,' said Sydney Newman, 'at least 745 years old.' The 'crotchety old man' has since changed, through three actors playing the part, to the urbane athletic Doctor Who that we know today, as portrayed by Jon Pertwee. But the character has

never been the typical James Bond hero. He has never been easy-going.

Having thought of all that, Newman and Wilson had to consider an important question of logic: *why* should the Doctor travel about through Time and Space? You will remember what was said about television series to do with detectives, policemen, and doctors. In their jobs, they are called to where something is happening. There could be no logical reason for the Doctor to be called, say, to the Planet Skaro to help the Thals against the Daleks, nor why he should be called back into Earth's history to the time of Marco Polo and Kublai Khan. So there had to be another reason for the Doctor's travels. The answer was that something had gone wrong with the steering of the TARDIS. It was decided that on each journey the Doctor would try to make the TARDIS go where he wanted, but always the TARDIS would be out of control. However, this would not greatly displease the Doctor. Built into his character was a scientific curiosity about everything and everywhere.

The idea was now almost complete. However, heroes on television must have someone to talk to. This is known as 'the confidant', a person to whom things can be explained. In this way, the audience can be told what is going on. So the Doctor had to have companions. The creators of the idea, Newman and Wilson, decided that by various means the Doctor should pick up young companions on his journeys, but that of course later he should always try to get them back to the place and the time where he first met them.

Producer and Script-editor

To start a new television series, two key people must be appointed: the producer and the script-editor. It is important

to understand what these two people do, and to understand that you must know a little about how the BBC works.

Like any big organization, the BBC has many different departments, each concerned with different types of programmes. There are departments for Schools Broadcasts, News, Light Entertainment, Drama, and so on. Each department has a Head, who is responsible for all the programmes put out by his department. But just as a general has colonels and majors below him, so a Departmental Head has other executives below him whose responsibilities will be sections of the department or individual series. At this time, 1962, Sydney Newman was the Head of Drama, and Donald Wilson was the Head of Series and Serials. They had many other things to do apart from *Doctor Who*. So, having thought of the idea, they had now to hand it over to a producer. Sydney Newman chose Verity Lambert.

The producer's job is to take complete charge of the show. People not in television often find it difficult to understand the difference between a producer and a director. You will learn more about what a director does on page 68 in the chapter called *Inside a Television Studio*. But for the moment it is enough to know that the director is in charge of one set of episodes, and it is his job to see that just those episodes 'get on the floor'. The *Doctor Who* series has many sets of episodes, or serials, and therefore there are many directors. The producer is in charge of all the episodes, of all the directors, and of everything else connected with the series. Verity Lambert had to plan when and how the series would be made; she had to think of which actor could play the Doctor; and she had to think of who should write the stories.

This is where the script-editor comes in. A producer has so many things to think and worry about, and getting in the

stories is such a big job in itself, that the producer has a special assistant for this, and he is called the script-editor. David Whitaker was appointed. His first job was to write the format, which is a document that explains the idea of a series for writers, rather as it has been explained here. David Whitaker then had to think of which television writers to invite to send in ideas, and to these writers he sent a copy of the format. Many people can write stories, but not very many people know how to write stories for television. It is a special craft, needing a lot of experience. You will learn a lot about writing for television from this book, especially when we show you what happens inside a television studio.

A Matter of Money

While David Whitaker was talking to writers about stories, Verity Lambert was busy looking for the actor who would play Doctor Who. She chose William Hartnell, and you will learn more about him on page 34. She also had to consider her budget.

Almost everything in television depends on money. The BBC receives millions of pounds every year from the money you pay for your Television and Wireless Licence, but there are a great many programmes to produce over the year, and this money has to be shared between them. Each producer of a programme is told how much he or she may spend, and this is called the programme budget. Naturally the producer doesn't see this money in pound notes, but the BBC's book-keepers keep a careful record of how much is spent, and the books must finally balance. The original budget for *Doctor Who* was £2,000 per episode, which sounds like a fortune but in television terms was a very low budget. From this money the services of many people had to be bought – the writers,

all the actors and actresses, the director, plus a great many highly-skilled technicians, set designers, scene builders, and so on. Also there are all the materials for the sets and the costumes.

Verity Lambert had to spread her small budget very thinly over a vast number of things. She persuaded actors to accept rather low fees, and won over the enthusiasm of the BBC's workshops to make futuristic-looking weapons and machines at the lowest possible cost. Creating enthusiasm is very much the job of a television producer, and Verity Lambert successfully got everyone excited about this new series. The BBC's Design department rallied to her call by making inexpensive creations out of Cellophane and bits and pieces of gauze, using things which had been left over from other shows.

Enter the Daleks

After many weeks of preparations, the first episode of *Doctor Who* was transmitted on Saturday afternoon, November 23rd, 1963. You will find a complete record of the adventures of the Doctor starting on page 43, and you will see that in this first story the TARDIS took the Doctor and his companions thousands of years back in Time to the Stone Age. Only about two to three million viewers watched this first four-part serial. That number is more than all the people who saw all the plays by Shakespeare during his lifetime, but as a television audience *only* three million viewers is near to failure.

The second serial, which started on December 28th, 1963, introduced the Daleks, and all at once the *Doctor Who* series became a success. You can read a lot more about the Daleks on page 10.

The Daleks are only one of the many enemies and alien menaces which the Doctor has had to face over the years, but

they have been by far the most popular. They are the monsters that we all love to hate the most. Within a short time, Britain was Dalek-crazy, and the weekly audience for *Doctor Who* had doubled and was steadily rising.

Many things are needed to make a television series successful. The right producer has to be found, so have the right stories. The leading actor must be the right person for the job. But apart from all these things, the series must have some message, some meaning important to the majority of people who are going to watch. Shaun Sutton, who is today the Head of Drama for BBC Television, has said this about *Doctor Who*: 'I think the reason for the success of the show is that it's got a quality of moral indignation. Beneath the entertainment there is a concern for real issues.' Put in simpler terms, the Doctor always cares about people; he believes in good and fights evil. He is never cruel, and he never carries a gun or other weapon. He is often in battles, but he hates war.

Certainly there is something about the show which makes millions of people love watching it, not only in Great Britain but also abroad. It has been on television in twenty-seven foreign countries: Australia, Barbados, Chile, Cyprus, Ethiopia, Ghana, Gibraltar, Hong Kong, Iran, Jamaica, Jordan, Kenya, Libya, Mauritius, Mexico, Morocco, New Zealand, Nigeria, Rhodesia, Saudi Arabia, Sierre Leone, Singapore, Thailand, Trinidad and Tobago, Uruguay, Venezuela, and Zambia.

Perhaps the success is to do with that special Doctor Who magic. In one of the stories written by David Whitaker, the Doctor said:

'Can you imagine silver leaves waving above a pool of liquid gold containing singing fishes? Twin suns that circle and fall in a rainbow heaven, another world in another sky?

If you like to come with me, I'll show you all this – and it will be, I promise you, the dullest part of it all. Come with me and you will see wonders that no Human has ever dreamt possible. Or stay behind and regret your staying until the day you die.'

From a small start, the television audience has grown until now almost ten million people in Britain go with the Doctor on his adventures every week. He has lived true to his promise. Only those who stayed behind have any regrets.

THE DALEKS

'Exterminate! Exterminate!'

Probably no science-fiction monster has ever caused so much interest and excitement as the famous Daleks. Gliding along the metallic corridors of their underground city on the planet Skaro, or actually gliding along London streets on one of their attempted invasions of Earth, squawking in their electronic voices their war-cry 'Exterminate! Exterminate!' they have brought fear, terror, and a great deal of pleasure, to millions of viewers.

The Daleks, who first appeared in the Doctor's second adventure, were the idea of the writer Terry Nation. But he almost didn't write for *Doctor Who* at all, in which case we would never have heard of Daleks. During the early days, before the series was seen on the screen, the script-editor David Whitaker had to think of which writers to ask to write for the programme. Terry Nation was known mainly as a comedy writer, but he had written one science-fiction script which David Whitaker had seen and liked very much on television. So David Whitaker sent a copy of the format to Terry Nation's literary agent, inviting Nation to write a *Doctor Who* serial. The agent sent on the format to Terry Nation, who at the time was in Nottingham working on a stage comedy script for the late Tony Hancock. Tony Hancock joked: 'How dare the BBC approach a writer of your calibre to write for children's television!' That day, Nation had to speak to his London agent on the telephone, and told her that

he was really too busy to accept David Whitaker's invitation.

But that night, Terry Nation and Tony Hancock had a serious argument, and the next morning the writer found himself on a train back to London – with no work. Remembering the invitation to write for *Doctor Who*, as soon as Nation got back to London he telephoned his agent again. Had she turned down the offer yet? No, she hadn't got round to it. So Nation gladly accepted, and got to work. He first produced an outline of the story he had in mind. The script-editor was delighted with it. The treatment had imagination, excellent characters, and a driving story. It also had Daleks, but no one at that stage had any idea how popular they were going to be. Nation got the name from his encyclopedias, one volume of which covered the letters DAL to LEK. He was promptly commissioned to write a six-part serial.

In his script, Nation described the Daleks like this: **HIDEOUS MACHINE-LIKE CREATURES. THEY ARE LEGLESS, MOVING ON A ROUND BASE. THEY HAVE NO HUMAN FEATURES. A LENS ON A FLEXIBLE SHAFT ACTS AS AN EYE. ARMS WITH MECHANICAL GRIPS FOR HANDS.** Raymond Cusick, one of the BBC's designers, did some drawings of what he thought Daleks should look like, based on the description in the script. This first design, excellent as it was, proved to be too expensive for the budget. So Cusick, together with two other design experts, Jack Kine and Bernard Wilkie, set to work to produce a simpler design. Together, they designed the familiar pepper-pot shape, inside which a very small actor could sit. The Dalek would be on castors, or tiny swivelling wheels, and would be driven along simply by the actor running his feet along the floor.

'The Daleks Came Alive!'

The drawings of the design were shown to producer Verity Lambert, and to script-editor David Whitaker. They were both very disappointed by them. Still, everything in television has to be done to a dead-line. There was no time to ask the designers to think again. The design had to be accepted.

Six Daleks had to be made for Terry Nation's story, and when they were finished Verity Lambert was asked to come and look at them, and to bring along the actors who would sit in them. Not at all excited by the event, Verity went along with the actors to the BBC car park where the six Daleks were waiting. The designers started to explain to the actors how they must sit inside, and how to pull the levers that made the snout go up and down. Then, suddenly, magic seemed to happen. As Verity says: 'The Daleks came alive. The actors inside started to chase each other around the car park, shouting from inside those pepper-pot domes "I am a Dalek! I am a Dalek!" We all wanted to get into them, and to *become* Daleks.'

What happened in that car park was soon to happen to millions of children all over Britain. All you had to do was to get a cardboard box, put it on your head, say 'Exterminate!' in a funny sort of voice, and you *were* a Dalek. In the months that followed the first Dalek story on television, all sorts of Dalek novelties came into the shops. You could buy Dalek sweets, toys, soap, slippers, Easter eggs, and special Dalek fireworks. You could even have your bedroom decorated with Dalek wallpaper. The game of snakes and ladders became 'Doctor Who and the Daleks'. Two cinema films were made about the Daleks. The demand for Dalek toys was so great that in some shops they went 'under the counter'. This term comes from the Second World War when it was very difficult

to buy certain things, and shopkeepers used to keep them 'under the counter' for their regular customers. The same happened with the Daleks. British toy manufacturers were not quick enough to make all the Dalek toys that were wanted, so factories in Hong Kong made many of the toys that were sold here.

As well as the two cinema films, there was a Dalek stage show, and Terry Nation has the four Daleks from that production at his house in Kent. He is frequently loaning them for charity fetes in the district, and people come from miles around just to look at the Daleks.

But although Daleks have given a lot of fun, it should be remembered that the story behind them is rather sad. The Daleks were the result of a terrible neutron war on their native planet, Skaro. They had once been quite different, perhaps as beautiful as the Thals, who also lived on that planet. The neutron war released radio-activity which made the Daleks mutate and change. They lost the use of their arms and legs, and finally their bodies also became useless. All that was left was their brains. So they built these travelling machines. The Dalek, you see, is not a real being. It is only a container for the brain of a being which no longer has a body. Even their voice isn't their own; it is an electronic voice, a loudspeaker inside the container which says what the brain wants it to say. Perhaps these are the reasons why they are always so unfeeling, cruel, and violent. They hate every living thing which still has its own body. Above all they hate the Doctor because he has defeated them so many times.

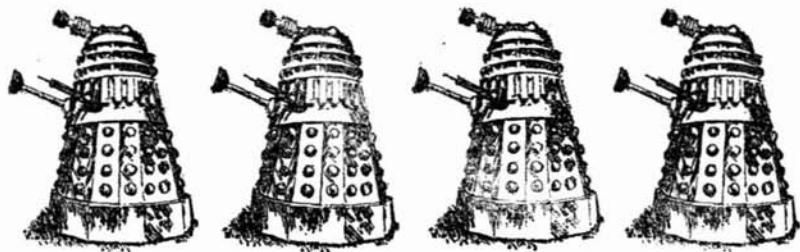
Cybermen

Of course the Doctor has faced many other enemies during his eight years of travelling through Time and Space. The

Daleks remain the most terrifying, and the most popular, of the machine-like monsters which he has met, but running a very good second are the Cybermen. They came from the planet Telos, and had replaced their original bodies with plastic, to make themselves disease-free and invulnerable. They started by replacing an arm, then a leg, then another arm and so on, until every part of them had been replaced. The result was a machine-like 'man' who was highly intelligent, and had no human feelings at all. Their thinking operated on pure logic, so that although they could be fair they were never kind. They were always ruthless. The Cybermen first appeared on television on February 11th, 1967 in a *Doctor Who* story set on the Moon. They were created by the writer Gerry Davis, who was then script-editor of the series, and his scientific writing partner Kit Pedler. Later Gerry Davis and Kit Pedler were to launch the highly successful television series, *Doomwatch*.

Just before the Cybermen appeared, *Doctor Who* audiences had dropped back to about three million viewers. But the very sinister Davis-Pedler monsters rocketted the audience figures back up to eight millions.

The Doctor has had to face the menace of the Cybermen more than once in his adventures, and you can read more about them, and the Daleks, later in this book.



WHO IS DOCTOR WHO?

'Who is Doctor Who?' This question was asked in a pop song recorded by Frazer Hines, the actor who played 'Jamie', one of the Doctor's most loyal companions. It is a good question, because for a very long time there was a great deal of mystery about who is Doctor Who.

Later in this book you can read from the secret files of the Time Lords. This tells us everything we know about the Doctor's adventures, the points in Time and Space which he has visited, and about the aliens and monsters whom he has defeated. But where did he come from? Why did he start his amazing adventures in the TARDIS?

As you now know, television viewers first met the Doctor back in 1963 when he appeared in London. He lived in the TARDIS. On the outside this was a simple police box, of the type no longer in use. But inside it was a fantastically advanced Space and Time ship. One of the strangest things about the TARDIS is that it is dimensionally transcendental – bigger on the inside than on the outside. (If that sounds like a lot of nonsense, turn to *Could It All Be True?* on page 100!).

When we first met the Doctor he seemed to be a man of about sixty years old. He was very healthy and active for his age, and his brain was sharp as a razor, but there were *some* signs of advancing years. Sometimes he was bad-tempered, and he never liked people who were foolish. Once he told

someone: 'Your arrogance is equalled only by your ignorance.' He was a very clever man, a genius, and he didn't like people who were not clever. He might help them, and be good to them, but he didn't really *like* them. He used to get very annoyed sometimes with his first two companions from Earth, Barbara and Ian. To them, the inside of the TARDIS was unbelievable, and so was travelling through Time and Space, and they kept saying so. To the Doctor, all these things were quite normal. So in those early days, the people inside the TARDIS were often at loggerheads, perhaps more with each other than with the monsters lurking outside.

The Doctor tended to call his very first companion, Susan, his grand-daughter. To have a grand-daughter, he must have had children of his own, and so he must have had a wife at some time. But he has never talked about having a family. So perhaps this term 'grand-daughter' was just a sign of affection that he had towards Susan. It was, we remember, a very real affection, one of the few soft spots we have ever found in the early Doctor Who.

What else do we know about the Doctor? Well, he *looks* human, but he isn't really. He does not come from this Earth. In any case, the very advanced science of the TARDIS means it must have come from a civilization much ahead of our own. As to the Doctor not really being human, we first learnt about this in the story *Spearhead from Space* when the Doctor was injured and was carried into an English country hospital. The X-ray photographs showed that he had two hearts, and a blood sample proved to be of no known species on this planet. For a copy of the hospital doctor's report on what he found, you can turn to page 97. During his brief time in hospital, the Doctor made himself better simply by putting himself into a self-induced coma, rather like going into a trance. When he

came to, he was healthy again. No one ever knew quite how he did it.

But, of course, one thing above all others makes it clear that the Doctor is a *humanoid* but not really human. This is the amazing way that he can completely change what he looks like. During the adventure called *Doctor Who and the Tenth Planet*, when the Doctor first met the terrible Cybermen, he suddenly began to show signs of weakness and tiredness. Suddenly he was old. Polly and Ben, his companions at that time, asked what was wrong with him. 'I'm not sure,' the Doctor said, 'but perhaps it is an outside force of some kind. This old body of mine is becoming a bit tired.' When the adventure was over, and they were all safely back inside the TARDIS, the Doctor collapsed. As Polly and Ben watched in astonishment, the Doctor just lay there on the floor of the TARDIS and *changed*. It was as if he had done it by will power. In place of the familiar white-haired figure, there lay a younger-looking man, dark-haired, and with a puckish face. Just as a snake discards its old skin, the Doctor had discarded his old body, and taken on a new one.

It was not only a change of looks. This new Doctor had many different ways. The old Doctor was rather stern, and had a sharp tongue with people when they were foolish. The new Doctor was more cheerful, and rather vague. Even his clothes had changed to some extent, and sometimes this new Doctor wore an extraordinary sort of top-hat. He was quite likely to pull out from his enormous pockets a flute-like recorder, to play it and dance a little jig at the same time.

However, as soon as the new Doctor started to get involved in one adventure after another, it was clear that he was really very like the old Doctor Who. He had the same type of mind,

always wanting to find things out. He was still a scientific genius. Most important, he still hated evil and injustice. But the mystery of where the Doctor really came from still remained. The truth about him was to stay a secret until he met the War Lords. That was in the story *Doctor Who and the War Games*.

The War Lords were savage and ruthless, *humanoids* but not human. They planned to conquer the entire Universe. To do this, they had kidnapped soldiers from all the wars of Earth's history, and made them into one big army. The soldiers had been taken to a planet a long way from Earth, which had been made to look like Earth. The soldiers still believed they were fighting their own wars – American Federal troops against the Confederates, French against Prussians, Romans against Gauls, and so on. Next the War Lords made their captive soldiers fight, so that all the weakest would be killed, leaving only the strongest and best soldiers for the War Lords' army.

Exiled to Earth

It took a long and bitter struggle for the Doctor to defeat the War Lords. When he had overcome them, however, he was faced with the problem of hundreds of thousands of Earth soldiers stranded on this remote planet. The War Lords had brought them there in their Time and Space machines (called Sidrats) and now that the War Lords were defeated, not a single Sidrat was working. So the Doctor had no way of getting all these men back to Earth.

This was the first time that we found out where the Doctor really came from. He revealed to his companions, who were now Zoe and Jamie, that he was really a Time Lord. At least, he *had* been a Time Lord until he ran away from them,

taking with him one of their TARDISES. He explained: 'The Time Lords are an immensely civilized race. We can control our own environment, we can live for ever barring accidents. We have the secret of Space and Time travel.' To the astonishment of Zoe and Jamie, the Doctor projected his message by thought waves into a little box: then the box vanished, just as a TARDIS can vanish, and was on its way to the outermost limits of the Universe to where the Time Lords lived. In this little box containing the Doctor's thoughts, he was asking the Time Lords for help. He knew that only they had the power to get all the soldiers back to Earth.

By doing this, of course the Doctor had revealed to the Time Lords his position in Space and Time. He did his best to get back to his TARDIS, so that he could roam again freely through Space and Time. But the Time Lords were too quick for him. Yes, they would of course help by returning all the soldiers to Earth. But they would also take the Doctor back to where he came from, and put him on trial.

A little farther on in this book, you will find the charge against the Doctor, taken from the secret files of the Time Lords. At the trial of Doctor Who, he was asked why he had run away from the Time Lords all those years ago. 'Because I was bored,' he answered. 'With all your powers, all you ever do is to *observe*. That wasn't enough for me! – not with whole galaxies to explore, thousands of different planets and civilisations, aeons of Time, countless races to meet ...'

The Doctor defended himself well at his trial, but he was still found guilty of breaking the Time Lords' most important law. It is that they should never interfere with what is happening on other planets. Still, they were not too hard on him because they agreed that he had always tried to help people. He was simply sentenced to a time of exile on the planet Earth in the

twentieth century, which is our present time. The Doctor protested that he was too well known on Earth, and would be recognized. So the Time Lords said they would make him look different.

That concluded a season of *Doctor Who* adventures. When the series started again we saw the TARDIS land in a quiet English field. An entirely new Doctor Who stepped out – and promptly collapsed. It was then that he was taken into hospital and we learnt some very strange things about the physical nature of the Doctor.

It is difficult to say whether Doctor Who III was older or younger than Doctor Who II. He was certainly much taller, rather slim and athletic. He moved like a very young man. His hair was prematurely grey, and his face, although lined and seamed with years of experience, was decidedly handsome.

Zest and Sparkle

The Doctor Who of today has a boyish zest and sparkle. He seems to get a lot of fun out of his various adventures. He loves gadgets and machinery, particularly any form of transportation – cars, bicycles, boats, aeroplanes, spaceships. His eyes light up at the sight of anything that can be driven, ridden, or flown, and he can't rest until he's tried it. The Doctor's own car is a colourful very old-fashioned roadster, called 'Bessie'. But, as with the TARDIS, the outside of 'Bessie' gives you little idea of what she is like inside. The car has a futuristic engine, and is full of all sorts of gadgets. Like many people with old cars, the Doctor will spend happy hours tinkering with 'Bessie' to make her go better or do different things.

The new Doctor's clothes are smarter than ever before. He

wears a velvet jacket, frilled shirts, and a swirling cape. He doesn't look much like any of the other members of UNIT, to which he now belongs.

UNIT

The letters U.N.I.T. stand for United Nations Intelligence Taskforce. This special international army of soldiers and scientists was formed when it became clear that our increasing scientific progress on Earth was attracting the interest of alien life forms in Space. For example, every day thousands of television stations all over the world are sending out their programmes. Since television signals go in almost straight lines and do not follow the curvature of the Earth, they travel on into Space possibly for ever (*). This let it be known to beings on other planets that Earth must be inhabited by intelligent creatures. Then we started to send spaceships to the Moon, and this too was noted and observed by distant species in Space. These alien beings had no reason to care about Earth and Mankind, any more than you mind very much if you step onto an ant hill. Various hostile invasions, or attempted invasions, of our planet took place. So the world's authorities decided to set up an army of specialists to protect Earth's security. Each country has its own branch, but all the branches come under the UNIT headquarters in Geneva, Switzerland.

The man in charge of Britain's branch of UNIT is Brigadier Alastair Lethbridge Stewart. When we first met him he was still only a colonel, and he was trapped in London's Underground system together with the Doctor and some others. The

(* Quite possibly somewhere in Outer Space, eight light-years away, some strange creature is watching the first episode of *Doctor Who* as you read this page.)

world was under attack from a mysterious alien 'intelligence' that was using the fearsome Yeti as its weapons. The Intelligence could take over men's minds, and the group trapped underground soon realized that one of them had been taken over and was now a traitor. For a time the Doctor even suspected Lethbridge Stewart. Naturally enough, the obedient soldiers and the freedom-loving Doctor did not get on very well. But by the time the real traitor was unmasked and the adventure was over, the soldiers and the Doctor became good friends.

The Doctor worked with the UNIT soldiers again in the story *Invasion*, when the Cybermen tried to invade London. By now Lethbridge Stewart had been promoted to the rank of brigadier. The Doctor's present relationship with UNIT started after the *War Games*, his exile to Earth, and his complete change of appearance. The Doctor's return to Earth, this time directed to this planet by the Time Lords, coincided with an attack on Earth by the Nestenes and their Auton robots.

At first, of course, the Brigadier thought that the new Doctor was an impostor. But the Doctor was soon able to prove himself, and the Brigadier had to accept that complete physical change was another of the Doctor's remarkable abilities. As you will see from the summary of all the Doctor's adventures later in this book, when the Time Lords exiled the Doctor to Earth they made sure that he could not escape by stopping his TARDIS from working. It brought him back here, and then ceased to function. This very much distressed the Doctor because he loves to roam about the Universe, so he set himself the task of trying to make the TARDIS work again. But to do this he needed a workshop.

So a deal was struck between the Brigadier and the Doctor.

The Doctor agreed to go on helping UNIT as a special scientific advisor, and in turn the Brigadier would provide the Doctor with a workshop and whatever he needed. It is not the easiest of relationships. The Doctor really resents making a deal with anyone, especially with a military man like the Brigadier. The Doctor's greatest wish has always been to be free. That's why he ran away from the Time Lords in the first place. But he can't go anywhere without his TARDIS, and so he has had to compromise. Whenever he is not actually helping the Brigadier, the Doctor is busy in the workshop trying to repair the TARDIS, trying to escape.

There is another very practical reason why the Doctor has agreed to work with the Brigadier. The Doctor needs some identity, some position in our society. He has no birth certificate, no passport, no income tax code number, and he probably doesn't even have a National Health card to put stamps on every week. Who is he? Where does he come from? But by working with a top-secret security organization the Doctor is protected from these questions. In return for all this, plus the workshop, he gives the Brigadier the benefit of his unique knowledge of non-Earth science and of alien life forms.

The Doctor and the Brigadier make a very odd couple. Naturally the Brigadier is very loyal to his own background. He comes from a very old military family. Major General Fergus Lethbridge Stewart was one of the Duke of Wellington's right-hand men at the Battle of Waterloo. Other members of the Brigadier's family have been in every major battle we've ever had since then. When he was a boy it was decided that he should go into the Army, and his upbringing was rigid and conventional. He was taught that two and two make four, and no question about it. When he became involved with UNIT, he was rather in the position of people long ago who

thought the world was flat, because it *looked* flat. It was very difficult for them to believe that the world was round because they couldn't *see* it was round. So Lethbridge Stewart had to do a lot of new thinking when he first met living creatures from Outer Space. But since meeting the Doctor, the Brigadier has broadened his outlook considerably.

For his part, the Doctor has come to like the Brigadier and to appreciate his many good qualities, but he still complains when the Brigadier insists on doing things the Army way. Still, together they make an excellent team.

Jo Grant

At first glance Jo Grant seems a very unlikely member of an organization like UNIT. Being so small, she looks much younger than she really is. Although she is extremely bright-minded, and got top marks at her espionage training school, she doesn't have the experience to back up what she learnt from books and training. She is always very enthusiastic about things, and wants to show that she is as good as, if not better than, any other UNIT agent. But this means she sometimes rushes in to do things before thinking, and that has often put her into a lot of danger. More than once the Doctor has told her: 'Just for a change, Jo, try and do as you're told!'

Jo's uncle is a very important man in the Government, so when he asked the Brigadier to find Jo a place in UNIT, the Brigadier could hardly refuse. However, having got her, the Brigadier had to decide what to do with her. He could not resist the temptation of allocating her to the Doctor as his assistant. But in a sense, the joke misfired. At first the Doctor shouted at the Brigadier, 'Get that child out of my hair!' He really didn't want such an impetuous young woman working with him. Then, as time went by, he got to like her. She was

always cheerful, and even if she made some mistakes, she did her best to try and be helpful. Now, we believe, the Doctor would be very upset if the Brigadier ever tried to take Jo away from him and give her another job.

Other Members of UNIT

Captain Michael Yates ('Mike' to everyone) is a very different kind of soldier from the Brigadier. His ideas are very modern. He likes to get on with his job, which he does with casual efficiency. He has little time for saluting and military protocol. Because of this he sometimes gets himself into trouble in UNIT, but really the Brigadier knows that he can always trust and depend on him. He loves teasing Jo.

Sergeant Benton is rather a mixture. He is a big, strong, good-looking young man. He is a highly-trained soldier, and ruthless in battle. At the same time he is really very simple and friendly. He loves small children and stray dogs. He is devoted to Jo, and always wants to protect her. He just cannot understand the Doctor, and believes that he must be some kind of a magician.

So much for the Doctor and his friends in UNIT. In recent times the vast television audiences for *Doctor Who* have also come to know another regular character. We shall now tell you about him.

The Master

Like the Daleks, the Master is totally bad. But there is really a very big difference between the Daleks and the Master. As well as being bad, the Master can also be extremely charming. And it is when he is being most charming that he is at his most dangerous.

Actually, the Doctor and the Master have a lot in common,

for the Master is also a runaway Time Lord. He, too, stole a TARDIS and has roamed all over the Universe. But except for that, the Doctor and the Master are totally different. The Doctor left his fellow Time Lords because they bored him, and because he had a great wish to see the Universe and its many wonders. True, he has often interfered in things on other planets, but always on the side of good. The Master, however, has always been completely on the side of evil.

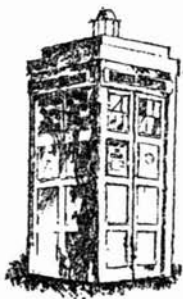
He seems to delight in the triumph of chaos. Nothing pleases him more than to enter a bad situation, and to make it worse. Although he enjoys evil and destruction for its own sake, his main concern is always for his own power and profit. He has been mixed up in a number of attempts to conquer the Earth, either on his own, or working with savage alien life-forms. Just as the Doctor has his sonic screwdriver which can do many things, so the Master has something rather special and very useful: he can often hypnotize people and make them *want* to do what he wants them to do.

The Master only tries to be wicked on a tremendous scale. He certainly would not bother to rob a shop or a bank! His plans are always vast – to conquer Earth, or better still to conquer the Universe. For his own ends he will sometimes work with others who are also evil. But he will forget his ‘friends’ at any time that suits his purposes. He is not without a sense of humour, and takes an almost schoolboyish delight in macabre practical jokes. A bomb rigged up with string, a murderous plastic armchair, a miniaturized corpse left in a lunch box . . . The Master is full of fun like that.

The Master has enormous vanity. He is like someone who must always win at games, who must have the best clothes, the best of everything. When strangers ask his name, he replies: ‘I am usually known as the Master!’ This is to make

it clear to everyone that he wishes to be the boss. It is not known how the battle between the Doctor and the Master started. Perhaps it was something that happened when they were both Time Lords. But now the Master has been defeated so many times by the Doctor, his main desire in life is to kill the Doctor. However, simply to murder the Doctor would not be enough. First the Doctor must be totally defeated and *forced* to say that the Master has the most intelligence. It is this burning desire to humiliate the Doctor before killing him that has led to so many of the Master's failures. More than once the Master has tricked the Doctor so that the Doctor was at his mercy. But always the Master must explain how clever he has been – and then the Doctor tricks *him*.

All in all, little can be said in the Master's favour. He is an outstanding villain. There is nothing nice about him at all. Yet, somehow, if the Master were ever killed, or sent away for ever, we feel that the Doctor would rather miss him.



JON PERTWEE IS DOCTOR WHO

The Actors Who Play Regular Parts

Much of the success of a long-running television series depends on one very important factor – the actors. You can read in *Diary of a Production* (page 74) how much work goes on behind the scenes with the writers, set designers, make-up people, directors, and so on. But finally, when the show is on the television screen in people's homes, it is largely the actors who interest and impress the viewers. It is the actors who remain in the memories of the viewers. Actors who appear week after week in a series are called 'the regulars'; other actors only appear in one episode or one story. *Doctor Who* has a very good cast of regulars. All of them are very popular with the viewers. The most important, of course, is the man who now plays Doctor Who himself: Jon Pertwee.

Many people inside the world of television were surprised when Jon Pertwee was chosen to play the new Doctor Who. He was already very famous, but mainly in comedy. He was one of the original cast in the ever-popular radio show, *The Navy Lark*. A long time ago he acted as the postman in another radio show, *The Waterlogged Spa*, and the funny voice he used for that part had the whole country laughing. As a cabaret artiste Pertwee has delighted audiences all over Great Britain. His long-playing records have been very successful. He has also been in two of the *Carry On* films, and on the West End stage he has appeared in *A Funny Thing Happened*

On The Way To The Forum and in *There's A Girl In My Soup*. He is a folk-singer and a guitarist.

He was, in fact, a star in what is called light entertainment. But few people realized that he could also be a first-class straight actor for a drama series. (It is interesting to remember that Terry Nation, who thought of the Daleks, was before then mainly a comedy and light entertainment writer.)

When Jon Pertwee heard that Patrick Troughton was going to stop playing Doctor Who, he thought to himself that it was a part he might play. But he had to think long and hard about it, because he realized that few would ever think of him as a *serious* actor. In show business, actors often get type-cast. This means that if you are famous as a singer, producers expect you to sing and not to act. If you have become famous because you played the part of a criminal very well, producers will keep asking you to play criminal parts, but they won't think of asking you to play the hero. Jon Pertwee knew that he was famous as a light entertainer: so, dare he suggest to the BBC that he might become the new Doctor Who? Finally, he plucked up his courage, and spoke to his agent. His agent thought it might be a good idea, and telephoned Peter Bryant, who was then producer of *Doctor Who*. When the agent suggested that his client, Jon Pertwee, might be the new Doctor Who, there was a stunned silence from Peter Bryant's end of the telephone – because that is exactly what Peter Bryant had been thinking, too!

Pertwee says of the part: 'Doctor Who is me – or I am Doctor Who. I play him straight from me.' His way of playing the part is with realism. He knows that if the stories about monsters on distant planets are to seem true to the audience, he must make the Doctor completely believable.

Much of the real Jon Pertwee has now gone into the new

Doctor Who. Pertwee really does love machines and gadgets, just as the Doctor is supposed to do. In fact, Pertwee is a very good mechanic; he knows all there is to know about how a car engine works. He really is crazy about all forms of transport – cars, aeroplanes, boats, and anything else that moves. He is very athletic, and likes outdoor pastimes such as skin-diving and water-skiing. All these things we are starting to notice now in the character of the new Doctor Who.

The actor Jon Pertwee and the character Doctor Who are now very much one and the same person.

Katy Manning

It was the present producer, Barry Letts, who found Katy Manning to play the part of Jo Grant. He chose her from hundreds of young actresses who wanted the job. Barry Letts says: 'By the time Katy came along, I had already narrowed down my short-list to just three actresses. I had to tell Katy that she was too late. But I was so impressed with her interview in my office, that I asked her to audition with the three others. The moment I saw her audition, I knew the search was over. Katy Manning would become Jo Grant.'

Katy Manning admits that she has had a lot of good luck since she became an actress. She left drama school to join a repertory theatre. But she didn't stay there long because she felt that she wasn't learning anything. After that she got a small part in the television programme *Man at the Top*. She did that so well that in another episode of that series she got a much bigger part. Very soon after that she got her present job in *Doctor Who*.

She feels that she has a good deal in common with Jo Grant. She says: 'Jo is getting more like me all the time – or I am getting like her. We both get in exactly the same kind of

a mess.' She very much likes playing the part, and adds: 'Jo isn't just the usual screaming heroine, always running to the Doctor for help. She's got a mind of her own, and she's prepared to have a go at anything, even if she does mess it all up.'

Katy is the daughter of the well-known sports columnist J. L. Manning.

Roger Delgado

To turn to the Doctor's main enemy, the part of the Master is played by Roger Delgado. He gets his foreign good looks from a French mother and a Spanish father, but regards himself as a true Cockney. He was in fact born within the sound of Bow Bells.

Since he first started acting just before the Second World War, Delgado has been in a tremendous number of films, television plays and stage plays, usually as the villain. But villains can be very popular people, at least when they are famous actors such as Roger Delgado. During some outside filming of *Doctor Who - The Dæmons*, the actors and camera crew were being watched from a distance by a crowd of children. In this particular scene, the Master was to be captured by the Doctor and the soldiers from UNIT. The director, Chris Barry, decided he would like to include the children onlookers in the story. So he said to them, 'When the Master is captured and is being taken away by the soldiers, I want you all to hiss and boo.' But the children at first refused. They liked the Master so much, they all wanted to cheer him!

Nicholas Courtney

Brigadier Alastair Lethbridge Stewart, who is always trying to get some military system into the Doctor's fantastic

adventures, is played by Nicholas Courtney. For someone who seems so British, he has a very international background. Son of a diplomat, he was born in Egypt, and grew up in France, England, and Kenya. He has played all sorts of parts on the stage, and in television he has appeared in *The Avengers*, *Callan*, *Softly, Softly* and many other important series. He has also been in films. Recently he made a documentary film about the Army.

He plays the part of the Brigadier with great accuracy. Not long ago the producer of the series was getting the help of the Army for a particular story, and found himself talking to a very senior Army officer. 'The best thing about *Doctor Who*,' said this officer, 'is that chap called the Brigadier. Exactly right! We've got a lot of young brigadiers who are exactly like him.' Coming from a real Army man, this was quite a compliment to Courtney's acting. He really was in the Army once, during the days of National Service when all young men had to serve in the Forces for a year or two, but in fact Courtney was only a private.

Richard Franklin

Richard Franklin plays Captain Yates of UNIT. He was a lieutenant in the Rifle Brigade before he became an actor, but he had no liking for the military life. After leaving RADA (the Royal Academy of Dramatic Art, where actors learn) he went first into the Century Theatre Company where he played a great many parts, large and small, and also had to sweep the stage and keep it clean. He has often been on television, but most of his work has been on the stage, often in Shakespearean roles. He finds that his part as a member of UNIT in *Doctor Who* calls for many talents. 'Captain Yates is somebody between a monster-killer and a stunt man,' he

says. 'It's all a very long way from Shakespeare's *As You Like It*.'

John Levene

He plays Sergeant Benton. He did not go to RADA; in fact he had no formal training to become an actor. He started as an extra, which means he only appeared as one of a crowd and had no lines to say. He worked his way up from there, learning as he went. Playing Sergeant Benton is his first big television part and frankly he is delighted about it. 'If the script is too long,' he jokes, 'it's always my lines that they cut out. Still, sometimes when the script has been too short, they have thought of me and made my part bigger to make up the time.' As Sergeant Benton he gets a lot of fan mail. Once the entire female staff of a Lancashire factory wrote to tell him how much they liked him.

THE FIRST DOCTOR WHO WAS WILLIAM HARTNELL

William Hartnell became an actor at the age of sixteen, when he joined Sir Frank Benson's Shakespearean Company as a general dog's-body, call-boy, assistant stage manager, property manager, and assistant lighting director. Sometimes he was allowed to play small walk-on parts, and in two years with that company, working day and night, he learnt a great deal about the theatre and about acting.

At the age of eighteen he started to tour the country as an actor, playing in theatres the length and breadth of Great Britain. Then he started to get jobs understudying in London's West End theatres. (In a stage play, all the actors and actresses have understudies, who have learnt their parts. If an actor is taken ill, the understudy plays his part that night.) He became known as an actor of farce. He understudied to such great actors as Ralph Lynn and Ernest Truex, and then played their parts himself when their plays left the West End and went on tour of the provincial cities.

He got into films in the 1930's playing comedy parts in 'quickies' – short films, made very cheaply in two or three weeks of filming. For his first leading part in one of these films, he was paid £60. Today, an actor playing the leading part in a film would be paid thousands of pounds. However, his whole acting career changed in 1943 when the famous film producer Sir Carol Reed asked him to play a tough Army ser-

geant in the film *The Way Ahead*. This film was enormously successful, and so was William Hartnell. But it meant that for the next twenty years no producer could forget the way he played that tough Army sergeant. He had become type-cast, and he was only offered tough-guy parts such as sergeants, prison officers, grim detectives, and criminals. Even when he started to work in television, and got into the very successful *Army Game* comedy series, he was not allowed to be one of the comedy characters. Instead, they made him the sergeant-major.

The he got a part in the film *This Sporting Life*. Verity Lambert saw this film, and was terrifically impressed by Hartnell's performance. She decided to ask him to become the first Doctor Who, and got in touch with his agent. The agent telephoned Hartnell and told him, 'I wouldn't normally have suggested it to you, Bill, to work in children's television, but it sounds the sort of character part you have been longing to play.' Hartnell wasn't too keen on the idea, but he agreed to meeting Verity Lambert. He says of that meeting: 'The moment this brilliant young producer, Miss Verity Lambert, started telling me about *Doctor Who* I was hooked.'

William Hartnell played Doctor Who for over three years. He made more friends and more fans during that time than he ever believed was possible. He now lives in a tiny country cottage in Mayfield, Sussex. People still write to him as Doctor Who, or call at his cottage to see him. He says: 'I think that if I live to be ninety, a little of the magic of Doctor Who will still cling to me!'

THE SECOND DOCTOR WHO WAS PATRICK TROUGHTON

Patrick Troughton was born in London in 1920, and was educated at Mill Hill Public School. Then he started his acting career by going to the Embassy School of Acting, at Swiss Cottage in London, which was run by Eileen Thorndyke, sister of the famous Dame Sybil Thorndyke. He got a scholarship from there to go to the Leighton Rallius Studio for actors at the John Drew Memorial Theatre in Long Island, USA. He was in America when the Second World War started. He returned to Britain on a neutral Belgian ship. It crossed the Atlantic safely, then just off Portland Bill, in sight of England, it hit an enemy mine and sank. Troughton was one of the lucky ones to escape in the life-boats.

He joined the Tonbridge Repertory Company in 1939, and was acting there for a year. In June 1940, he joined the Royal Navy. First he was in destroyers, protecting our East Coast convoys from enemy submarine attack. Then he was transferred to motor gun boats, and was given his own command just after the Allied invasion of Normandy. He was demobilized from the Navy in March 1945, and joined the Amersham Repertory Company.

Troughton first got into television in 1948, just after television had started again after the war. Since then he has played an enormous number of dramatic parts on our screens.

He was making a film in Ireland called *The Viking Queen*

when he was asked if he would like to become the second Doctor Who. At first he didn't want to do it, because he felt it was not the right type of part for him. Whenever possible, he had always watched the show with his children, and he loved the way that William Hartnell played the Doctor. But it was not, he thought, right for him. Still, the BBC managed to persuade him, and he accepted.

The next question was, *how* he was to play the Doctor. Acting is not only a matter of learning the lines and the moves. It is also a matter of interpretation – the *way* that a part is to be played. 'Why not play it like Charlie Chaplin,' said Sydney Newman, the BBC's Head of Drama at that time, 'a sort of cosmic hobo.' And that was, in fact, how Patrick Troughton played Doctor Who for the next three years.

Of his time as the Doctor, Patrick Troughton says: 'Of all my twenty-seven years as an actor, I think these were the happiest three years. I particularly enjoyed acting with Frazer Hines, who played Jamie. We never once had a cross word all the time we worked together. Also Innes Lloyd, the producer when I started, and Peter Bryant were great to work for. I had a lot of fun.'

In return, Patrick Troughton gave the millions of viewers a lot of fun. He was enormously popular as the Doctor.

THE TRIAL OF DOCTOR WHO

It will be remembered that after the Doctor had defeated the War Lords, he was put on trial by his own people – the Time Lords. The following pages come from secret files of the Time Lords. There is the charge against the Doctor and the plea in defence, plus a full account of all his adventures.

It will be noted that the Doctor was indicted in his real name – a mathematical formula.

HIGH COURT OF THE TIME LORDS

INDICTMENT AGAINST

$\partial^3 \Sigma x^2$

KNOWN AS

'THE DOCTOR'

There are two charges against the Prisoner. The first, that he stole the TARDIS, is trivial and is completely overshadowed by the magnitude of the second.

The second charge, which is extremely grave, is that he has meddled with and interfered in the lives, schemes, fortunes and misfortunes, expeditions, invasions, retaliations, offensives, counter-offensives, and in short the *modus vivendi* or way of life of other species, machines and influences who inhabit worlds, planets, and spaceships, at various and diverse times, Past, Present, and Future, in that area of infinity known as the Universe. He has also abducted and kidnapped the various people to whom he refers as his 'companions'.

My Lords, immense powers are invested in us. But our powers depend on the goodwill of the many other inhabitants of the Universe. If we use our powers too often, they might combine together to destroy us. That is why we have this law, that only in the most extreme cases of observed injustice do we interfere in the affairs of others. The Prisoner, himself a Time Lord, has roamed the Universe interfering wherever he possibly could. This could bring great trouble to

us. To maintain our good relations with other inhabitants of the Universe, I urge Your Lordships that the punishment of the Prisoner shall be severe. I ask that you find him guilty, and that you sentence him to total disintegration, and that the molecules of his body shall then be dispersed through Space and through Time and that, finally, all record of his ever having existed shall be totally eliminated from our history.

$\int x^2 - \pi$
Prosecutor.

HIGH COURT OF THE TIME LORDS

A PLEA IN DEFENCE OF

$\partial^3 \Sigma x^2$

KNOWN AS

'THE DOCTOR'

My client, the Prisoner, can only plead guilty to the charges against him. However, he insists on pleading guilty with (to quote his own words) his head held high and in no way ashamed of his actions. But he strongly denies ever having abducted or kidnapped any of his companions. We can produce here at least two witnesses, the boy called Jamie and the girl Zoe, who will testify that they travelled with the Prisoner of their own accord.

Certainly my client pleads guilty to interfering in the lives of others, but he asks Your Lordships to take into account the nature of that interference. Throughout his travels he has fought evil, often risking his own life to help others.

To put my client's case to Your Lordships, I have prepared the following summary of the Prisoner's travels during the time since he stole the TARDIS.

I crave Your Lordships' indulgence to read and study this remarkable document, which stands witness to the good intent of my client in all his travels. I trust that when you have studied this document, you will be prepared to deal leniently with the Prisoner.

$\Delta: \psi \neq \beta$

Counsel for the Defence.

A SUMMARY OF THE TRAVELS OF

$$\partial^3 \Sigma x^2$$

KNOWN AS

'THE DOCTOR'

The Doctor picked up his first non-Time Lord companions in London in 1963. (Your Lordships will note that all references to Time in this document are measured in Earth Time. This is because the Earth species, Humans, regard Time as absolute, which we do not, and because although they are backward in so many ways, they have developed very good time-measuring devices. — $\Delta : y \neq \beta$). These two teachers, Ian and Barbara, were curious about the Doctor's granddaughter, Susan, so they entered the TARDIS to see how she lived. Accidentally the TARDIS took all four of them 35,000 years back in Time, where they narrowly missed being killed by Stone Age savages.

The Doctor did his best to return Ian and Barbara to Earth in the 20th Century, but the TARDIS took them to the planet Skaro, inhabited by two species — the Thals, who were beautiful, and the Daleks who were warlike. The Daleks intended to explode a neutron bomb since their survival depended on radiation, but this would have killed the Thals. The Doctor defeated the Daleks, and they have remained his enemies ever since.

Passing through the centre of a new galaxy during its creation, TARDIS arrived on Earth in the year 1289, where both Marco Polo and the Great Mongol Lord Noghai tried to steal it from the Doctor. In a card game with Kublai Khan,

the Doctor won 35 elephants, 4,000 horses, 25 tigers – and lost the TARDIS! But later he regained it, and the travellers found themselves this time on the planet Marinus where a machine guarded the conscience of the people. Keys to this machine had been hidden in places all over the planet, and the Doctor helped find them again. Then he tried to return Ian and Barbara to Earth.

They got back to Earth, but to the year 1430, in Mexico at the time of the Aztecs. The TARDIS materialized inside the tomb of Yetaxa, who had once been the High Priest. The Aztecs were not unfriendly, but believed that Barbara was the ghost of Yetaxa. Ian was chosen to lead Aztec warriors in war against other tribes, Susan was made bride to the next human-sacrifice victim, and the Doctor was forced to drink a love potion because an Aztec lady had fallen for him.

Back in TARDIS they plunged into the 28th Century on the planet Sense-Sphere, where the Sensorites were being killed by a terrible disease. The Doctor found the cure.

Again they reached Earth, and found themselves in France during the French Revolution. Both Ian and Barbara were caught and sentenced to be guillotined. In prison, Ian promised a dying cell-mate, a fellow Englishman, that he would pass on a message to one James Stirling, an English spy in France. Ian and Barbara escaped, re-joined the Doctor and Susan, and got back to the TARDIS. But Ian had given a promise and felt he must keep it. For Ian's sake, the Doctor assisted in finding the mysterious James Stirling, who turned out to be a leading official in the revolutionary government of Robespierre. The message delivered, they got into the TARDIS and fled.

At last the TARDIS worked properly, and the Doctor was able to direct it both in Time and Space. On materialization,

he was quite sure from the dials that this was Earth in the 20th Century. Ian and Barbara looked forward to returning to their homes. On leaving the TARDIS, however, they found a dead 'snake' of enormous size. Could this be Earth in the 20th Century? Then they realized that the snake was a dead worm, and that the 'trees' were just twigs. They had become miniaturized. They were chased by a giant cat, and almost flushed down the plug-hole in a sink. Then they got back to their match-box-sized TARDIS and travelled on.

They only travelled through Time on this occasion, arriving back on Earth but well ahead of the date they were seeking. Earth had been invaded by Daleks, who were trying to remove the core of the planet and to replace it with a power system so that Earth could be piloted to anywhere they wished in the Universe. Of course this would destroy all life on the planet. Again the Doctor defeated the Daleks.

It was now that Susan left the Doctor. She fell in love with one David Campbell, one of the Earth fighters against the Daleks. The Doctor was sorry, but had to accept that Susan had found love and security. He set himself again to return Ian and Barbara to the right date.

The TARDIS hurtled through Time and Space to the planet Dido, where they met Vicki, a survivor from an Earth rocket which had been taking colonists from Earth to other planets. The population was being terrorized by Koquillon, who was really a Human dressed in an animal mask and claws to frighten them. It was he who had killed Vicki's father. Once more the Doctor helped the victims of aggression, and Koquillon was vanquished. Vicki asked if she might join the Doctor, in the hope of getting back to Earth one day.

They reached Earth, but in the year AD 64 and the Roman Empire. Barbara and Ian were captured by slave-traders. The

Doctor was mistaken for a famous lyre player, and played for Nero. At one point they all had a taste of Roman cooking: breast of peacock with orange and juniper juice, garnished with larks' tongues and baked pomegranites. The hors d'oeuvres consisted of ants eggs in hibiscus honey. They got away while Rome was burning.

Their next journey took them farther than ever before. The TARDIS landed on Vortis, a planet eight light-years from Earth (*). Here the Zarbi were warring against the Menoptra to control the planet. As always the Doctor sided with the oppressed, and defeated the Zarbi. Returning to Earth, the travellers found themselves with Richard Coeur de Lion during the Crusades, pitted against the Saracens. Barbara was imprisoned by El Akir, and Ian was staked out on the sand and daubed with honey so that the ants would eat him.

In the escape from the Saracens, the TARDIS jumped a time-track, and landed on Xeros. Here, in a museum, the Doctor and his friends found replicas of themselves—that is to say, this would have been their fate had they been caught by the vicious Moroks. Their following journeys gave them a brief sight of Abraham Lincoln and then Elizabeth I and William Shakespeare, plus the Beatles. In rapid succession they arrived on the twin-sunned Aridius planet, were chased by Daleks, hounded by Aridian mire-beasts, landed on top of the Empire State Building in New York, then found themselves on the mysterious ship the *Mary Celeste*, in a Gothic

(* Because distances in Space are so great, astronomers measure in light-years. A light-year is the distance travelled by light in one year. Since light travels at about 186,000 miles per second, the distance travelled by light in one year is about 5,878,500,500,000 miles. The nearest sun to our sun is four light-years away - or 23,514,022,000,000 miles! The TARDIS travels faster than light because it enters the Space Time Warp Continuum.)

castle with Count Dracula and Baron Frankenstein's monsters, and finally on the planet Mechanus where the Daleks had made a robot model of the Doctor.

Soon they were pitted against the Mechons, robots left on Mechanus by Earth colonists fifty years before. The Mechons, programmed to treat Humans as specimens, imprisoned the Doctor, Vicki, Barbara and Ian, along with Steven Taylor, a spaceship survivor. Now the Daleks attacked again, and were defeated, losing their time machine. Ian and Barbara realized the Dalek's time machine could possibly return them to Earth and the 20th Century, and the Doctor agreed to their trying this. The idea worked, and the Dalek's time machine got the TARDIS to London of 1963, and Barbara and Ian left the Doctor. The Doctor tried to move through Time only, to the year 2493 for Vicki's sake, but the TARDIS went backwards to 1066 and re-materialized in Northumbria, where they met a time-meddling monk who was really alien to Earth. The monk intended to help Harold win the Battle of Hastings, and the Doctor stopped him in order not to upset true history.

From Earth they went to an uninhabited planet in Galaxy 4, where both Rills and Drahvins were competing to set up a colony. Back to Earth, they arrived in Ancient Greece, where Achilles had just killed Hector and now mistook the Doctor for Zeus. Vicki fell in love with an Ancient Greek, Troilus, and left the Doctor here. The next journey was to the planet Kembal, where Mavic Chen, Guardian of the Solar System, had treacherously joined forces with the Daleks. The Doctor stole Chen's space-ship so that he could get back to Earth and give warning of this plan. It turned out to be Earth year AD 4000.

The Doctor's travels took him to Egypt during the building of the Great Pyramid, where he met the time-meddling

monk again, then to the planet Kembal where the Daleks were preparing an invasion of Earth, and then to France on planet Earth in the year 1572. Here Catherine de Medici was planning to massacre the French Huguenots. Helping the Huguenots and then escaping themselves, the Doctor and Steven landed on Wimbledon Common, near London, where a girl called Dodo walked into the TARDIS believing it to be a real police box and wishing to make an emergency telephone call. It was the last she was to see of Wimbledon for quite some time.

TARDIS plunged the Doctor, Steven, and the bewildered Dodo into the distant future, where they arrived actually inside a giant spaceship called the Ark which was carrying remnants of the Human Race to the distant planet Rufus (Earth had finally become uninhabitable). However, the Human's 'friendly' reptiles, the Monoids, had turned against their masters and made the Humans into slaves.

The Wild West

From the Ark, the travellers had a skirmish with the Celestial Toymaker, who tried to make them into his playthings. After outwitting him, they got back to Earth, in an American Wild West frontier town a hundred years before Dodo's time. Disappointed not to be in Wimbledon in the 1960s, at least she actually met such people as Wyatt and Virgil Earp.

They landed on yet another distant planet, where a highly advanced people had discovered how to re-charge themselves with life-energy. But the Doctor discovered how they did it. The planet contained another, less advanced species, and the energy was drawn from them. It was a sort of cannibalism. The Doctor protested; so Jano, leader of the 'civilized' people took the Doctor prisoner and drew off some of the Doctor's energy

for himself. But in doing this, Jano also gave himself some of the Doctor's conscience, and so realized that this evil practice must stop. Steven decided to remain on this planet, to help reunite the two races.

The TARDIS returned to Earth in the 20th Century, where the Doctor defeated WOTAN, an advanced computer that hypnotized people. Now he was joined for his future travels by Polly, secretary to the man who made WOTAN, and a young merchant seaman called Ben Jackson. Dodo left the Doctor now, to make her telephone call.

On their first journey with the Doctor, Polly and Ben went back in Time 300 years, and were involved with smugglers off the coast of Cornwall. Their next journey in the TARDIS also took them to a place on Earth – to the South Pole Base of International Space Command in the year 2000 AD. Cybermen were at work to drain the Earth's energy for their own planet, Mondas. It was after defeating the Cybermen that the Doctor recognized that his existing physical form had suffered too much damage in his various adventures and battles. Using science known only to a Time Lord, he completely transformed his appearance. This was much to the surprise of his two young companions at the time.

The next journey took them to Vulcan, a planet colonized by Earth. A 200-year-old spaceship there contained three Daleks, seemingly dead. But a foolish scientist re-activated the Daleks, who promptly tried to exterminate the colony of Humans. The Doctor knew now how to deal with them.

The TARDIS tumbled backwards through Time, arriving on Earth in a place called Scotland. It was the year 1745 when the Scots had just been defeated by the English at Culloden Moor. A corrupt English officer captured the Doctor, Polly, and Ben, intending to take them to Barbados to be sold

as slaves. They managed to escape, and took along with them one of the defeated Scotsmen who was being hunted like an animal by the English. This was Jamie, who was to travel with the Doctor for some time.

Leaving Scotland, they arrived in the Lost Continent of Atlantis, under the Atlantic Ocean on Earth. A power-mad Professor Zaroff was drilling a hole in the Earth's crust to draw away all the seas. The Doctor evacuated the people in danger, stopped Zaroff and destroyed his laboratory.

The Doctor met the Cybermen again on the Moon, where they had infiltrated a Weather Control Station and sabotaged the Gravitron, a machine which controlled Earth's weather. With the Doctor's help, the Cybermen were overcome, and their spaceship was hurled back into Space.

From Earth's moon, the TARDIS materialized on an unnamed planet at a point in time obscure to us. Here huge crab-like creatures, the Macra, had enslaved a colony of Humans. Again the Doctor risked his life to help the oppressed, and to do battle with the aggressors. The Macra were defeated.

Again back to Earth, in the year 1966. The TARDIS materialized on a runway at London Airport. The Doctor realized that a species alien to Earth, the Chameleons, were kidnapping plane-loads of young Humans. They intended to re-model themselves on these Humans: a catastrophe on the Chameleon's planet had made them all faceless. In order to carry out this terrible plan, the Chameleons were taking on the appearance and the memories of one after another of the people who worked in the airport. Never knowing which Human had just become 'Chameleonized' made the Doctor's task doubly difficult. However, the Doctor ended the kidnappings, then helped the Chameleons find another solution to

their problem. When this adventure was over, Polly and Ben went their different ways, because they were now back in the time and place from which they had come.

During the Doctor's fight against the Chameleons, the Daleks stole the TARDIS from a London Airport hangar. A Human scientist was being forced to help them, because they had kidnapped his daughter, Victoria. The Daleks planned to introduce the 'human factor' into their race, and they even forced the Doctor to transplant Jamie's emotions to three test Daleks. But this failed, so they decided to put the 'Dalek factor' into the Doctor. As before, the Doctor outwitted them, and he and Jamie, plus now Victoria, got away in the TARDIS.

In the City of Telos, on a distant planet, they met the Cybermen once more. A logician from Earth was trying to bring the Cybermen to life again from their tombs in Telos, so that they could help him to become Commander of the Universe. But the logician got killed, and the Doctor closed the Cybermen's tombs.

Returning to Earth, they arrived in one of the remotest areas of that planet, the Himalaya Mountains. Here once friendly Yetis had become hostile to the monks in a monastery. The Doctor found the Yetis were really robots in disguise, made by the Great Intelligence – a pulsating, glowing mass that emerged from a cave. The Doctor saved the monks by destroying the transmitter with which the Great Intelligence controlled the Yetis.

The Ice Warriors

The next four journeys were all on that greatly troubled planet, Earth, but at different times in its history. From the Himalayas the Doctor went forward in Time 3,000 years,

when a new Ice Age had developed. Scientists had discovered a giant Ice Warrior encased in the ice. The Warriors had come from Mars, and intended to conquer Earth, but the Doctor defeated them with a sonic gun. Going back a little in Time, they found Earth a less chilly place to be. Good weather had been created by Salamander, known as the Shop-Keeper of the World, who had invented a sun-store and saved Earth from starvation. But now he intended to conquer that world. But the Doctor resembled Salamander, and used this to impersonate him, prove his treachery, and so defeat him. The TARDIS went back in Time again, to a mere forty years after the adventure in the Himalayas. The dread Great Intelligence had reformed itself in Covent Garden underground station, London, and again was using robot Yetis. Again the Doctor saved the Humans from enslavement. From there the TARDIS went to the North Sea, where a parasite seaweed had infiltrated the pipelines of the Natural Gas Complex, exerting telepathic control over people. The Doctor destroyed the nerve centre of the seaweed with the help of the electronically amplified sound of Victoria's screams. It was now that Victoria, who had no family left of her own, decided to stay behind and join the family of an oil-rig engineer.

The Doctor and Jamie travelled through Time and Space, landing on a rocket supply ship that was off course. Nearby a space station had been taken over by Cybermen. The Doctor destroyed the Cybermen using laser guns. Here the girl Zoe, an astrophysicist working as librarian on the spaceship, decided to join the Doctor in his travels.

With Jamie and now Zoe, the Doctor went to the planet Dulkis, where he helped the Dulcians to repel the invading Dominators. The invaders wanted to drill to the planet's molten core, then explode an atomic device and so transform

the planet into a mass of radio-active fuel for themselves. The Doctor sabotaged the drillings, and the Dominators' flying-saucer was destroyed by their own atomic device.

In the atomic explosion, the TARDIS became submerged in lava. The Doctor used the emergency unit to save himself and his friends, and they were projected out of Time and Space into the world of fiction. Jamie was chased by the legendary unicorn, and Zoe and the Doctor were captured by toy soldiers. They met another famous traveller called Gulliver, and also Rapunzel and Medusa and other mythical and story-book characters. The Mind Robbers wanted to keep the Doctor there, but the Doctor overloaded their computer with his intelligence and it exploded.

Back on Earth in London in the 20th Century, the Doctor tried to get the TARDIS overhauled. He tried to see Professor Watkins of International Electromatics to help him. But the Professor was being used by that firm's managing-director, who was in league with the Cybermen in their plan to invade Earth. At last the Earth people had organized themselves against alien attack, and had set up the team of experts known as UNIT. The Doctor worked with UNIT to defend the planet from the invaders.

Away from Earth again, the Doctor and Jamie met the Krotons, large silver creatures with a crystalline surface. The Gonds, a primitive but friendly race had been enslaved by the Krotons, who depended upon their Dynotrope for survival. To return to their own planet, the Krotons were using the Dynotrope at the expense of the Gonds. The Doctor used sulphuric acid to dissolve the Dynotrope and to exhaust the Krotons' life source.

On Earth, sometime in the latter part of the 20th Century, the Doctor found that the Ice Warriors were threatening

again. An invention new to Earth, T-Mat, could transmit people or goods directly through Space. T-Mat was controlled from a base on the Moon, and the Ice Warriors had taken over this base and were sending to Earth seed pods of Martian fungus that extracted the oxygen from the air. This would make the Earth's atmosphere unbreathable for Humans, but ideal for the Ice Warriors. The Doctor risked his life by T-Matting to the Moon, where he defeated the Ice Warriors.

TARDIS travelled into an even more distant future, where space travel was so common that special space beacons had been built to help space travellers navigate. The TARDIS materialized on one of these beacons, which had been sabotaged by pirates. The pirates intended to divert spaceships carrying argonite, the most valuable mineral known in the Universe.

This, My Lords, brings my summary to the Doctor's final adventure before he became your Prisoner. As you know, the TARDIS took him and his companions, Jamie and Zoe, to the planet then being used by the War Lords to carry out their terrible plan. To remind you, they had abducted tens of thousands of soldiers from various times and places on the planet Earth. It was their intention to mould the survivors of their gruesome war games into one enormous army to conquer the Universe. The Doctor foiled that plan. Then, out of compassion for the stranded Earth soldiers, he called upon Your Lordships for help. He need not have done this. He could have continued on his travels. Instead, he gave up his own freedom for the good of others.

We rest our case.

$\Delta: \psi \neq \beta$

Counsel for the Defence.

HIGH COURT OF THE TIME LORDS

OUTCOME OF TRIAL

As might be expected, the Prisoner put up a spirited defence. However, he was found guilty. While the Time Lords were considering what sentence to pass, it is believed that the Prisoner almost escaped with his two friends in the TARDIS.

In due course, the Court was resumed for sentence to be passed. First, the Time Lords arranged for both Jamie and Zoe to be returned from whence they had come a moment in time *before* they left there. In this way all memory of their travels with the Prisoner would be wiped out. Then the Time Lords announced their sentence on the Prisoner. He was guilty of breaking our most important law, that of non-interference in the affairs of others. But the Time Lords agreed that he had always tried to do good and to fight evil.

He was sentenced to exile on the planet Earth. This planet seems nowadays particularly vulnerable to alien attack and influences. Owing to the Prisoner's frequent visits there, it was thought he must by now have special knowledge of that world and its problems. It was further decided that on arrival on Earth, he would have the secret of the TARDIS taken from him.

The Prisoner protested that he was too well known on Earth. People there would recognize him. In their wisdom, the Time Lords changed his appearance. The Court was adjourned.


Official Court Reporter.

UNITED NATIONS INTELLIGENCE TASKFORCE

MEMORANDUM

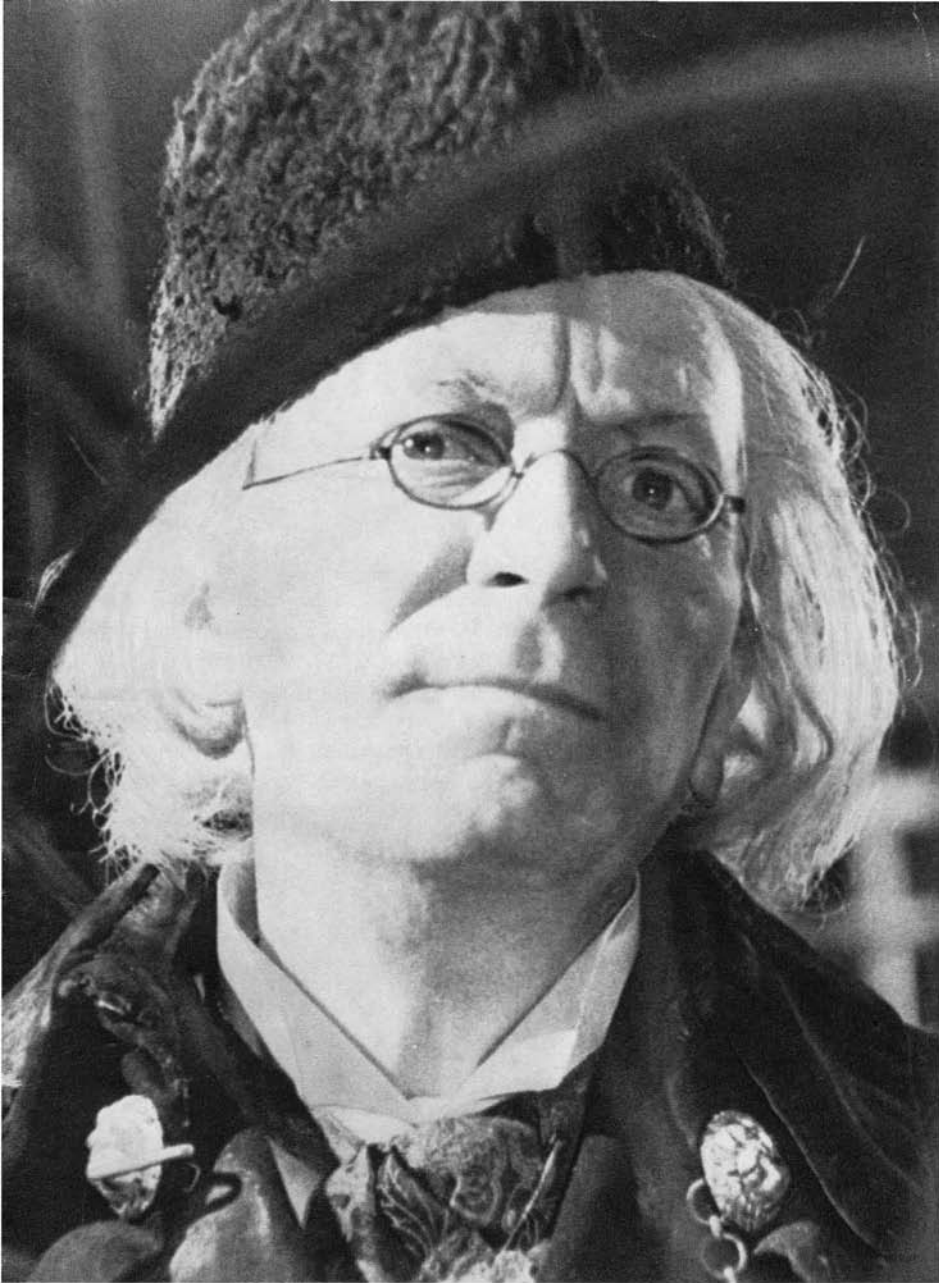
FROM: Commander, REF: 2/0039/ALS/mh
British Branch, UNIT.

TO: Commander in Chief,
UNIT Headquarters,
Geneva, Switzerland.

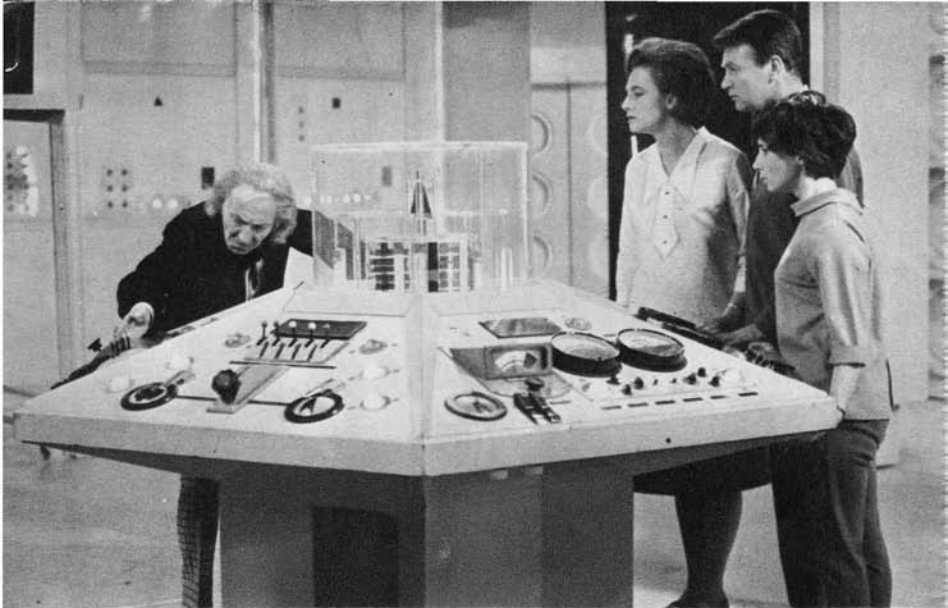
SUBJECT: The Doctor.

With regard to your memorandum to me, Reference 1/3478/Doctor, here, Sir, is the report that you have requested on the civilian known as the Doctor.

Having been out of my ken since the attempted invasion by creatures called Cybermen, the Doctor turned up again when we were combating the Nestenes. He simply appeared, with his precious police box which he calls TARDIS, in a field in Southern England. He was found unconscious, and taken to hospital, and that is where I saw him again. You may find this difficult to believe, Sir, but his appearance was totally different from when I last saw him. He was kidnapped from the hospital by Autons, a form of plastic robot. On escaping from the Autons he was most unfortunately shot by one of my men. Returned to the hospital, I understand he cured himself by going into some type of trance. After that

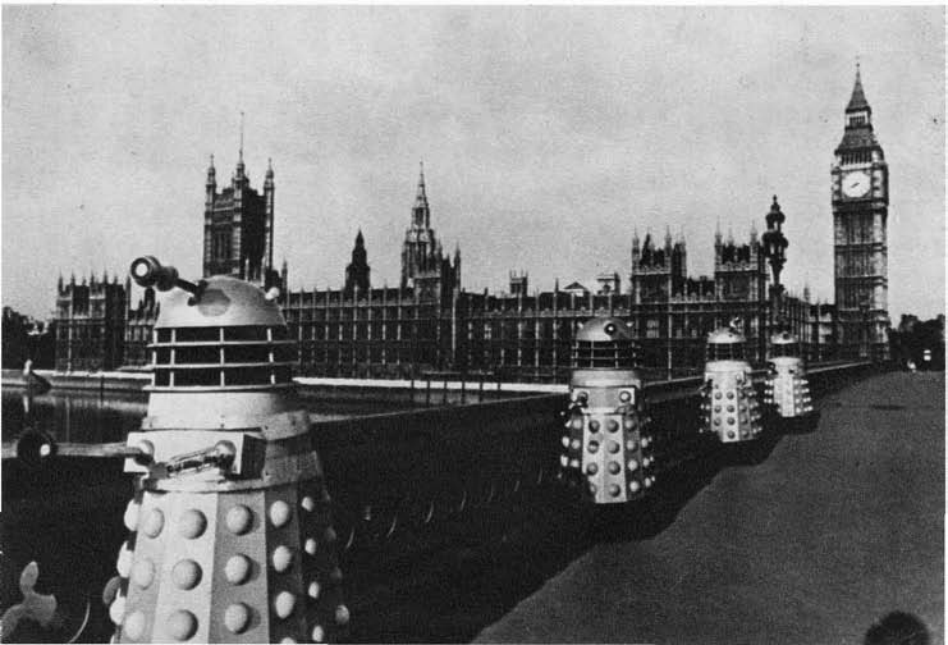


William Hartnell, the first Doctor Who. The actor says, 'I think that if I live to be ninety, a little of the magic of Doctor Who will still cling to me!'



On the outside, TARDIS is a police box – on the inside, a palatial scientific control-room. Here, the first Doctor Who (William Hartnell) is at the controls, watched by Barbara (Jacqueline Hill), Ian (William Russell), and Susan (Carole Ann Ford)

In the twenty-first century, a squad of Daleks patrol the silent and empty London which they have conquered. Their plan was to steal the Earth's magnetic core





The Ogrons, a cruel and primitive race of low intelligence, were used as 'guard dogs' by the Daleks

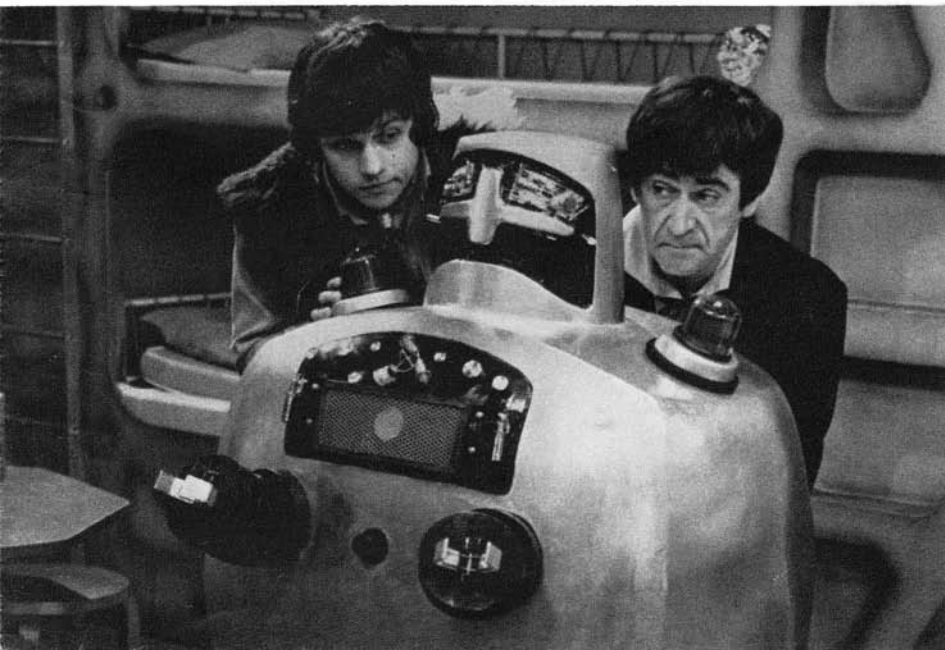
When the Doctor first encountered the Sensorites, they were hostile. But the Doctor won their friendship by discovering a cure for the mysterious disease that was killing them







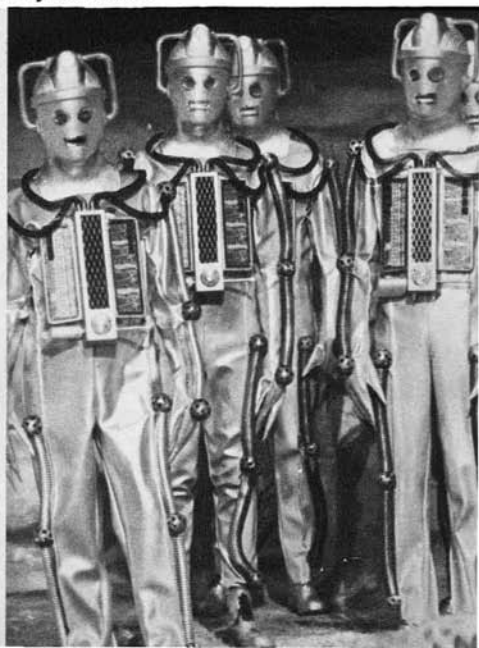
Opposite page: 'A sort of cosmic hobo' – that's how the BBC suggested that Patrick Troughton should play Doctor Who. Here he is, complete with hat and flute. (Top) The TARDIS settles in Tibet, and the Doctor, with his kilted companion Jamie (Frazer Hines) meet an Abominable Snowman. (Bottom) The Doctor (Patrick Troughton) and Jamie (Frazer Hines) look at a 'Servo Robot' in a scene from THE WHEEL IN SPACE

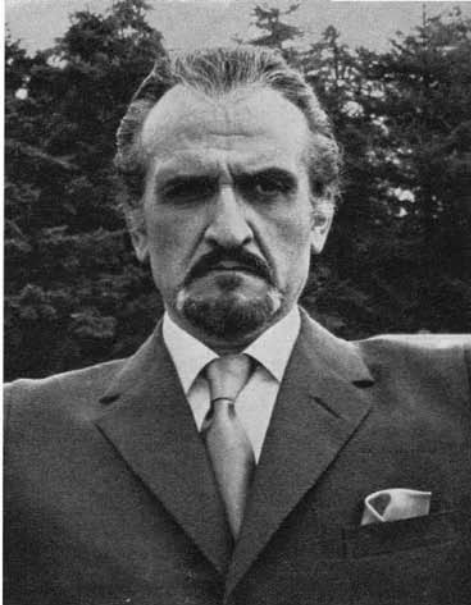




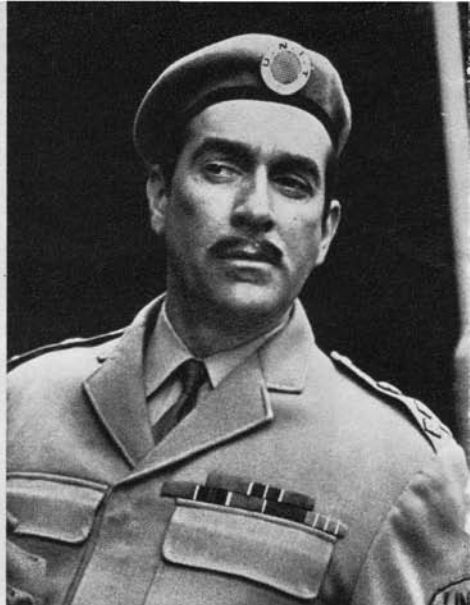


Opposite page: When Jon Pertwee took over the role of Doctor Who, a critic wrote: 'The new Doctor is very definitely Harley Street!' The 'crotchety old man' of the show's early days has become a person of elegance and charm. (Top) The Doctor tries to reason with a Dalek. Obviously Jo Grant (Katy Manning) has her doubts. (Bottom left) On location in London, two actors prepare to become Cybermen . . . (Bottom right) . . . and here are the dreaded Cybermen, fully dressed!





The Master, played by Roger Delgado



Brigadier Lethbridge Stewart, played by Nicholas Courtney

Director Michael Briant, Jon Pertwee, Katy Manning, together with cameramen, sound recordists, and other members of THE SEA DEVILS team, set out for a day's filming at sea



he assisted us to rout the enemy. I then made the present arrangement whereby he may use the UNIT laboratory and workshop (he says he wishes to 'repair' his TARDIS, whatever that means), and in return he assists us from time to time.

I must admit, however, that sometimes he 'assists' us in very odd ways. There was the instance of the Silurians, a nest of Man-like reptiles deep in caves in Derbyshire. They had been inactive some millions of years, but were brought back to life by accidental electrical discharges from a nearby research station. The Doctor went into the caves and actually talked with these creatures. They claimed that Earth had been theirs before Man. To put it bluntly, they wanted their planet back, regarding us as little more than primitive apes. To destroy Mankind, they released a most terrible disease. The Doctor found the antidote, but then took it upon himself to discuss peace terms with these murderers! He thought both man and Silurians could live together in harmony. I took normal military action, set explosive charges in the caves, and totally destroyed the enemy. Instead of thanking me, the Doctor seemed quite displeased.

However, he was good enough to help again when the Mars Probe Seven space capsule returned mysteriously empty. As we found out, the three astronauts had been kidnapped from it – and they weren't even the right astronauts! Friendly aliens had used the capsule to send to Earth three ambassadors, and the three Earth astronauts had been retained in the alien's mother-spaceship in orbit round Earth. Behind this was none other than General Carrington who wanted Earth to have no peaceful relations with other planets. He intended that the three ambassadors whom he had hidden away should be tricked into killing humans, so that Mankind

would turn against all possibilities of friendship with other worlds. The Doctor unmasked General Carrington (really, Sir, a mentally sick man), and returned the alien ambassadors to their mother-craft. The aliens, in turn, sent back our own three astronauts.

We were next faced with the unleashing of the Primords. An important drilling operation was taking place, the idea being to pierce the Earth's crust in order to tap certain useful gases. The Doctor's warnings against this were ignored. However, certain forces released from the core of Earth through the drilling turned normal humans into Primords, horrific heat-dependent creatures. I find the following account difficult to believe myself, but the Doctor claims he entered his TARDIS, or police box, and travelled through a 'parallel space-time continuum' (his words) into a replica of Earth. There the same drilling was under way, and on its completion earthquakes destroyed that world. When he returned to us, he managed to stop the same thing happening to the world that we know.

The Nestenes attacked again. Being a disembodied alien intelligence, they once more used the Autons for this second attempt to invade Earth. On this occasion there was a new and very sinister development: the appearance of the Master (I have previously sent you a full report on this strange gentleman, my reference 2/0014/ALS/mh). The Doctor defeated the Nestenes by transmitting their energies through a deep-space radio telescope. The Master escaped.

A new method for treating hardened criminals, the Keller machine, worked by extracting the evil from their minds. This was tried out in a British prison. However, the machine stored up all the evil it had taken, and then it started to kill innocent people. The Doctor found that the inventor, 'Professor Keller',

was none other than the Master. The machine was part of an intricate plan to plunge Earth into war.

When a 'living' spaceship landed on Earth, it turned out to contain Axons, beautiful friendly aliens seeking Earth's help and in return offering to give us axonite. This amazing new material could transform Earth's economy and make our planet very rich. The Doctor was immediately suspicious, and his suspicions were well-founded. The real Axons were hideous-looking monsters, out to drain Earth of its energies. Once more, the Master involved himself on the side of evil.

That, Sir, concludes my report to date.

Brigadier A. Lethbridge Stewart,
Commander,
British Branch, UNIT.

HIGH COURT OF THE TIME LORDS

COURT ARCHIVES

Owing to a development so serious that we felt obliged to take action, the Doctor was allowed temporarily to leave Earth. We waited until he entered his TARDIS in the UNIT workshop. Unfortunately he had this Earthling girl, Jo Grant, with him at the time. We then transported the TARDIS to a planet where future Earth colonists were being terrorized by the Interplanetary Mineralogical Corporation. The colonists, who had escaped from Earth's serious overcrowding in a second-hand spaceship, wanted to farm the planet. The IMC men wanted to gut it of its mineral wealth. Naturally the Doctor helped the colonists. But this was not our reason for sending him there. We knew that the Master had discovered that this planet contained the Doomsday Weapon, an instrument powerful enough even to destroy us. As we intended, the Doctor foiled the Master's plan to take control of the entire Universe. We then returned the Doctor to his exile on Earth, where he and Jo Grant arrived back one moment in Time after they had left. The Brigadier and other UNIT personnel were never to know of this expedition.

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Court Archivist.

UNITED NATIONS INTELLIGENCE TASKFORCE

MEMORANDUM

FROM: Commander, REF: 2/0069/ALS/mh
British Branch, UNIT.

TO: Commander in Chief,
UNIT Headquarters,
Geneva, Switzerland.

SUBJECT: The Doctor.

In compliance with your request, Reference 1/3502/Doctor, here is a further report on the assistance given to us by this remarkable person, the Doctor.

Excavations into an ancient burial ground at the village of Devils End resulted in certain terrifying incidents. The Master, posing as the vicar, used psionic science to release the powers of Azal. With the help of Miss Hawthorne, a local White Witch, plus of course some more conventional assistance from this branch of UNIT, the Doctor destroyed Azal. What's more, Sir, I am happy to add that the Master was taken prisoner at last. In due course the Master appeared before a secret Court, attended by representatives from many World governments. There was a strong feeling that the Master should be put to death but the Doctor protested that this was barbaric and pleaded for the Master's life. The

Master was sentenced to life-long imprisonment.

We were then troubled by mysterious guerilla fighters, who seemed to be trying to kill Sir Reginald Styles, a diplomat known to be working for world peace. The Doctor found that these would-be killers came from the future. Using the guerillas' time machine, the Doctor and Miss Jo Grant travelled a hundred years into Earth's future, where they found this world had become a slave camp ruled by Daleks with the aid of their *humanoid* servants, the Ogrons. The guerillas, who were the only people fighting against the Daleks, actually believed that Sir Reginald Styles, a hundred years *ago* as it were, had caused this to happen. Hence their desire to kill him *now*, in order to change the course of history. The Doctor and Miss Grant returned from the future chased by Daleks and Ogrons. I was able to evacuate Sir Reginald and other diplomats from his house before it was blown up together with the Daleks and Ogrons inside.

I shall send you, Sir, further reports in due course.

Brigadier A. Lethbridge Stewart,
Commander,
British Branch, UNIT.

HIGH COURT OF THE TIME LORDS

COURT ARCHIVES

The planet Peladon, just emerging from barbarism, wished to join the Galactic Federation. We became aware that hidden forces were working against this. We therefore allowed the Doctor to take the TARDIS on a test flight and diverted him to this planet, where he discovered that Hepesh, High Priest of Peladon, was deliberately sabotaging the conference in order to keep Peladon primitive. With the help of the Ice Warrior Delegate from Mars, the Doctor exposed Hepesh's plan, as had been our intention. The Doctor and Jo Grant then entered the TARDIS, which we promptly returned to Earth.

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Court Archivist.

UNITED NATIONS INTELLIGENCE TASKFORCE

MEMORANDUM

FROM: Commander, REF: 2/0102/ALS/mh
British Branch, UNIT

TO: Commander in Chief,
UNIT Headquarters,
Geneva, Switzerland.

SUBJECT: The Doctor

With regard to your memorandum, Reference 1/3799/Doctor, marked URGENT, I very much regret that the British Lords of the Admiralty have complained to you directly of the Doctor's behaviour. So far as I know, the Doctor and Miss Grant intended merely to visit the Master where he is imprisoned on an island not far from Portsmouth, England. How and why this led to his breaking in to a top-secret Naval Research Establishment is at present beyond me. However, I am investigating the matter and will report further as soon as I am able. I accept your point about the Doctor's tendency to involve himself in a good deal of trouble, but would respectfully point out that the end result has usually been a good one.

Brigadier A. Lethbridge Stewart,
Commander,
British Branch, UNIT.

THE PEOPLE WHO MADE DOCTOR WHO

(All serials in the *Doctor Who* series have a code letter. Occasionally a letter is not used if it might sound confusing or funny, eg, there is no serial III.)

<i>Code</i>	<i>Writers</i>	<i>Directors</i>	<i>The Enemies</i>
<i>The Doctor played by William Hartnell</i>			
<i>Produced by Verity Lambert</i>			
<i>Script-editor: David Whitaker</i>			
A	Anthony Coburn	Waris Hussein	Stone Age savages
B	Terry Nation	Christopher Barry	Daleks
C	David Whitaker	Richard Martin	Space
D	John Lucarotti	Waris Hussein	War Lord Noghai
E	Terry Nation	John Corrie	Voords
F	John Lucarotti	John Crockett	Aztecs
G	Peter R. Newman	Mervyn Pinfield	Disease that was killing the Sensorites
H	Dennis Spooner	Henrik Hirsch	French revolutionaries and aristocrats
J	Louis Marks	Mervyn Pinfield	Mad giant scientist
K	Terry Nation	Richard Martin	Daleks
<i>Script-editor: Dennis Spooner</i>			
L	David Whitaker	Christopher Barry	Koquillon, murderer dressed as monster
M	Dennis Spooner	Christopher Barry	Roman slave traders
N	Bill Strutton	Richard Martin	Zarbi
P	David Whitaker	Douglas Camfield	Saracens
Q	Glyn Jones	Mervyn Pinfield	Moroks
R	Terry Nation	Richard Martin	Daleks
<i>Script-editor: Donald Tosh</i>			
S	Dennis Spooner	Douglas Camfield	A Time-meddler
T	William Emms	Derek Martinus	Drahvins

<i>Code</i>	<i>Writers</i>	<i>Directors</i>	<i>The Enemies</i>
<i>Produced by John Wiles</i>			
U	Donald Cotton	Michael Leeston-Smith	Trojans
V	Terry Nation	Douglas Camfield	Daleks
W	John Lucarotti	Paddy Russell	Catherine de Medici
<i>Script-editor: Gerry Davis</i>			
X	Paul Erickson and Lesley Scott	Michael Imison	Monoids
<i>Produced by Innes Lloyd</i>			
Y	Brian Hayles	Bill Sellars	Celestial Toymaker
Z	Donald Cotton	Rex Tucker	Wild West gunslingers
AA	Ian Stuart Black	Christopher Barry	Jano, an advanced cannibal
BB	Ian Stuart Black	Michael Ferguson	WOTAN, a power-crazed computer
CC	Brian Hayles	Julia Smith	Smugglers
DD	Kit Pedler	Derek Martinus	Cybermen
<i>The Doctor played by Patrick Troughton</i>			
EE	David Whitaker	Christopher Barry	Daleks
FF	Elwyn Jones and Gerry Davis	Hugh David	Redcoats
GG	Geoffrey Orme	Julia Smith	Professor Zaroff
HH	Kit Pedler	Morris Barry	Cybermen
JJ	Ian Stuart Black	John Davies	The Macra
KK	David Ellis and Malcolm Hulke	Gerry Mill	Chameleons
<i>Script-editors: Gerry Davis and Peter Bryant</i>			
LL	David Whitaker	Derek Martinus	Daleks
<i>Produced by Peter Bryant</i>			
<i>Script-editor: Victor Pemberton</i>			
MM	Kit Pedler and Gerry Davis	Morris Barry	Cybermen
<i>Produced by Innes Lloyd</i>			
<i>Script-editor: Peter Bryant</i>			
NN	Mervyn Haisman and Henry Lincoln	Gerald Blake	Great Intelligence
OO	Brian Hayles	Derek Martinus	Ice Warriors
PP	David Whitaker	Barry Letts	Salamander, a would-be world dictator

<i>Code</i>	<i>Writers</i>	<i>Directors</i>	<i>The Enemies</i>
<i>Produced by Peter Bryant</i>			
<i>Script-editor: Derrick Sherwin</i>			
QQ	Mervyn Haisman and Henry Lincoln	Douglas Camfield	Great Intelligence
RR	Victor Pemberton	Hugh David	Parasite seaweed
SS	David Whitaker (story by Kit Pedler)	Tristan de Vere Cole	Cybermen
TT	Mervyn Haisman and Henry Lincoln	Morris Barry	Dominators
UU	Peter Ling	David Maloney	The Mind-robber
<i>Script-editor: Terrance Dicks</i>			
VV	Derrick Sherwin	Douglas Camfield	Cybermen
WW	Robert Holmes	David Maloney	Krotons
XX	Brian Hayles	Michael Ferguson	Ice Warriors
YY	Robert Holmes	Michael Hart	Space pirates
<i>Produced by Derrick Sherwin</i>			
ZZ	Terrance Dicks and Malcom Hulke	David Maloney	War Lords
<i>The Doctor played by Jon Pertwee</i>			
AAA	Robert Holmes	Derek Martinus	Nestenes and Autons
<i>Produced by Barry Letts</i>			
BBB	Malcolm Hulke	Tim Combe	Silurians
CCC	David Whitaker	Michael Ferguson	An insane warmonger
DDD	Don Houghton	Douglas Camfield	Primords
EEE	Robert Holmes	Barry Letts	Nestenes and Autons
FFF	Don Houghton	Tim Combe	The Master
GGG	Bob Baker and Dave Martin	Michael Ferguson	Axons and the Master
HHH	Malcolm Hulke	Michael Briant	The Master and IMC
JJJ	Guy Leopold	Christopher Barry	The Master and Azal
KKK	Louis Marks	Paul Bernard	Daleks and Ogrons
MMM	Brian Hayles	Lennie Mayne	Hepesh the High Priest
LLL	Malcolm Hulke	Michael Briant	The Master and Sea Devils

INSIDE A TELEVISION STUDIO

A television studio is like a very big room (some are as big as a football pitch). In this huge 'room' the sets are built, mainly all round the walls so as to leave a big space in the middle for the cameras to move about. A set might be a bedroom, or an office, or the inside of the TARDIS. Sets usually have only three walls. The cameras 'look' into the set through where the fourth wall should have been.

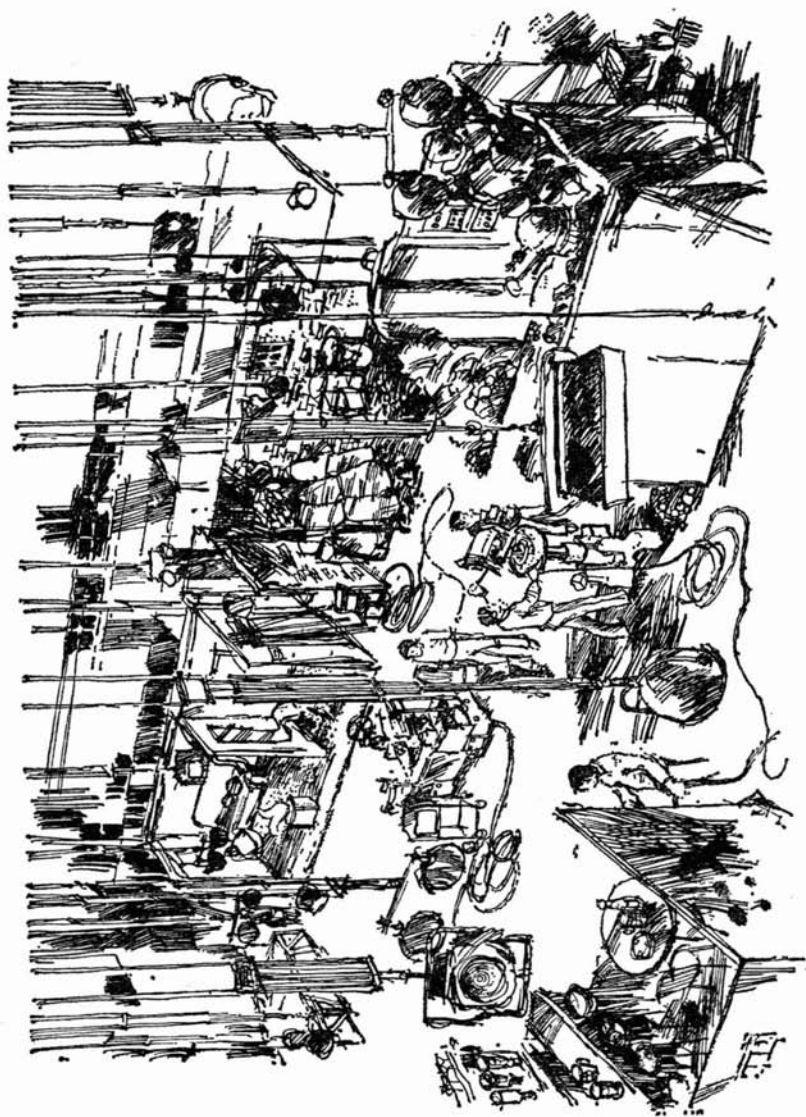
Usually four cameras are used in a production of *Doctor Who*. They are mounted on strong, heavy bases with small swivelling wheels underneath, and can glide about like Daleks. Each camera is linked by cable to a small television screen (or monitor) in the director's control room. On these monitor screens the director sees whatever the individual camera happens to be 'looking' at. Also in the control room there is a much larger screen called Output. By pressing buttons, the vision mixer can transfer any one of the four monitor pictures onto the Output screen: it is this picture which is recorded onto the videotape, and which you finally see on your television screen at home. These 'cuts', from one camera's view to another, are all worked out before the VTR (videotape recording) in the camera script. Planning these cuts is part of the director's homework before the day of production.

In a scene, say, between the Doctor and the Master, the

director might use two of his cameras. Camera 1 is trained on the Doctor, camera 2 on the Master. When the Doctor speaks, what camera 1 sees (the Doctor) goes onto the Output screen; when the Master says a line, the vision mixer presses a button that brings in the picture from camera 2. There are many other ways that directors use cuts, and you should look out for them.

During that scene, cameras 3 and 4 are trained on the actors waiting in the next set to play the next scene. Let's say these are Jo and the Brigadier, and the set is UNIT Headquarters. They must wait poised as though in action, like two wax-works, until the Doctor and the Master have finished their scene. Then the floor manager, who wears earphones and is in radio contact with the director, will give a signal. This is Jo and the Brigadier's cue to start acting. The pictures from cameras 3 and 4 will now be going onto Output. While Jo and the Brigadier are acting their scene, cameras 1 and 2 are gliding silently away from the first set to focus on whatever will be the third scene, the one following Jo and the Brigadier.

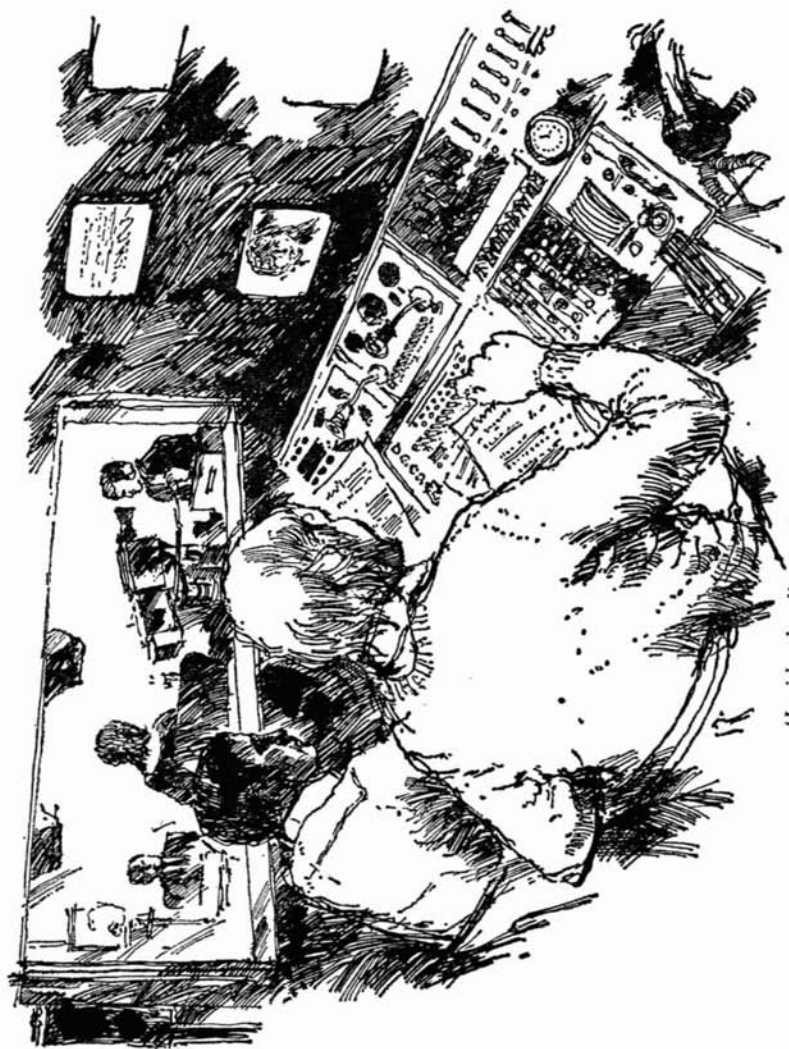
This is called 'continuous action', and once all television was produced like this, and was actually transmitted while the actors were acting (if an actor made a mistake, every viewer saw it). Now almost everything is pre-recorded, and many scenes are 'shot' two or three times until everything is perfect. This is very like how films are made. At the end of the studio day, the director has hundreds of feet of video tape (this is like tape-recorder tape only wider; it carries both sound and vision in electrical impulses). The director can play this back to himself, and select the shots he wants to keep. This is known as editing. Music and sound effects, such as explosions, which were not recorded at the time, can be added afterwards to the edited tape.



Director's Control Room

During a VTR a great many highly-skilled people are at work. Everyone, both 'down on the floor' (actors, cameramen, floor manager, etc.) and those in the control room, is tense and anxious to see that his or her bit of the production is done to perfection. The producer is there, of course, but at this stage more to advise than to supervise: he literally takes a back seat, but one from where he can see everything that is going on. However, the man of the moment during the VTR is the director, and he sits at a vast bank of switches, buttons, microphones, and flashing lights, facing the four monitor screens and the big Output screen. Also seated at this console to either side of the director, is his assistant (by microphone she tells the cameramen, who all wear earphones, which will be the next camera shot according to the script), the inlay operator (responsible for some special optical effects), the vision mixer (he makes the cuts), and the technical manager (in charge of the technical side of the whole studio). The control room is sometimes called the 'fish tank' because usually all the walls are glass, and from his place at the console the director can see into two other smaller control rooms. One of these is for lighting, the other for sound. As the dramatic action moves from scene to scene, different sets have to be lit. The huge lights dangling from the studio roof were all put in position when the sets were built, but they are not switched on until needed. Electricity is expensive in such vast quantities, and anyway studios become uncomfortably hot. So the fewer lights on the better. The people in the sound control room have banks of tape-recorders and turntables. The dramatic action may require them to bring in the sound of a motor car or a passing train, or the *Doctor Who* theme music.

As we have said, during a VTR everyone is tense and



'Inside the director's control room'

anxious. This is because so many things can go wrong. The actors may say their lines perfectly, but the man in the sound control room might miss bringing in the noise of an overhead aeroplane at the right moment. So the scene has to be done again. Or everything else can go right, but during the 'take' it is noticed for the first time that an odd shadow is falling across the Doctor's face. Or – and this also happens – while every *technical* thing goes right, one of the actors simply forgets what he has to say.

A television studio is a very complicated box of tricks, and many things can go wrong. But somehow they always manage to produce the goods. Everyone worries a lot, but it is probably also true to say that most people who work in television enjoy it.

DIARY OF A PRODUCTION

It all Starts with the Script

Apart from the Doctor and Jo, only two other people are concerned with *every* episode of *Doctor Who*. They are the producer, and the script-editor, who are at present, Barry Letts and Terrance Dicks. These two men decide a long way in advance what is going to happen to the Doctor. In the following pages, we shall describe the events leading up to one particular *Doctor Who* adventure.

The producer and script-editor decided that serial LLL (they all have code letters) should be set on the planet Earth. It is a question of dramatic balance between stories whether the Doctor should be on Earth or on another planet. They particularly wanted a story with something to do with the sea, because there hadn't been a *Doctor Who* sea story for some time, and they had been pleased to find that the Navy would give them a great deal of help. So that much was settled in their minds. Now they thought of other things. Wasn't it time that the Master was seen again? He was last seen captured by UNIT at the end of *The Dæmons*, the final serial of the last season. So they wanted a story about the sea, the Navy, and the Master. Then a third and most important thought: monsters! They considered the monsters that had been popular in the past. For instance, there had been the Silurians, created by the writer Malcolm Hulke. Then one of them

remembered that Hulke had once been in the Navy. Would he be the right person to ask to write serial LLL?

Hulke was invited to the *Doctor Who* office for a talk. The idea was put to him – the sea, the Navy, the Master, and the Silurians. He went away, thought about this idea for a week or two, then sent in a storyline. He was then asked to the office for a discussion about his storyline, and this resulted in a commission to expand the storyline into a story-breakdown. This second version would give a scene-by-scene, blow-by-blow explanation of the whole six episode serial. After he had delivered that there were further discussions, and then he was asked to write the six scripts.

Nearly all television series writing goes in steps like this. The aim is to see that the writer's story keeps to the continuity of the series as a whole, and also to make sure that he doesn't write things which, for one reason or another, cannot be produced. For instance, Hulke's story-breakdown needed a Naval hovercraft. At that early stage the producer was able to telephone the Navy and say: 'You said you'd help. Can we have a hovercraft?' Yes, that would be possible. So the hovercraft got into the final script. But the story also needed a Naval helicopter. No, there would be a problem about that. So the helicopter was never written in. All this pre-planning saves everyone a lot of time and trouble.

Some weeks later, the six scripts for serial LLL were delivered. Despite all the discussions with the writer, and this particular writer's close previous association with the show, the script-editor is even closer and therefore knows more about continuity than can be known by any of the writers. The Doctor never calls Jo 'My dear girl', which is what the writer had written in one scene, but he does frequently say 'my dear' at the end of sentences to Jo. So the script-editor got

to work and changed lines like that, to maintain series continuity. The producer took his copies of the six scripts on holiday with him, and gave a hard long look at the amount of outside filming needed. The writer had kept to the limitations agreed at all those pre-script discussions: even so, would it be possible to trim down the filming, yet not rob the story of its dramatic punch? There are almost always ways of doing this, and the producer spent a week of holiday time re-jigging film scenes so that they still 'said' the same thing but would save both time and money. Finally the scripts were ready for duplicating.

The Director Takes Over

The writing job was over. Now everyone else's began. Two months before the serial went into production, the director was appointed, together with his assistant, secretary, and assistant floor manager. From that point on it was his job to turn the six scripts into what you will see on the screen. The director chosen for serial LLL was Michael Briant, who had successfully directed one *Doctor Who* serial and knew the programme and its problems.

The director started, of course, by reading the scripts. He was enthusiastic about the story; but, despite the producer's work on holiday, the director felt that the filming sequences could still do with some more trimming. The script included water-skiing for the Doctor, a battle with monsters on a beach, a chase in fast speedboats, scenes on board a diving vessel, and the hovercraft. Working together, the producer, script-editor and director devised further cuts. The director then went to see the Navy people in Portsmouth, and to look for places to film (locations).

On his return the director started to cast the leading parts.

Casting is not always easy. Often the actors whom a director particularly wants are working in another show at the time he wants them. However, for serial LLL director Michael Briant was lucky. He got just the people he wanted.

Endless Meetings

During all this time the director had endless meetings, and was in continual discussions with the producer. (The producer was, of course, not only interested in serial LLL by this time. He was also in discussions with, and supervising the work of, all the directors and other people involved in all the other *Doctor Who* serials for that season, all of which were by now at different stages of preparation.) One of the director's first meetings was with the designer, Tony Snoaden, to discuss the sets that would be built in the studio. Tony Snoaden put his ideas to the director. Equally, the director put *his* ideas to the designer. At their next meeting, the designer showed the director some preliminary sketches of how the sets would look. They had further talks and more sketches were made. Everyone in a production wants to do their best, but they are intelligent people and often have different ideas and opinions. It is often from these discussions, with ideas passed to and fro, that they finally get the best results.

The director also had meetings with people from the Make-up and Costume departments. But since this was a *Doctor Who* show, the biggest and most important meeting was with the people from the Special Effects department. You will find greater details about this department in the next chapter of this book.

The scripts called for an elaborate model submarine to be used in underwater scenes, ray guns for the Sea Devils (new name for the Silurians), a spy camera to survey the grounds

of a prison, and a sonic laser. Added to these the director wanted an assortment of bangs, flashes, smoke bombs and bullet sprays. So for serial LLL, Special Effects designer Peter Day and his assistant Len Hutton knew they had a lot of thinking and work to do.

Having set all these people thinking out problems, the director then started to work out plans for his outside filming scenes. Every single shot had to be listed in detail. While he was doing that, his assistants were grappling with the practical problems of location filming. About forty people would have to leave their homes and spend a week filming in Portsmouth and the Isle of Wight. Only a dozen of these would be the actors. The rest would be cameramen, electricians, make-up and costume people, special effects designers, and so on. Many skilled people are needed to make up a filming crew. Hotel rooms had to be booked, train times checked, and a mobile canteen organized so that the actors and crew could be fed during the days actually on location. In this planning, nothing could be left to chance.

Filming on Location

Finally the day came to start filming. Very early in the morning of a grey October day, a coach-load of actors and crew, plus several vans, left the BBC Television Centre at Shepherds Bush, London, and started out for Portsmouth. Some people went in their own cars. By eleven o'clock that morning, exactly on time and according to plan, everyone was on the windy Fraser Gunnery Range just outside Portsmouth, and the director had his camera trained on Jon Pertwee. Doctor Who, as he now was, had to be filmed inspecting strange circular scorch marks on an upturned lifeboat. Behind the cameras, safely out of shot, huddled a collection of actors and

technicians, well wrapped up against the bitter weather, waiting their turn to go into action. Location filming had begun.

The next six days were a solid slog of filming and more filming. The pressure was intense. They filmed at the Gunnery Range, on board HMS *Reclaim*, at Lorris Castle near Cowes, on the jetty of a yacht club, and at Whitecliff Bay on the Isle of Wight. They filmed deep-sea diving, gun battles with monsters, and a dangerous escape down the face of a cliff. They filmed Jeeps, the hovercraft, motor-bikes and even a horse. Sometimes things went wrong. In the middle of an important scene, when Jo and the Doctor were talking, a jet plane flew over low, drowning their voices. That scene had to be shot again. Every night, all the film shot that day was rushed to London by train to be processed in the film laboratories. Each morning, the producer Barry Letts went to a projection room at the BBC's film studios at Ealing to see the 'rushes' (un-edited film, just as it was shot on location the day before). Barry Letts would then telephone the director on location to give his opinion on the quality of the filming, and to say which, if any, scenes he felt ought to be shot again.

Into the Studio

After the six days filming around Portsmouth, the director and his tired group of actors and technicians returned to London. Not, however, to take a rest. *Doctor Who* serial LLL was now about to go into rehearsal for the studio production. One morning in early November the director and now *all* the actors met together for a 'read-through' in a room in the BBC's new Rehearsal Block in North Acton, not far from the BBC Television Centre. Only some of the actors had been

needed for the location filming. But now, for the first time, the entire cast of actors met.

They sat down at a long table, and read aloud their parts from the scripts of episodes 1 and 2 (*Doctor Who* episodes are produced and recorded two at a time). Every scene was timed with a stop-watch. Present on this occasion were the producer, the script-editor, the writer, and people from the Make-up and Costume departments, plus certain technicians. After the read-through, while the lady from Costumes discussed with certain actors what they should wear for the production, the director pointed out to the script-editor that according to the stop-watch episode 1 would run one minute and thirty seconds 'under' (too short), while episode 2 would be about three minutes 'over' (too long). The script-editor and the writer then went into a corner to work out some 'padding' for episode 1, and a cut from episode 2.

Before leaving, the producer talked to the director about how one of the actors had read his part. Surely that character should be played tough, not soft. The director said he would talk to the actor about it. Finally the producer, script-editor and the writer, plus the Make-up and Costume people, went away and left the director and his actors to it.

The actors could see a beautiful little model of their sets, but they wouldn't be seeing the sets themselves in the studio until the day of production or VTR. The reason was that actual studio time is very expensive. Studios may only be used for productions, not for rehearsals. However, long strips of coloured tape are put onto the floor of the rehearsal room to show the actors where the walls of the sets will be. So that they can learn their 'moves' and what to do, there are certain 'props' for them. For instance, a rather battered telephone, an old table to represent the desk that will be in the actual set.

a kitchen chair to represent an armchair. During these rehearsals, the actors have to use a lot of imagination. The scenes are rehearsed one at a time. The actors are told which days they will be called to rehearse their particular scenes.

After two weeks rehearsing the two episodes, there came the production day. Now, for the first time, the actors went into the studio. And there were the sets, shaped just like those strips of coloured tape on the rehearsal-room floor. This, at last, started to look like the glamour of television. But the glamour soon faded when the camera rehearsals started. Over two weeks the actors have learnt their lines and moves. Now, in the early part of the production day, the camera and sound crews had to learn *their* moves. The camera and sound crews are in a sense part of the studio, and yesterday they had been doing something quite different ... perhaps a production of *Softly, Softly*. While these camera rehearsals were going on, final touches were being made to the sets.

All this is very tiring for the actor. Try to imagine the scene in your own mind. The cameramen have asked you to enter through a certain door in your set, because they want to work out the exact focus for the camera lens as you make this move. So you keep doing this, time and again, while they make their calculations. But the sound man also wants to make sure his microphone will pick up what you say. So you keep entering through this door, and saying the same words, again and again. The lighting people keep changing the lights, sometimes blinding you, because they too want everything to be perfect. While you are doing this, Make-up suddenly rush at you with a powder puff because your nose is too shiny and will look funny on the screen. Some of the powder goes in your eyes, some up your nose. At the same time, a friendly set builder keeps making final adjustments to the door which

you are supposed to open each time, getting in your way. To add to everything, the whole studio is in an uproar with noise. Set builders (they were working all night) are still hammering in nails, people are calling to each other. Every few minutes someone in a corner keeps letting off some startling explosive device, to make sure it will work. If you ever feel that you keep seeing the same actors time and again on television, perhaps it is because very few actors can stand the pace! They have to be very tough.

But back to *Doctor Who*, serial LLL, episodes 1 and 2. Through a long and tiring day, preparations were made for the evening's VTR. Eventually the banging and hammering faded away as final touches to the sets were completed, and the cameramen became satisfied that they would get good shots of the action. During the afternoon, there were three or four 'runs', which means that all the studio scenes were acted through completely, actors and cameras at last starting to work together like one big machine.

Of course some of this episode was already on film, so that was safely 'in the can'. What they were to do now was all the interior, or studio, shots – the ones in sets. Continuity was important here. For instance, one of the filmed scenes showed an actor walking along a street and then going into a house. Now they would shoot and record what happened *inside* the house. So the actor had to be dressed exactly as he was during the filming.

Early evening there was a supper break before the VTR. Try to imagine what the BBC canteen looks like when the *Doctor Who* cast go for their supper. There is Doctor Who himself, very elegant in his cape, eating bacon and eggs at the same table with a monster. At the next table, a man in the uniform of a high-ranking Naval officer is drinking coffee with

the Master – who, off-screen, is one of the most pleasant ‘villains’ you could possibly meet. Perhaps at another table are two men in prison uniform together with a couple of ‘policemen’, but they are from another show.

By a little before 8 PM, everybody was back in the studio. Up in the director’s control room the atmosphere was tense. The hands of the clock crept slowly along to the starting time. From his console microphone, the director wished everyone good luck. From his seat just behind the director, the producer quietly wished the director good luck. The script-editor was there, and so was the writer. Then it was 8 PM. The director’s assistant said into her microphone: ‘Run telecine, opening titles. Go grams!’ The familiar swirling patterns appeared on the telecine monitor screen, and over the loudspeaker came the familiar *Doctor Who* theme music composed by Ron Grainer and the Radiophonic Workshop. (In addition, as much music may be written for a *Doctor Who* serial as for a whole symphony.) The show had begun.

Two hours later and the studio scenes of episode 1 were also safely ‘in the can’. But this was only the beginning. The next day, episode 2 was recorded in studio. And after one day’s break, the cast and director met again in the rehearsal room for episodes 3 and 4. And so it went on, until finally all six episodes had been recorded in studio, and linked with the filmed scenes made on location.

Soon after each episode was complete, they were played back on the television screen in the office of Ronnie Marsh, the BBC’s Head of Serials, who always takes a keen interest in *Doctor Who*. Some weeks after that, at 6.15 PM one Saturday evening, *The Sea Devils* appeared on your screen at home.

A Year's Work

Over a year had passed since the producer, Barry Letts, and the script-editor, Terrance Dicks, first thought of ideas for serial LLL, and since writer Malcolm Hulke sat down at his typewriter. It was eight months since the director Michael Briant had first read the six scripts and gone down to Portsmouth to see the Navy people there. During all this time the producer and the script-editor had been working on all the other *Doctor Who* serials, thinking up ideas, solving production problems.

By the time serial LLL, *The Sea Devils*, appeared on the home screens of the producer and the script-editor, it was all rather like history to them, something that had already happened. They had it noted in their diaries to have a discussion together the following Monday morning. There was the whole of next year's *Doctor Who* to think about. And then, perhaps, the year after that.

CAPTIONS TO FACSIMILES

(see pages 87 to 92)

Writer's storyline

The story put down on paper for the first time. Here is the first page. Note how in this version Jo *sees* the boat 'bursting into flames.' In the discussion that followed, a way was found to avoid actually burning a boat.

Writer's story-breakdown

Here the writer shows scene-by-scene how he intends to write the script. Note how Jo and the Doctor only hear an explosion, then see the remains of the boat (actually bits of old wood). All scenes are numbered. TK means an outdoors scene which will have to be made on film.

Rehearsal script

The script as delivered by the writer, and then duplicated and copies distributed to the actors, and everyone else involved with the production. Everything for studio production is typed on the right, and film scenes are typed on the left. But film dialogue goes on the right, along with studio dialogue.

Film diary

In location filming, large numbers of people and all sorts of equipment have to be in exactly the right place at the right time. To make sure everyone knows exactly what to do, this diary is given to everyone. In 34 pages this diary contained maps, road and train directions, and the director's plan for each day's filming. Day Four ran to six pages.

Filming schedule

This is the 'script' that the director takes on location with him. Every single shot is planned and numbered. *TELECINE II* (page 34) refers to the rehearsal script. *ZOOM*, camera lens adjusted to make things rush at us. *CU*, close up. *f/g*, foreground. *L*, left, *R*, right. *TRACK*, to move the camera. *C. frame*, in the centre of the picture. (*DOUBLE*), for dangerous action, people are used who, seen from a distance, look like the real actors. *PAN UP*, to tilt the camera upwards.

Camera script

Now we see why the writer uses only the right-hand side of the page for studio scenes. The director needs the left side for his camera directions. This version is only for cameramen and technicians. Cameras are numbered and their positions described by letters; microphone booms are lettered, and their positions described by numbers. *MCS*, medium close shot. *MLS*, medium long shot. *2S*, shot of two people. Every camera move is planned in advance.

Doctor Who - The Sea Devils
Storyline for a six-part serial
by
Malcolm Hulke.

We open in the radio room of an ultra modern cargo vessel, where a panic-stricken radio operator is sending a desperate May Day call: "Something has knocked the bottom out of the ship. We are abandoning." He turns to exit, then recoils in horror from something he sees in the doorway. A scaly non-human hand strikes him down.

The Doctor, accompanied by Jo, is visiting the Master, who is a prisoner in exile on a small island. The Master seems a changed man, deeply regretting his former crimes, wishing only to live out his days in scholarly retirement. While there the Doctor hears the news of the disappearance of the large cargo vessel, in safe calm waters. Jo discovers that there was a similar disappearance of a vessel in the same area only a week or two ago. Intrigued by this, the Doctor decides to investigate.

The Doctor learns from Robbins, a local boatman, that a lifeboat was found after one of the wrecks, and that its underside was burnt in a mysterious way. The lifeboat is now in the hands of the Navy. The Doctor pays a visit to a top secret Naval base to look at the boat.

There he meets Captain Hart, the Naval officer in charge of the base. After a discussion with Hart, the Doctor decides to visit an old sea fort which is in the centre of the sea area in which ships have vanished.

Jo and the Doctor "borrow" Robbins' boat, and visit the sea fort. To their surprise it seems completely deserted. They go into the fort to look round. We stay with their boat, and see the scaly hand of a Sea Devil come up out of the sea.

Jo and the Doctor look round the deserted sea fort. Jo looks from a window and sees to her horror that their boat is bursting into flames.

Writer's Storyline

23. Ext. Sea Fort. (TK). Day.

Jo and the Doctor arrive in Robbins' boat. They moor the boat and start to climb the ladder that leads up into the fort.

24. Int. Sea Fort: Corridor. Day.

Jo and the Doctor climb on board, look round. The place seems to be deserted. They go off to explore.

25. Ext. Sea Fort. (TK). Day.

The moored boat. A Sea Devils' hand appears over the side.

26. Int. Sea Fort: Cabin. Day.

Jo and the Doctor find the cabin empty. There are glasses half full, draughtsmen set out on the draughts-board, as though the people there had suddenly vanished. They decide to explore further.

27. Ext. Sea Fort. (TK). Day.

Smoke begins to pour from the bottom of the boat.

28. Int. Sea Fort: Corridor. Day.

Jo and the Doctor are still looking round. From outside they hear the sound of an explosion. They rush to a window.

29. Ext. Sea Fort. (TK). Day.

The spot where the boat was moored. All we see are a few scraps of wreckage floating on the water.

30. Int. Sea Fort: Corridor. Day.

Jo and the Doctor think of reasons why their boat exploded. Perhaps it was the petrol tank. Anyway, they are now stranded. The Doctor says there must be a radio transmitter on the fort, and they go off to look for one. Further along the corridor they find the crumpled body of Hickman. As the Doctor kneels to inspect the body, they hear the sounds of dragging feet and heavy breathing coming towards them.

End of Episode 1

Writer's Story-breakdown

HART: I suggest you report your theories to your people at Unit, and put the whole thing on an official level.

DOCTOR WHO: If Horatio Nelson were dealing with this matter, he wouldn't wait for official instructions.

HART: (HUMOURING THE DOCTOR). Yes. A pretty impulsive chap - if we're to believe the history books.

DOCTOR WHO: History books? He was a personal friend of mine. Come on, Jo.

(DOCTOR WHO SWEEPS OUT.
JO GIVES HART A HELPLESS
SMILE AND FOLLOWS THE
DOCTOR)

HART: Good grief. He's mad as a hatter.

TELECINE 12

Sea Fort

Establishing shot.

Sea Fort section

DOCTOR WHO and JO come along in Robbins' boat.

DOCTOR WHO ties up the boat to the ladder which comes up out of the sea.

JO starts going up the ladder, followed by DOCTOR WHO.

JO: How do we get in to the Fort?

DOCTOR WHO: Up that ladder. Hold tight, I'm going along-side.

DOCTOR WHO: Up you go, Jo.

Rehearsal Script

LOCATIONS

- (a) H.M. Diving Vessel 'Reclaim'
- (b) No Man's Land Fort

SEQUENCES

The Doctor and Jo board 'Reclaim' from a launch.
The Admiral gives orders on the bridge.
The Doctor enters diving bell.
The Doctor and Master pop up from beneath sea.
Diving bell raised.
Prop Sea Devils floating.
The Doctor and Jo in boat to sea fort.
Swimming Sea Devil's hand up from sea.
Wreckage in sea.
Empty diving chamber.

CALLS

'Reclaim' is at present at sea and cannot be readily contacted. As at present understood she will anchor in Portsmouth Harbour and filming personnel will be taken out by launch from St Catherine's stairs which is in Portsmouth Dockyard. A call will be announced to rendezvous at the DOCKYARD MAIN GATE where identities will be checked.

CAST

JON PERTWEE
KATY MANNING
ROGER DELGADO
NORMAN ATKYNS
EDWIN RICHFIELD

BBC STAFF INVOLVED

MICHAEL BRIANT
COLIN DUDLEY
PAULINE SILCOCK
PETER SARGENT
ROGER TWYNAN
DEREK MEDUS
ALEC CHRISTISON
MARGARET FLETCHER
GRACE DAWSON
JACK ROE
SYLVIA JAMES
PETER DAY
SPARKS AS DECIDED
NO PROPS

Film Diary

EPISODE ONE

SHOT NO.	SLATE NO.	DESCRIPTION	SOUND	GENERAL
46		<u>TELECINE 11</u> (page 34) Ladder with sea f/g Sea Devil's hand comes up rung. ZOOM to CU Sea Devil's hand OR <u>DIVER FROM BOAT</u>		Sea Devil
<u>END TELECINE 11</u>				
47		<u>TELECINE 12</u> (page 42) <u>BOAT AT SEA - 'RECLAIM' DAY</u> IS FORT. JO in f/g in bows of boat. She turns Let JO go L.	JO: How do we get in to the Fort?	JO
48		<u>BOAT AT SEA - 'RECLAIM' DAY</u> The DR. is turning from the stern. Let DR. go R.	DR: Up that ladder. Hold tight. I'm going along-side.	DR.
49		TRACK past side of fort till ladder in C. frame. DR. in L. ties painter to ladder and JO (DOUBLE) starts to climb ladder, followed by DR. (DOUBLE)	DR: Up you go JO.	DR.'S (DOUBLE) JO'S (DOUBLE)
<u>END TELECINE 12</u>				

Filming Schedule

157. 2A _____ HART: I suggest you report your theories to your people at Unit, and put the whole thing on an official level./
MCS DOCTOR
158. 1B _____ DOCTOR WHO: If Horatio Nelson were dealing with this matter, he wouldn't wait for official instructions./
ES DOC/HART
159. 2A _____ HART: (HUMOURING THE DOCTOR) Yes. A pretty impulsive chap - if we're to believe the history books./
CU DOCTOR
160. 1B _____ DOCTOR WHO: History books? He was a personal friend of mine./
Come on Jo.
161. 3A _____ E to POS.B
MIS DOC/JO (DOOR L of FRAME) / (DOCTOR WHO SWEEPS OUT.
JO GIVES HART A HELPLESS
EMILE AND FOLLOWS THE
DOCTOR)/
162. 1B _____
CU HART
- HART: Good grief. He's mad as a hatter.

RECORDING BREAK

TELESCINE 12

Sea Fort
Establishing shot.

Sea Fort section
DOCTOR WHO and JO come along in Robbins' boat, and tie up to the ladder which comes up out of the sea.

JO: How do we get in to the Fort?

DOCTOR WHO: Up that ladder. Hold tight, I'm going along-side.

JO starts going up the ladder, followed by DOCTOR WHO.

DOCTOR WHO: Up you go, Jo.

Camera Script

HOW TO MAKE A MONSTER OR BLOW UP THE WORLD!

In nearly every *Doctor Who* adventure there is one moment that everyone is waiting for. Up till then, you have only seen the damage caused by the monster, or you may have seen a scaly foot or a mechanical hand. But now the moment has come in the story when the monster will be revealed. Here it comes, lurching from the shadows, eyes flashing, ray-gun blazing, advancing onto the brave Doctor and his terrified companions! However, what you don't see is the man from the BBC's Visual Effects department who is trailing behind the monster, turning off and on those flashing eyes. Nor do you see the perspiring actor who is inside the heavy costume of this terrifying alien invader from Space.

Most of the monsters and aliens in *Doctor Who* are actors inside specially designed costumes. Usually the 'body' of the costume is built by the BBC's Costume department, while the head, claws, weapons and any other gadgets come from Visual Effects. Today, the Visual Effects department has a staff of over twenty people. There are six designers, each with two assistants, plus others. They have a large workshop, and even a mini-studio where working models can be filmed (for example, the model submarine described in *Diary of a Production*). But despite all the department's staff and equipment, the BBC produces so many television shows needing

special effects that some of the work has to be done outside the BBC by specialist firms.

Jack Kine, Manager of Visual Effects, can remember when things were very different: 'In the early days,' he said, 'there were just seven of us, in a temporary workshop, trying hard to keep up with all the productions requiring visual effects.'

The growth of the Visual Effects department and the ever-increasing complications of *Doctor Who* have gone hand in hand. As *Doctor Who* continued over the years, bigger and better effects were needed. The producers wanted explosions, ray-guns, walls and doors that would melt, space-ships that would take off, and control-rooms to be blown up. Of course, Visual Effects also serves such shows as *Monty Python's Flying Circus*. But by far the biggest 'customer' is *Doctor Who*.

Monster-making is often a combined operation between different departments at the BBC. Take, for instance, the Yeti. The bodies of these giant, shaggy snowmen were made by the Costume department, but the control unit that fitted into their chests was constructed by Visual Effects. In the case of the Ice Warriors, Visual Effects and Costumes combined to make the head and body, but the Make-up department then treated the area round the actor's mouth to match his face mask so that he was able to speak with his own voice (sometimes, as with the Silurians, the voice you hear is not that of the actor inside the monster costume). The clothes of the Autons came from the Costume department, but the plastic 'faceless' face, and the hinged hand that dropped away to reveal a ray-gun were from Visual Effects. You will also remember that when the Autons fired at someone, a bit of that person exploded. This was the work of Visual Effects. A very small explosive charge was sewn into the victim's clothes, and this was detonated electrically at the right moment. In *The Demons*, the

stone gargoyle from the church that attacked the Doctor was the work of Visual Effects.

But apart from monsters, the Visual Effects department make all sorts of other things. A space rocket is made with corrugated cardboard, silver paint, and dry-ice to provide the belching smoke for the take off. A frequently used material is pure latex which can be heated and poured into a plastic mould, then painted and processed to give various scaly and knobbly effects. Jack Kine and his assistants in the Visual Effects department pride themselves on being able to mould, crush, bash, twist or paint almost anything until it looks like something else. And, like everyone else in television, they have to think about money. The skill of their job is to create exciting and interesting things without spending a fortune.

Bang!

But nothing excites the men of the Visual Effects department more than when they are asked to make a really big explosion. At the end of *The Demons* the story required that the village church should be blown up. For the filming, the director went on location and used a real village church. But for the final shot of the church, Jack Kine and his people made a beautiful model of that particular church. It was only seen on the screen for a moment before it suffered one of the biggest bangs Visual Effects had ever produced. All this was so well done, and the model church was so completely blown to pieces, that after the episode had been transmitted the producer, Barry Letts, received an angry letter from a viewer who had visited the village of the real church, and who was more than a little annoyed that the church had been blown up!

If you want to know more about the strange world of make-believe of special effects, you can read *The Technique*

of *Special Effects in Television* written by Bernard Wilkie, who is the BBC's Senior Visual Effects Designer. It is published by Focal Press, and costs £3.50, but you should be able to find it in your public library.

Next time you see a *Doctor Who* monster, give a thought to the actor inside, and a special thought to all the hard-working people who turned the writer's idea into what you actually see on the screen.

(The following document comes from the files of the hospital where the Doctor was treated after his forced return to Earth by the Time Lords and his latest total change of appearance. It throws some light on his physical state.)

LOURDWATER COTTAGE HOSPITAL

CASE SUMMARY

DATE: January 3rd, 1970

NAME OF PATIENT: Unknown. **AGE:** ?

SEX: Male

ADDRESS: Unknown (found by a police box)

GENERAL PRACTITIONER: Unknown.

DATE OF ADMISSION & DISCHARGE: January 3rd, 1970 (forcibly abducted from ward same day by non-human 'visitors')

WARD: 'D'

PRINCIPAL DIAGNOSIS: Recurrent attacks of loss of consciousness. Cause unknown.

SECONDARY DIAGNOSIS: (1) Gross cardiac abnormalities (See notes below). (2) Hypothermia.

The patient was admitted via the Casualty Department having been found unconscious in a field which was the focal point of a swarm of meteorites. No conclusive diagnosis has been reached on this patient: certain strange phenomena are inexplicable in the light of present medical knowledge.

On admission the patient was deeply unconscious as he was not responding to painful stimuli.

CIRCULATORY SYSTEM: Pulse rate = 10/ min., regular rate with a good volume. Blood pressure = 70/70 millimetres of mercury. On listening to the heart sounds, it was found that (1) They could be heard *all over* the chest wall, front and back, instead of just the left and front, with equal intensity at each part of the chest. (2) There were four heart sounds instead of the normal two.

RESPIRATORY SYSTEM: The breathing was slow – 4 breaths per minute as compared with the normal 12–16 – but otherwise normal.

CENTRAL NERVOUS SYSTEM: Deeply unconscious. Reflexes were very brisk.

SKELETAL SYSTEM: Bone structure and joints appeared completely normal, ie, human. No evidence of fracture.

TEMPERATURE: 60° Fahrenheit, although the patient was warm to the touch. (He was not, I repeat not, dead).

TESTS: (1) Chest X-ray showed two hearts, mirror images of each other. Both were equally developed. (2) Skull X-ray. Bony structure was normal, no evidence of fracture. Enormous brain cavity. (3) Blood: Totally incomparable with that of any pathological state known. The respiratory pigment, while not normal haemoglobin, had some of its structural characteristics. The capacity to carry oxygen, and other gases too, was greater than that of haemoglobin. (4) Electroencephalograph: this showed an electrical activity of the brain which we had previously never recorded. (The machine is now under repair.) (5) Electrocardiograph: expecting an ECG of low amplitude and frequency (due to the hypothermia and low pulse rate) I was surprised to find a greatly increased amplitude indicating that the electrical activity of the hearts was greater than normal.

During the short periods of consciousness we tried to find out the patient's mental state. Although he seemed confused in both time and space, otherwise his mind was clear and he showed a high degree of intelligence. However, when a senior British Army officer visited the patient (for reasons not known to me), the patient referred to himself as a doctor, and insisted he was this officer's friend. The officer, however, protested that he had never seen the patient before, and left.

While the patient showed few signs of aggressive instincts, I can hardly say the same for his next 'visitors'. I was knocked unconscious, and the patient was abducted. In the brief moment that I saw my attackers before being knocked out, they did not appear to me to be human.

Conclusion: while the patient seemed human, obviously he was not *homo sapiens*. He was of a higher evolutionary state, which gave him a longer period of survival than is human. His physiological make-up suggests that he could live for very many centuries, possibly as long as 1,000 years.

Dr V. R. Henderson.

COULD IT ALL BE TRUE?

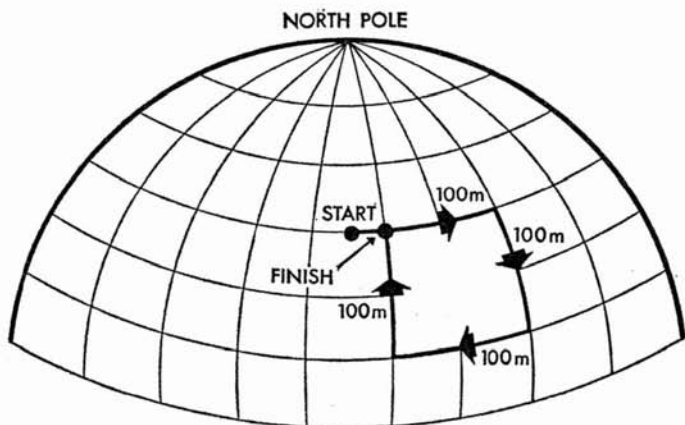
What happens in *Doctor Who* seems impossible. But is it? Things are not always as they appear. As we mentioned earlier, in olden times people believed the world was flat. They thought that if you sailed a ship far enough, it would drop off the edge. But we shouldn't laugh at this, because some of our own ideas today may be wrong. For instance, about Space and Time.

In fact, although we *know* the world is round, most people *feel* that it is flat. You put this question to someone: If you flew in an aeroplane 100 miles straight East, 100 miles South, 100 miles West, and then 100 miles North, would you come back to exactly where you started? Most people will answer 'yes'. They would be wrong. The trick is in the word 'straight', because what they think of as straight lines are actually curves. You can see this from the illustration on the next page.

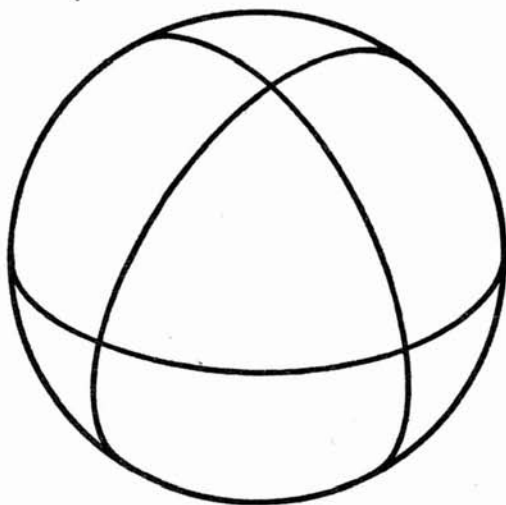
You don't have to fly in an aeroplane to find out odd things about curved surfaces. Try the following experiment with an orange. Cut the orange into half around its 'equator' and then cut each half into equal quarters as you see on the next page.

Each of the eight pieces will give you a triangle with square corner – a sort of impossible shape! Don't forget to eat the orange. They're good for you.

With things on the Earth's surface being so strange, it is



The 100-mile legs of the journey shown here are not, of course, to scale with the Earth



'Cut your orange like this!'

not surprising if the rules about shapes and lines in the whole of the Universe are even more strange. Many mathematicians think this is the case. No wonder the TARDIS turns up in odd places.

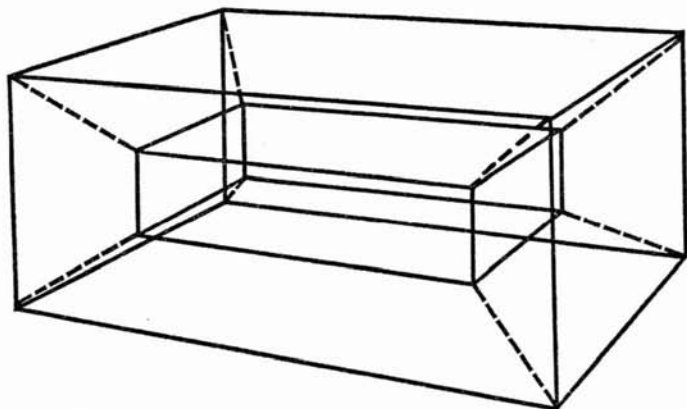
Bigger Inside Than Outside

As we all know, the TARDIS is much bigger inside than it is on the outside. Is that stupid? Well, let's see. The TARDIS is actually a four-dimensional object projected into our three-dimensional world. To understand that, let us first imagine a *two*-dimensional world. We can call it Flatland.

In Flatland everything is two dimensional, like sheets of paper with only length and width. There is no such thing as height. For the Flatlanders, height is impossible to imagine because they do not know it. Then one day a spaceship arrives from a three-dimensional world, such as Earth. The spaceship is shaped like a square box. The Flatlanders are naturally very curious, and come to inspect this strange object. But they can only inspect the square base of the box spaceship, so they can know how long and wide it is, but not how tall. Now one of the braver Flatlanders actually gets inside the box-shaped spaceship. He goes up a wall, along the roof hanging upside down, and down another wall. He finds there are six surfaces inside, and each surface is the same width and length as the size he thought the object was. So it seems to him that the spaceship is six times bigger inside than it is outside.

Flatland is, of course, an impossible sort of place. But if you can understand the problem facing the Flatlander, now imagine that a four-dimensional box arrives in our three-dimensional world – in fact, a hyper-cube. The Flatlander, in his two-dimensional world, only saw the square. We, in our

three-dimensional world, would see the three-dimensional equivalent of the hyper-cube – a cube. Or, if the hyper-cube were hollow, we would then see a box. But if we got inside this four-dimensional box we would find that it is many times bigger inside than outside. In fact, it would be most unbox-like. Of course it is no good explaining to you that the TARDIS is a four-dimensional box, because that doesn't mean anything to you. But here is a four-dimensional box in three-dimensions. It is a two-dimensional projection of a three-dimensional projection of a four-dimensional cube!



What you should be seeing above is a box inside another box with the four corners of the inside box linked to the four corners of the outside box. This is mathematically possible.

Here is another interesting fact about shapes and sizes. A thing gets shorter in length in the direction that it is going. This means that if a 20-ft-long rocket came past you in space

at nearly 100,000 miles per second it would be (if you could measure it) only about 17-ft long.

Time Travel

Time, like shapes and sizes, is not always what it seems. You can see into the past simply by looking at the sky. The Sun is about 90-million miles away from us, and its light takes eight minutes to reach us. So we are seeing the Sun not as it is now, in our present, but as it was eight minutes ago. If a giant hand suddenly snuffed out the Sun like a candle, it would be eight minutes before we found out about it.

The distance to the stars (which are other Suns) are so enormous that we measure those distances by light-years (see the footnote on page 46. If you look at a star, you may be seeing it as it was before Christ was born. If that star has a planet like Earth, and people there are able to look at us through a fantastically powerful telescope, perhaps they would see the Romans invading Britain. The idea of a 'now' which is the same everywhere in the Universe is false.

The famous mathematician called Einstein showed how light, time and distance are all connected. He did this with his Theory of Relativity, a new way of thinking which astounded scientists all over the world. He said that light from the stars does not travel in straight lines but in enormous curves in Space, because massive objects like stars have the power to bend light which passes by. While our Earth is only 8,000 miles in diameter, some stars measure 250,000,000 miles in diameter (it is calculated that in some hundreds of millions of years in the future, our Sun will become one of these giants, increasing in diameter 400 times and swallowing up Mercury, Venus, Earth, and Mars). Imagine, therefore, light travelling to us from far away in

the Universe: as it passes giant stars its gets bent a little bit this way, and a little bit that way. Its journey could even take it back on its own tracks in a large loop, so that one of the stars we see in the sky may be our own Sun millions and millions of years ago.

Einstein proved his curved-light theory in a very spectacular way. As you know, the planet Mercury is the nearest to the Sun. It is so close that astronomers can hardly ever see it because of the Sun's glare. The best view of Mercury can be obtained when our Moon eclipses the Sun for a few minutes. Then, if Mercury is at that moment to one side of the Sun (ie from our view-point on Earth) it is possible to take a quick look at it. Using mathematics astronomers could work out where to look for Mercury when an eclipse took place. However, for a long time they had been puzzled by the fact that their calculations never seemed to come out exactly right. Their sums told them that Mercury would be at one spot in the sky, and yet when they pointed their telescopes there Mercury was always in a slightly different place. Einstein worked out that the light coming to us from Mercury past the Sun would be bent by a certain amount, and he then told the astronomers how much calculations they should allow for this bending. On the next eclipse of the Sun the astronomers took account of what Einstein had said, and found that his calculations were exactly right. The light from Mercury was coming to us in a curve.

Einstein also said that Time moves at different speeds in different parts of the Universe. This is because no matter how fast you are travelling in a spaceship, light would always appear to you to be travelling at the same speed. Not only would your spaceship be getting shorter as you travel faster and faster, but if you had a clock on your spaceship it would

be running slower and slower. Whatever measurements you made of anything would always give you the same answer, but by Earth measurements your answers would be false. What's more, the clock would not be the only thing that slowed down: your whole body would be slowed down as well. That's why if you went on a long journey in a spaceship, a journey taking hundreds of years in Earth time, you might arrive back only a few years older, but find that your brothers and sisters had died of old age. In that way you would have travelled into the future of Earth.

Einstein's theory about time and travel was proved only recently by American scientists. They flew two atomic clocks round the world in fast jet planes, one Eastward and the other Westward. Both had been synchronised with a master clock which remained in the United States. The two flying clocks both returned recording a time behind that of the master clock which had remained stationary. The variations were less than a millionth of a second, but the experiment confirmed Einstein's thesis that time contracts with motion, and that time passes less rapidly for objects travelling at speed than for those which are comparatively still.

Life On Other Planets

The Universe is most probably swarming with all sorts of life. For life you need two things: a Sun (or star) and a planet that goes round it. The Sun gives the warmth and light, the planet provides the place to live. We and our Sun are in the galaxy (a vast cluster of stars) called the Milky Way. At a reasonable guess, the Milky Way contains about 100,000,000,000 other Suns or stars. Let us now be pessimistic and guess that only one star in every hundred has any planets going round it, and even more gloomy and say that only one in every hundred

of those stars has a planet with some sort of life on it. Finally, let's say that only one of those planets in every hundred with life actually has *intelligent* life on it. That would mean that in our galaxy alone there are 100,000 different forms of intelligent life. On top of this, we can't begin to guess how many other galaxies exist apart from our own Milky Way, but it is certainly more than 100,000,000.

In other words, it is more than likely that very many different forms of life exist in the Universe. What forms of life are these? You only have to look at life on our own planet to realise how many different forms it can take. There is the jellyfish and the elephant, the eagle and the crocodile. Can you imagine what other types of life might exist on other planets? Nothing you have seen in *Doctor Who* is impossible.

You might ask, 'If there are so many intelligent forms of life on other planets in the Universe, why has no one visited us yet?' It is a reasonable question. After all, we must accept that some of these life forms will be scientifically much more advanced than we are, and will have developed Space travel. But let's now do another sum. Let's say that out of the 100,000 planets in our galaxy with intelligent life, only one in a hundred has yet achieved Space travel. So there are 1,000 civilizations searching for other life in our galaxy. But there are 100,000,000,000 stars for them to examine, which works out at about one hundred million stars to be explored by each civilization! Maybe our nearest neighbour will get round to visiting us in the next million years or so. Or perhaps they have already called, when the only life form on this planet was the giant reptiles of millions of years ago. Then again, perhaps they called when Man existed but before we were scientific enough to realize that they had come from another planet. To quote from *The Holy Bible*, Ezekiel, Chapter 1 verse 5-6:

'Also out of the midst thereof came the likeness of four living creatures. And this was their appearance; they had the likeness of a man. And every one had four faces, and every one had four wings.' There is a lot more in Ezekiel that you might like to read.

HONEST TO DOCTOR WHO

by

The Rev John D. Beckwith, AKC
(Chaplain to the Bishop of Edmonton)

Man's interest in the vast universe of Time and Space, out beyond this planet Earth on which he finds himself, is as old as Mankind itself. Prehistoric Man knew that the Sun made his crops grow and the Moon influenced the tides, and he was very respectful to them both. The Greeks and Romans made up stories about the stars and planets and throughout the Old Testament you can read how men searched for God 'up in the heavens'.

Christians, taught by Jesus Christ, believe that God is the Creator of 'all that is in the heavens above and the earth beneath': that the Maker of all things is the God of Time and Space, ever present in the Here and Now. Jesus taught his followers that God can be found and seen in everything around them and, incidentally, it is no good searching for God way out in Space if we don't recognize Him in our familiar surroundings.

If we ask, 'What has religion got to do with science fiction and space research?', the answer is: 'Everything!'

Space exploration teaches us more and more about the wonders of God's Creation beyond this planet Earth. It helps some people to understand and believe in God more than ever because it helps them to see that there is so much in the Universe that could only be planned and made by someone

greater than Man himself. To this 'someone' they give the name GOD.

'Science fiction, on the other hand, is the invention of Man's imagination – in the case of *Doctor Who* the writers of the serials – and it is FICTION. It is in some cases based partly on fact, but largely it is a made-up story. Writers of science fiction are always fond of introducing beings from another planet, usually with a greater intelligence than Man. From a 'religious' point of view, such 'creatures' may or may not exist, but that does not necessarily affect belief in God. Certainly in the Bible and in Jewish and Christian belief there is another form of animate creation apart from Man called 'angels'. We could, perhaps, call them the first 'Space Men', and there are some people who think that the whole idea of angels is based on an ancient visit from Outer Space by 'Space Men' from another planet.

Equal to modern science fiction stories, there are accounts in the Bible of strange happenings affecting Time and Space. One interesting observation has already been mentioned in this book, on page 107, concerning certain references in the Book of Ezekiel. There is also the Book of Joshua, Chapter 10, where we read that the Sun and the Moon stood still for one whole day. At that time Man thought it was the Sun which moved round the Earth. If this story is based on fact and not fiction it would mean that something happened in the Universe, during the lifetime of Man, which altered the normal spin of the Earth – much stranger than any science fiction story. Some scientists say that this is something which could possibly have happened and others not. What is true, though, is that men have always been interested in the unknown; they have always wanted to find out about it, at the same time being frightened by it. Science fiction stimulates both this fas-

ination and fear. Whilst keeping both within acceptable limits, *Doctor Who* feeds this insatiable curiosity.

There is also in the *Doctor Who* serials a recognisable morality, a normal recognition of Good and Evil. Doctor Who, as a character, is essentially a good man and, although even he has his setbacks and the situation often hangs in the balance, Good in the end triumphs over Evil. This is perhaps the most important connection between *Doctor Who* and religion: the recognition that there is one basic Truth in God's Creation and this is that the most valuable and worthwhile thing is GOODNESS and that though this is often marred and spoilt by Man it cannot ultimately be destroyed. Evil only has the power that Man gives it, but Goodness has the power of God.

GLOSSARY

OF WORDS YOU MAY NOT KNOW.

Audition. When a producer or director wants to see if an actor may be right for a part in a story, he asks him to act for him, perhaps in his office. Usually the actor just reads from the script, so that the producer can hear what he sounds like.

BBC. British Broadcasting Corporation. It started in 1927 with radio. (Before that, from 1922, there was the British Broadcasting Company). BBC Television started in 1936, and was the first regular television service in the world.

Camera script. Copies of this are only given to the cameramen and some other technicians. It is the rehearsal script (see below) plus the director's notes about how each scene is to be shot (also see below).

Cut. When the vision mixer changes the picture on the Output screen from that of one camera to another, that is a cut. (See *Inside a Television Studio* on page 68.)

Close-up. A very close shot of an actor, or an object in the set. A close-up usually means that the actor's face fills all the screen.

Cue. A signal to tell an actor to start acting, to tell Sound Control to make sound, or to tell a cameraman to start shooting. It can be a spoken order, or even a nod of the head.

Director. The man or woman who actually has to 'put the

show on the floor', meaning the studio floor. They tell the actors and cameramen what to do. (See *Diary of a Production* on page 74.)

Grams. From gramophone, the old word for record-player. At the start of a VTR (see below) the production assistant tells Sound Control to 'Go grams'. This is their cue to play the *Doctor Who* theme music.

Inlay. The inlay operator works in the director's control room and is responsible for certain special effects on the television screen. For instance, there is a trick called colour separation overlay (CSO). They might have a person standing on a blue-coloured chair against a blue wall, and camera 1 is trained on them. Camera 2, meanwhile, is trained on a living-room set. By pressing the right buttons, the inlay operator can merge the pictures of camera 1 and 2, so that the pictures from the two cameras appear on one screen. If camera 1 has been fixed not to 'see' the colour blue (the chair and the wall), the effect will be of the actor standing in the living-room – in mid-air!

Producer. He is like a general is to an army. He is in charge of everything. All his directors, actors, technicians, and everyone else goes to him when they need help. He is father of the entire family.

Ratings. The number of people who watch a particular television show. Every week the BBC asks many thousands of people what shows they watched the previous week. From their answers it can be estimated how many millions of people probably watched each show.

Rehearsal script. The script without the director's special notes for the camera shots. The actors learn their lines from the rehearsal script.

Script-editor. Responsible to the producer for all the scripts.

He works with the writers, reads what they send in. When a director wants a change in a script, the script-editor either does it or asks the writer to do it.

Storyline. What the writer first puts on paper. It gives a general idea of the story he has in mind, with few details.

Story-breakdown. The next stage. This version gives the writer's ideas, scene-by-scene, of the script he wants to write.

Take. A slang term, meaning a VTR (see below). It probably comes from 'taking' a photograph.

Telecine. From 'tele' for television and 'cinematograph' (you get the word 'cinema' from that). In other words, a filmed sequence which is put on to the videotape (see below) in between the studio scenes. The short version of telecine is TK when talking, but sometimes TC when writing. (Some people think it would be much easier if everyone just called it 'film', since that's what it is.)

- Titles. The names that you see on the screen, such as *Doctor Who* and Jon Pertwee and the name of the director and so on, are all printed on cards which are 'looked' at by one of the cameras. The names, and the business of showing them on the screen, are called titles.

VTR. This means videotape-recording, or the 'take'. A videotape-recording machine is like a huge tape-recorder, but it records vision as well as sound so the magnetic signal is much more complicated and the tape has to be much wider than that for a sound-only tape.

THE SHAPE OF THINGS TO COME

What will be the Doctor's future? Or can one speak of the 'future' for someone who travels through Time?

At the time of writing this book, the Doctor is an exile on Earth, still struggling to repair the TARDIS and to escape the grasp of the Time Lords. But we have seen signs that the Time Lords are beginning to relent, using the Doctor to deal with certain problems on other planets.

The Doctor, of course, doesn't like being *used*. He wants to roam the Universe as a free agent, not as errand boy for the Time Lords. But once they send him into a situation, he feels forced to become involved. That is his nature. And we suspect that he prefers this limited amount of freedom to permanent exile on our little planet.

So what *will* happen to the Doctor? Will the Time Lords continue to use him as a cosmic secret agent, fighting the evils which they don't want to dirty their hands with? Or will he one day re-discover the secret of the TARDIS, and set off on his own again?

Only the future – our future – will tell. But as the Doctor himself has remarked: 'Time is a funny thing. Once you start interfering with it, the strangest things can happen.' That much is certain. The strangest things will go on happening to Doctor Who.



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