

Title: SCRIPT: "CYBERTALK" PAGE ONE



**GUY FIELDING**

Communication is really about social grooming. It's about relationships. It's about bonding. It's about caring. It's about community and building cohesive groups, and it's only latterly that we've used communication to transfer information.

**NARRATOR (RALPH INESON)**

We move in the midst of a digital revolution which is changing the way we talk. We expect new technologies to connect us across ever greater distances, to relay data with ever increasing speed.

We've been sold something called the information age, but all we really want to do is talk.

E-mail, junk mail, voice mail - we're talking faster than ever before. We're making new connections and new communities, our neighbours no longer next door, but distant nodes in a wired world.

For thousands of years we've stopped to talk. Where we talk and who we talk to defines our community and who we are within it.

## GUY FIELDING

Being human and being able to communicate, and using language are very intimately related. Communication makes us human, and being human makes us good communicators.

## NARRATOR

Talking isn't just something we do - it's a part of what we are. Biologically we're built to talk.

## LESLEY AIELLO

There's three features in the skull that are associated with modern human language. The first is the large brain of course. This gives us the cognitive capacity to understand language and to produce language. The second feature is the mandible or the jaw. In humans it's short and it's steep, and this allows us to get our tongue around the sounds that we speak. Now the third thing is the base of the skull. In humans the skull is flexed, it's more or less pushed in at the bottom, and this is associated with a low larynx, and this is very important to the construction of human sound, so there's three features here. It's the position of the larynx, and the shape of the mandible, and of course the large brain size. Now our early ancestors didn't have these characteristics. This individual lived about 2.8 million years ago, and you can see that it has a very small brain size. In fact the size of the brain here would have been about a third the size of a modern human. It also would have had a very large mandible, and this wouldn't have given the proper geometry to the muscles of the tongue to produce the human sounds. So there was some time between the time this individual lived - about three million years ago - and the present day when we have modern humans, that language evolved.

## NARRATOR

Today communication has gone far beyond talk. Our technology defies time and space. Writing makes us immortal, the telephone transports our voices, god-like, at the speed of light. Our technologies are changing who we are - and we don't know how.

## CHRIS DILLON

As for corporations, well they've got a real problem. They just can't predict the future, so one strategy is to make up stories about the future, stories about the inevitability of technology, how it will improve our lives, how we have to adapt in our own best interests, but these are just stories, we don't have to believe them.

## NARRATOR

In 1997, this leafy North London street became the heart of an experiment.

For the first time in the world, the American software giant Microsoft gave away a stack computers and switched a whole street on-line.

### PEARSON PHILLIPS

The first thing that happened was a letter came through the door which most of us could hardly believe because here was somebody offering free computers, free telephone lines, practically free telephone bills to play around with as we wanted to.

### JUDY GIBBONS

What we were interested in with MSN street is seeing what the effects of giving a physical community in the same time and space access to the Internet, because all that people had really seen before was the creation of virtual communities based on people with a common interest around the world in a different time and space.

### NARRATOR

A year later and the residents are still talking, celebrating the project and their community.



### RESIDENT

There's an e-mail system and like there's a road notice board I think, so you can pin things on that you think would be interesting to other people.

### RESIDENT

I'm not one for writing, I think using the computer is much more exciting for me, than it is using pen to paper.

NARRATOR

By making them a study, Microsoft has brought the street together in a new way - but the technology has also exploded its physical boundaries.

Today communities stretch far beyond the corner of a street. Suburban fences suddenly straddle oceans, and even back garden chat has gone global.

PEARSON PHILLIPS

If I'm gardening there's always somebody whose got the same sort of problem as I have. I mean, I'm growing a slightly exotic plant - an Acacia, Acacia Dealbata. The seed was brought back to me by a friend from the Mediterranean who challenged me to grow it, and I looked up Acacia Dealbata on the network and there were a whole lot of Acacia enthusiasts on the Pacific coast of America. So I left them a message saying: "Would it be possible to grow an Acacia Dealbata in London?" And they said: "Absolutely not!" Well one of them, a Mr Gadd, said: "No way. It has to be grown in a hot tropical climate and it flowers with these lovely little yellow balls at Christmas time." My ambition is to make it flower over here.

So I've got my little digital camera; I'm going to take a picture of it, and I'm going to e-mail it to him.

NARRATOR

Ten years ago this communication would have been impossible. Our technology is taking us into uncharted territory where even mighty corporations can only guess the future and where our relationships will never be the same again.

PEARSON PHILLIPS

It's gone.

TOM STANDAGE

Over the previous two, three, four thousand years, people were used to the idea that if you want to send a message to somebody a hundred miles away, it involved sending it via a messenger on horseback, and that would take the best part of a day. Suddenly in the middle of the 19th century, you have a technology that can send a message over that sort of distance instantly.

NARRATOR

It wasn't wireless or optical fibre that changed the pace of human life, it was the telegraph.

It brought a new age of immediate news - but it also often demanded an immediate response.

## TOM STANDAGE

We like to talk about information overload but actually this happened for the first time in the 1860's which was when business really woke up to the telegraph. And the problem with this was that once one business had it, all the other businesses had to adopt it too, because otherwise they couldn't compete.

## NARRATOR

From a world of village communities, rumour and gossip, the world became a web of wires carrying news and data. The information age had begun and the race was on to develop ever more powerful technologies for a commercial world hungry for a competitive edge.

## TOM STANDAGE

The main thing about the telephone was that you didn't need to have a skilled operator, you just picked it up and talked into it. You didn't need to learn Morse code, you didn't need to have fancy telegraphic apparatus, you just needed the telephone.

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**NARRATOR**

No one was surprised that the telephone caught on. The advantages for business were clear. But it didn't take long before it was being used for all the "wrong" reasons - to chat.

By the 1950s the world was rushing to connect. The telephone spread from the bosses office onto every desk in a business and migrated from domestic halls to bedrooms and kitchens. Suddenly telephones where everywhere.

In less than a hundred years the telephone has not only changed the way we talk - it's changed the world.

**CHRIS DILLON**

New inventions can change the world in unimagined ways. In the case of the telephone for example, it introduces new ways of thinking about communication, new social practices, new ways of talking, and this is true for a wide range of communication technologies. And the other thing is that communication technologies don't tend to replace each other completely but rather they blend together in a sort of communication soup.

**GUY FIELDING**

I think if you go into the typical modern organisation, you see a vast array of communication channels being used.

They're used in different ways for different purposes, possibly for different amounts. But to take any one of them out will probably cripple that organisation in one respect of another.

This is what we've been doing for tens of thousands of years, small groups of people exchanging social and personal information, and in a way that's what language and communication is primarily about, it's about making contact making relationships with other people. And it's this chat, gossip - the rumour mill of the organisation which actually is the life blood of the organisation, and can make the difference between an effective and indeed efficient organisation, and one which is struggling, which has low morale, which is not adapted and is not going to survive.

#### DANIEL NETTLE

If we look at primates we see that they live in very complex, dynamic, social groups. Animals are forming alliances, ganging up on each other, keeping track of who's doing what to whom and so on - in fact in a rudimentary form you see all the elements of human social life and human politics there.

Now the way these groups seem to be kept together is by a constant grooming of each other - grooming each others fur and so on.

#### LESLEY AIELLO

The larger group you have, the more difficult it becomes to keep the cohesion of the group, and one of the interesting ideas is that language may have arisen in order to allow us to service our social relationships with more than one person at a time, or more than one individual at a time. And there are examples in non human primates, particularly species like the Gelada Baboon, they have very large group sizes and they tend to chatter to each other.

They aren't saying anything we'd understand, but there are certainly rhythmic patterns and intonations, and this obviously serves an important social function in their society. And what we're probably looking at here is something quite analogous to the earliest groups of human language.

#### GUY FIELDING

This is corporate video conferencing! Very impressive, multiple cameras, an integrated touch screen, hidden microphones and a imposing boardroom. People can sit here and hold meetings with other groups half way around the world. The problem is that they often find that difficult, and they are disappointed. And the reason is they want to substitute video conferencing for real face to face, they're trying to apply the rules of one situation to another.

## NARRATOR

We buy technologies to replace our need to meet and talk in the same place at the same time, continually greedy to extend the boundaries of our community. But communication technologies have never replaced old ways of talking - they've created new and expected possibilities.

## GUY FIELDING

It turns out that some of the most successful uses of video conferencing are in education, where children in classrooms are finding new ways to use this communication technology, they're doing things that simply couldn't be done before.



## NARRATOR

On the rural Western Isles of Scotland communication technology is being pushed to its limits.

For children like Christine Munro, a journey to school is more than a bus ride away.

Her father farms sheep on the tiny Isle of Ulva, and she travels every day on her uncle's boat to the neighbouring Isle of Mull to join seven other children and one teacher at her nearest primary school.

## MR MUNRO

We've stayed here for about 20 years now and we're sheep farmers and the wife's got about, I think she might have as many as twenty ponies trekking about the hill with her. Though she wouldn't like to disclose their whereabouts.

MRS MUNRO

We've four children, the eldest is 22, and they've all gone to Ulva primary school, and onto Tobermory.

NARRATOR

Specialist teachers for music, art, and drama are based in the comparative urban sprawl of Tobermory, Mull's only town, many winding miles away from Ulva Primary.

Traditionally teachers would make fleeting visits to the many tiny schools on the island, but now for Christine and her friends, specialist teaching is no more than a phone call away.

JOHN ARCHBOLD

We have a camera which is mounted on top of the computer, which films me basically, and the one in the school obviously shows me the children.

VIDEO LINK

It's two phone lines we have an audio link and a video link.

VIDEO LINK

Obviously there's interaction there's discussion there's questions, just like a normal class that you're used to, except of course I'm at distance there, and of course the class teacher in the primary school is there in attendance all the time.

VIDEO LINK

It'll never substitute for someone in there teaching - well I don't think it will! But it adds another dimension to the children's experiences; they're also getting using technology, so it's a kind of double edged learning programme if you like.

MRS MUNRO

I think it's important for children here to be able to be in touch with the outside world and know what's happening, and it's absolutely fantastic that a small school like that, they have all that type of equipment to use. It does give them, the whole world is computerised so they've got to be ready to go out into the world and use computers.

VIDEO LINK

**NARRATOR**

Video communication has been an engineers dream for decades, but in real life it's hardly taken over from telephone chat.

Perhaps we're at last realising that when we communicate what we conceal is as important as what we say.

**ARCHIVE TELEPHONE FOOTAGE**

**VOX-POPS (INTERVIEWER)**

Would you like a video phone?

**MSN STREET RESIDENT**

Video phone? Yes definitely. Well actually no, I'll rephrase that. No I wouldn't because when you're speaking on the phone it would be much more private than having a video phone. It would be a new invention and it would be much more exciting, but I think there's more privacy when you don't have a video phone.

**MSN STREET RESIDENT**

I think it would be good, if you could like choose when you want to see what each others doing and choose when you want to be in private and can't see what you're doing.

**MSN STREET RESIDENT**

I'd love one.

**MSN STREET RESIDENT**

It depends who you're talking to, I mean maybe if you're talking to someone you don't necessarily want to see the expression on their face. I mean they could be rabbiting about something you don't care about and you could just be going to sleep, but if you have a video phone then you can't because they know what you're doing unless you cover it up and that's a bit obvious.

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**PEARSON PHILLIPS**

A phone is a bad enough interruption into your life 'cos the thing rings incessantly, and you've got to answer it. And it's bad enough having to hear someone talking to you. Having someone looking at you at the same time would be appalling. That's the great thing about e-mail, you just can pick it up when you feel like having it. It's not even the postman rat tatting on the door it's you going to your e-mail when you feel like having some communication - And it's wonderful at the end of the day to go to your e-mail and see if you've got any and I always feel terribly disappointed and sad if I haven't.

**GUY FIELDING**

E-mail is probably the most impoverished communication channel that we have and yet it's been a phenomenal success. If you compare that with video phones which offer the greatest bandwidth that we have available, clearly they have not been successful despite repeated attempts to introduce them. Offering people more bandwidth in practice doesn't mean to say they think it's a better communication channel and that they will use it more. The example of e-mail suggests exactly the opposite.

## CHRIS DILLON

Communication isn't a simple process. One model, perhaps what we might call the corporate model, has at the communication just gets better and better as more and more bandwidth becomes available, the assumption being that we're inevitably approaching a state of perfect communication as technology advances. But things just aren't like that. The important thing to remember about stories told about technology is they're stories told from particular points of view, particular points of interest, such as corporations. Corporations are bound to encourage people to see their own products as inevitable, because they have a stake in their commercial success.

## NARRATOR

Today the commercial forces of telecom companies and software giants have built networks of global communities. We live in a world where space has been warped by technology.

Islington children still talk to one another, but they also talk to new friends across the world. Their community isn't bounded geographically, but digitally.

## MSN STREET RESIDENT

I mainly use the pen pal chat lines, because you can just go on line and chat to them instantly and they can chat back to you instantly and I think it's a really good way to talk to one another, from someone that you don't really know properly, you can get to know one another by computer.

## MSN STREET RESIDENT

You meet lots of new people.

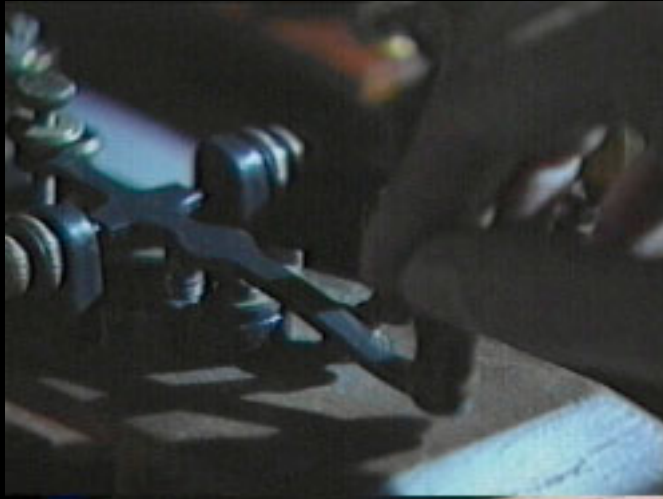
## JUDY GIBBONS

I think MSN street absolutely represents what you're going to see everywhere. It isn't just e-mail. It isn't just newspapers online. It isn't just reference information. It isn't just shopping. It's everything.

## TOM STANDAGE

What we see in the 19th century is, the same reaction that we see in the 1990's to the Internet. We see this rather odd mixture of hype on the one hand, and scepticism on the other hand, and then in between, you have this frankly confusion as to what the technology means, how it works, what the implications of it are.

If you look at the telephone we don't really have either enthusiasm or scepticism for it now, it's just become invisible and that is the sign of a mature technology is that, you don't notice it's there any more. It's the same with the electrical grid we don't really notice it's there, and I think we're seeing, the same sort of thing now with the Internet, we are we are adjusting to what it can and can't do and how far we should let it come into our lives, and some people will obviously let it come further than others. But I don't think that it's any more than a short term effect this fear, it's just the shock of the new.



#### GUY FIELDING

It does change lives and it changes people. We all want new communication technologies that are better, more powerful, more flexible than those we had before. At the same time there's a nervousness about those technologies. Will they take over our lives? Will we be able to manage them? And so on.

#### NARRATOR

Every age brings its share of hype and fear. And if we're to deal with the changes that are rushing through our digital world today, we might have to learn a lesson from the past.

#### TOM STANDAGE

Given that the telegraph and the Internet have so much in common, we just need to look at what happened to the telegraph, and what happened to the telegraph was that the telephone came along, and so what we're waiting for is the technology to come along that will look like an incremental change, it will look like a slightly improved version of the Internet, but will in fact be what takes the Internet to the level of ubiquity we see with the telephone. The breakthrough has yet to be made and of course if I knew what it was then I'd be the next Bill Gates.

## PEARSON PHILLIPS

I imagine that this little screen here is going to provide me with every bit of information I could desire instantaneously, as well as every bit of entertainment I could desire. I don't think it's actually going to feed me but it's going to tell me what's on the menu and make sure that it gets delivered. How... how am I going to switch it off. It's bad enough as it is, finding myself one o'clock in the morning, painfully lingering in front of the screen. What's it going to be like?

## NARRATOR

In our evolutionary adventure we never know what lies around the corner, or down the street, or across an ocean. Our children's world will be different to our own, but we can never know how. For previous technologies have told us that it's impossible to predict the future - even understanding the past is hard enough.

## LESLEY AIELLO

This individual lived about a half a million years ago in Africa. It comes from Zambia. And it has a brain size much larger than its earlier ancestors, but also smaller than modern humans.

But there really isn't any strong anatomical reason that it couldn't have produced the sounds of the language, but whether he did we don't know. The important point is at about this time you start to get a very rapid increase in the brain size, and many people think that this rapid increase in brain size is actually tracking the evolution of language as we know it, the expanding brain, the increased cognition might have been a way to protect us against cheating as the symbolic capability became better and better and better, and we became better cheats through being able to lie. We would also have to be better at detecting the cheats, to protect us from other individuals who were lying to us. So it could be, one interesting hypothesis, is that the brain size we see is actually protecting us from our own linguistic abilities. We're chasing our tail!

## GUY FIELDING

New communication technologies are in some way not just about being human - it's what we do, but it's actually about us becoming more human. We're inventing new ways of making contact with each other. In the process of doing that, we're actually inventing ourselves again, and I think the essence of being human is this communicative inventiveness, creativity... and communication technologies are one manifestation of the way that being human is about communicating, and communicating new ideas in new ways.



PRODUCTION TEAM