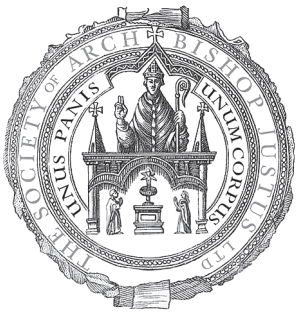
The Church and the Internet

A tract offered to the Anglican Church by
The Society of Archbishop Justus



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Foreword

The internet is a new technology that is maturing rapidly. While most church members are aware of it and many have used it, the church is now mostly just a bystander.

This document is written for an audience of educated nontechnical people. It describes some of the ways in which the internet is having a profound effect on the people and structures of our church.

Brian K. Reid
16 November 1999

(For more about Dr Reid and The Society of Archbishop Justus, please see pages 25 and 26.)

Preface

Technology does not change the world. It changes the possibility or price of things, and people then change the world. From time to time it is sensible for people to change what they do because technological change has made new ways better somehow than old ways.

Historically there has never been an issue of useful technology not being adopted. If it is genuinely good, and you don't adopt it, your children or your grandchildren will. The question for us, and the subject of this document, is whether or not we, the boundary generations, should adopt this new information technology or just wait for our children and grandchildren to do it.

Should you spend your money buying a computer and learning to use the internet? Should your church spend its money producing a web site or a parish mailing list? Should religious education take something out of the curriculum to make time for education about the internet?

Some experts think that the internet is an unusually effective medium for spreading the Good News of Jesus Christ. It is at least a decade too soon to be certain about this, but the early results are good. In fact, the early results are so good that we are writing this document to encourage people to push harder on using the internet as an important component of the Body of Christ.

This document is divided into six parts:

INTRODUCTION, in which we explain the reasons why you should care about this, and give the context and background of the internet and its use in communication.

ROCKS AND SAND, in which we talk about what internet communication is and does, the ways in which it is the same as things that came before it, and the ways in which it is different from the things that came before it.

BEHIND THE CURTAIN, in which we talk a little bit about the technology behind the internet, in order that you can see how things got to be the way they are, and why we think that their nature is unlikely to change.

SOCIAL ISSUES, in which we explain the ways in which people behave differently when they are using the internet from when they are doing other things.

ETHICAL ISSUES, in which we note that this new technology offers new opportunities for misbehaving. While the nature of humankind may not have changed in thousands of years, the opportunities that one has to show the darker sides of one's nature change frequently.

THE NETWORK AND THE CHURCH, in which we exhort you to learn this new technology, or become better at it, and then go forth to love and serve.

FOR MORE INFORMATION, an appendix where we have assembled a short annotated list of a few recent sources, both paper and online, that we recommend for your attention should you wish to learn more.

Introduction

In the early days of computers, people used them to compute. Decades later it made sense to use them to communicate and store words and pictures.

By the time computers became cheap enough that it was not shameful to use them as typewriters, most of the computers in the world were connected to a few other nearby computers to form small local networks. These were typically in universities. No university wanted to give up the independence of its computing setup just to connect to other universities, so 'the internet' was created as a set of agreements between university people about how they would connect their computers together.

'I will use the highway to come and visit you'

There could well have been two or three or five internets, but there weren't. There was just one, and once it really got rolling (1978 or thereabouts) everybody who understood it wanted to connect to it. Commercial connections to the internet have been permitted since about 1992, and the internet has been dominated by nonacademic interests ever since.

These days 'the internet' means much more than just the connections between computers. It also means the connections between people, and the access that people have to information. But the internet is new enough that people still talk about it as mechanism. You would nd it odd to hear someone say 'I will use the highway system to come visit you in my motorcar.' In California they would say 'I'll come over'; use of the car would be assumed. There is no point in mentioning the use of the highway system for driving: nothing else makes sense. You don't hear 'I'll use the telephone system to talk to you'; rather, you hear 'I'll ring you'.

The mechanism, once it works well enough, becomes invisible, and we talk only of the actions that the mechanism enables. Everyone knows what 'I'll ring you' means. In a generation, phrases like 'electronic mail' or 'web site' will sound as quaint as 'horseless carriage' or 'subscriber trunk dialling'.

Is it a cyber-something?

Fundamentally the internet is the thing that you get when you connect a large number of people together so that they can exchange information with one another, store it, and look at stored information. It isn't really 'cyberspace' or cyber-anything. It's relationships between people, and relationships between people and libraries of data.

The word 'cyberspace' and other science-fiction terms are misleading, because they focus on the mechanism, the wires, the computers, the cyber stuff, and not on what the mechanism can

do for you. If I send a note to my mother, you may be certain that I am thinking about her and about what I want to say to her, and not about the wires and machines that will carry my note to her home.

IS IT ANYTHING NEW?

The value of the internet is that it enables communication between people who otherwise might ignore each other, and that it lets people get to libraries of stored information that they otherwise might not be able to see.

In the small, this ability has existed for a long time. Small local networks of computers have enabled groups to communicate internally for nearly an entire generation. What is new is the global reach, and global compatibility, of the internet.

The internet is so named because it is an interconnection of networks. It connects small groups to form a single large group. Conceptually there are two parts to internet communication: the mechanism and the audience. The mechanism is more properly called 'online communication' or 'online messaging'. We will call it 'online communication', and by that term we mean sending and receiving electronic mail and making and looking at web pages.

Online communication is enticingly similar to things that have existed for a century. It's a bit like a telephone call, a bit like a letter, a bit like a magazine or newspaper. The truth is that it's not very much like any of them. Online communication is not like any medium that has ever existed before, and trying to fully understand it by analogy will not work. But it is instructive to look at specific ways that online communication differs from earlier media.

Rocks and Sand

What internet communication is and does, the ways in which it is the same as things that came before it, and the ways in which it is different from the things that came before it.

Using the internet is fundamentally about people and not about technology. People haven't changed their nature very much in thousands of years. Naturally some details are different. But one of the ways that people have not changed is in their ability to be opportunistic about small things. A seemingly minor change in possibility can enable a large change in behaviour.

This section explains the principal ways in which online communication is different from its predecessors. A later section covers the new social behaviours enabled by this new technology.

LANGUAGE

Since the invention of the telephone, spoken communication has been mostly informal and written communication has been mostly formal. In bygone times, when the post delivered mail several times a day and people wrote letters to one another, there was written informal writing. Its existence in libraries helps us understand the everyday language of that era.

Online communication returns us to a world of written informal language. As always, some of the hallmarks of informality are hard to translate to writing. There are no nonverbal cues. Inflections are difficult. When speaking, you can change the meaning of a sentence by changing the way you pronounce the words in it. It is almost impossible to do that, or anything like it, in writing. Habits that you might have developed in informal spoken language do not always transfer well to informal written language.

SPEED

Online communication is immediate. You can write a letter, send it, and get a reply back in a few minutes. Of course there are delays occasionally, for various reasons, but it is rare for any electronic message to be delayed as long as the fastest postal letter.

If you have read Sherlock Holmes and thought longingly about a world in which you could write and post a letter and expect a reply the same day, that world is largely restored by online communication. While you will not be able to savour the texture of fine paper or pause appreciatively at the scent of good-quality ink, you can send a message to someone on the other side of the earth and receive a written reply a few minutes later.

INTERACTIVITY

Online communication is immediate without being interactive. In truly interactive communication, if you are telling somebody something unpleasant, and you see a look of pain on that per-

son's face, you may stop, or you may actually change what you say. If you are talking on the telephone you can hear changes in breathing, or exclamations. These nonverbal cues are useful to know the effect your words are having.

When you are writing an electronic message, you cannot know how it will be received, and once you have sent it, you can't take it back or change it. The same is true of letters and magazine articles and books, of course, but they are not immediate. People usually take longer in writing them, and often if you stop to reflect on something, you will soften your words.

AUDIENCE

Telephones are one-to-one. Once a phone call has been made, both parties can talk, but if you need to talk to 20 people you must normally make 20 phone calls. There are means of making phone calls that involve more than two people, but they are not commonly used.

Radio and television and newspapers are one-to-many media, but unless it is *your* radio station or your newspaper, you are probably not the one doing the talking or controlling what is said.

Online communication is a one-to-many medium in which anyone who participates at all can talk as well as listen. The property of 'one sender, many recipients' combined with 'anyone can send' is probably the most significant of the technological differences.

There's a quote from A.J. Liebling that 'Freedom of the press belongs to the man who owns one.' Anyone can own a 'press' for the internet. Anyone can send information as well as receive it. To send millions of things to millions of people you would have to spend some money, but you can send hundreds of things to hundreds of people for the same cost and effort as a telephone call.

The per-annum cost of operating a web site can be less than the price of dinner for four in a fine London restaurant, but it is possible to reach hundreds of thousands of people if you can get their attention.

NONLINEARITY (HYPERTEXT)

Ordinary speaking and writing is linear. You start at the beginning, and when you get to the end, you stop. Sometimes in a written document you can skip ahead, turn back, or browse, but printed documents are fundamentally linear. Online communication, especially the web, supports a style of writing called 'hypertext', in which you can write a short summary and provide links to more information without distracting the reader who does not want more information.

This document that you are now reading was not prepared in hypertext because it is intended for printed distribution as well as online distribution. The skill of writing well in hypertext is different in quality from other kinds of writing, but one can become proficient at it.

PRIVACY

Because of the ease of copying and distributing information, any leak of private information can become global. In the days of paper documents, if you showed one copy of something to a person who wasn't supposed to see it, the chances of this being damaging were very low. In the world of electronic communication you cannot show somebody something without giving them a copy of it, which in turn gives them the ability to give copies to others. Leaks can spread very rapidly in electronic communication.

PERMANENCE

Telephone systems are designed not to store information. It requires a conscious act to record a telephone call. Historically the law has had much to say about the legality of such recordings. Online messaging systems store everything; it requires a conscious act to erase a stored message, and not just *your* copy of the message, but the sender's copy, and possibly copies made at intermediate points. You must assume that every message you have ever sent is out there somewhere in dead storage.

AUTHENTICITY

If you make a copy of electronic information, the copy is indistinguishable from the original. There is no intrinsic meaning to terms like 'master copy' or 'original'. When you get information from somebody, it may not be easy to be certain of the sender's identity, and it is not easy to be certain that the information is authentic.

Older techniques to detect forgeries, such as looking at brushstrokes or seeing how a pen was held or where the paper was bought, no longer work. More modern techniques like digital signatures and cryptographic checksums are neither widely used nor widely understood.

COMPETING FOR ATTENTION

The person reading your online message has many other options, and if you don't hold his or her attention, he or she will go and read something else. If you are not brief, most people will ignore you—though by proper use of hypertext techniques, it is possible to be simultaneously both brief and prolix.

RESPECT FOR AUTHORITY

The internet has a certain anti-authoritarian flavour to it. Some historians claim that the internet originated with plans to produce a communication system that was utterly decentralized, so that there was nothing for enemies to attack if they wanted to destroy it. During the formative

years of the internet, whose concepts originated in the 1960s, most of the people who were drawn into it as designers and builders had an antiestablishment disposition. They designed and implemented, perhaps subconsciously, an infrastructure that neither requires nor welcomes central control.

Whatever the reason, today the concepts of national sovereignty, state, and governmental power are startlingly vague in the context of the internet. Laws about what people can and cannot say or quote or publish differ from country to country, and it is easy for people in one country to write something that violates the laws of another. It is often impossible to determine just how information moved from one country to another, making it difficult to hold anyone responsible. And there is no guarantee, even if the responsible person can be identified, that the government of that person's country would agree to extradite or prosecute.

PEOPLE ARE STILL PEOPLE

The recipient of your message is a living, breathing, thinking, feeling person. You can hurt, insult, disappoint, infuriate, tease, educate, or any of a thousand other things that you can do in person. The person who is reading what you have written is probably alone; it is unlikely that you are communicating with a member of a crowd. You probably do not have the person's complete attention.

No matter what the medium, people respond to communication in their own way, from their own point of view. The successful communicator will master this medium. It can be mastered, just like any other medium. But not everyone succeeds. Just as a successful newspaper columnist does not necessarily do well on television, there is no guarantee that your skill in some other medium will translate into skill in this one.

Ultimately, what matters is your ability to write well. If you are trying to reach a large audience, writing for a popular web site or a large email distribution, your reputation as a writer or publisher also matters. If you do not write well, people will stop reading. If you are unknown to your audience, they will evaluate you based on what they see. If you develop a reputation for honesty, dishonesty, precision, sloppiness, kindness, or unkindness, it will follow you around. The imprint of the *BBC* or the *Observer* or *Salon Magazine* tells you that you can expect to find something in line with its reputation. The byline of a well-known writer stands for something.

Behind the Curtain

We talk a little bit about the technology behind the internet, in order that you can see how things got to be the way they are, and why we think that their nature is unlikely to change.You can skip this section if you are utterly uninterested in mechanism.

In the previous section we explained the ways in which the electronic communication fostered by the internet was different from seemingly-similar communication with telephones, radio, television, satellites, pagers, newspapers, magazines, books, and all that.

In this section we look inside, just a little, to see how sweeping the changes are, so that we can be confident that internet communication will not be gradually pulled back into being like something else.

CENTRALIZED AND DECENTRALIZED COMMUNICATION

When telephones were invented about a century ago, the telephone system was very centralized, and all of the technology was at the centre. Telephones contained no logic or intelligence, and even today when telephones have all manner of sophisticated capabilities, those capabilities are not implemented in the telephone itself, but in some unseen central device to which the telephone connects. (This is somewhat less true of mobile phones).

The world's communication system is evolving into something that is more decentralized. Where traditionally there was one telephone service, usually run by the government, many countries now have competing telephone companies. At least a dozen countries have more than ten competing telephone companies. This competition not only gives better pricing (its original goal), it also causes the further development of telecommunications infrastructure to be more decentralized.

While telephony has historically been centralized, and the early government-funded internet prototypes were centralized, the commercial internet has always been decentralized. There are thousands of Internet Service Provider companies around the world; not even the largest has the sort of power that telephone monopolies had a generation ago. It is convenient to think of any system as centralized, and to refer to the invisible part in the middle as monolithic, but the internet is administratively, physically, politically, and economically decentralized.

EVOLUTION FROM HARDWARE TO SOFTWARE

The raw materials out of which network communication is built are computing and data transport. People usually use the word 'bandwidth' to describe the capacity for transporting data, so an engineer would say that as 'compute power and bandwidth'.

Adding new capability to a telephone system often involves upgrading or replacing the telephone switch in the middle. Adding new capability to an internet system usually involves trying a new server, or installing new software on your computer. If you want a new feature, you install the software. Not only is this convenient and inexpensive, it is also quite hard to regulate. If you have to buy a special device to use encrypted communication, it is easy for governments to regulate the manufacture or sale of that device. But if all you need for encrypted communication is to install some software that was written in another country, it is very difficult for any regulatory process to prevent you from getting it.

MOVING THE SOPHISTICATION TO THE EDGES

One of the reasons that the internet can be decentralized is that it relies much less on clever devices in the middle. A collection of telephones is not much use without some sort of telephone switch to connect them and route calls, but a collection of computers just needs to have a hub into which they connect; the computers can take care of their own connection needs.

This means that you can add new capability to your internet communication world by adding new software to your computer. You don't have to have a manufactured device, and you don't have to wait for some central service provider to upgrade its facilities. The most sophisticated computer networks don't even *have* a middle; it's all done with connectivity at the edges.

RIGID AND FLEXIBLE PROTOCOLS

When a communication system is centralized, when the magic is in the middle, then either everybody has some new feature, or nobody has it. When the mechanism and control has moved to the edges, then any communication can negotiate, between the sender and receiver, the protocol that will be used.

You have probably heard fax machines do this. When one fax machine dials another, they beep at each other for a few seconds before the transmission begins. This beeping is the two fax machines negotiating with one another about how they are going to handle this transmission.

The same concept, much more generally, characterizes much internet communication. As long as there is rigid agreement between sender and receivers as to the vocabulary of negotiation, then any sort of extension or extra capability can be negotiated. This is a powerful tool whose consequences can be large, because it can divide the network into groups that are not very compatible with one another.

REGULATION AND DEREGULATION

The combined effects of deregulation, decentralization, and the moving of intelligence to the edges of the network create an environment in which dramatic change is likely. When there is

one regulated communication system, it changes slowly if at all. But deregulation makes it politically easy to try something new, decentralization makes it technically easy to try something new, and sophisticated edge devices mean it is easy for the new and the old to interoperate. The economic advantages of this deregulated and decentralized world are strong enough that it is unlikely any government will want to try to reregulate or recentralize them.

Social Issues

We explain the ways in which people behave differently when they are using the internet from when they are doing other things.

Social issues are those that arise when people interact with one another. While it is not our place or purpose to prescribe or suggest behaviours, we think it is appropriate to comment on our observations of differences.

STEREOTYPING

Many stereotypes are keyed to appearance. When you are communicating with someone online and only online, you tend to form your sense of 'who they are' based on purely intellectual and verbal cues. No one need know your age, sex, race, nationality, skin colour, or any other aspect of you that doesn't come out in your writing.

This is very liberating to people who want it and know how to take advantage of it. A widely-circulated cartoon from July 1993 shows two dogs talking in front of a computer screen; one tells the other 'On the internet, nobody knows you're a dog.'

SENSE OF SAFETY

Many people feel safer using written online messages than using the telephone or talking in person. From the earliest days of computers, psychological studies showed that people were usually more willing to type secrets into a computer than they were to tell somebody the same secrets. This is almost certainly an issue of safety or at least the feeling of safety. It is easy to hide, and you do not ever need to tell your correspondent where you live or what your real name is.

INTIMACY AND INHIBITION

People are less inhibited in electronic communication. From the earliest days of computer communication, researchers have discovered that most people are less inhibited in online communication than when sound is used. The immediacy of online communication encourages people to respond without thinking, and nearly every user of online communication has experienced the desire to write regrettable things. Do try to rise above it. Never write down something that you wouldn't want your mother to see, and that you wouldn't want published in the newspaper.

ACCOUNTABILITY

One byproduct of the feeling of safety in electronic communication is that cowardly acts are easier. You might not be willing to walk up to someone, say something offensive, and then run

away, but the online equivalent, of sending an offensive message and then running away, is almost too easy. Experienced users of online communication tend either to develop the ability to ignore offensive messages or else, in our experience, to drift away from using public forums.

KEEPING SECRETS

It is more difficult to keep something secret on the internet. It is easy to forward information around. If somebody sends you something, it's very easy to send it on to more people, or to store it in a public place. On the other hand, if you reveal someone else's secret, there is almost always a written record showing that you are the one who did it, so it is easier to find out who leaked a secret.

COMMUNITY

A community is a group of people who talk to one another because they share common interests. In years past, it was difficult to form communities unless people lived near one another. Radio, television, and telephones did not often do a very effective job of forming geographically-dispersed communities because they were either one-to-one instead of one-to-many (telephones), or else did not give very many people the opportunity to speak (traditional broadcast media). Indeed, the tradition of the 'letters to the editor' column in a newspaper, which are very widely read, is a recognition that there is value in letting many people speak.

Communities linked by online communication can be geographically diffuse and more specialized. Secular groups form regularly around mutual interests; all the participants need have in common beyond the interest that defines their group is language. It is of course possible to form communities that are not linked by language; look at the fans of Manchester United. And communities can form around nonverbal activities such as computer games or chess.

LANGUAGE

The communication of ideas requires language, especially when the correspondents disagree with one another. If the unity of the group comes from, say, liking Nintendo games, it is not necessary to use language to say 'I like Nintendo'. But if the unity of the group comes from a shared interest in the Book of Revelation, it is hard to express that interest without language. Perhaps someday automatic language translation will have become sophisticated enough to permit a community to form without a common language. For now, the common language is English. We think it's likely that the mechanism of the internet will cause most communities to form in English, and that, in time, other languages will become less heavily used.

ETIQUETTE

Etiquette seems to be the accumulated learning of a culture about how one ought to behave in order not to offend or harm very many people. Different cultures have different concepts and rules of etiquette. But the internet is global, and cuts across cultural boundaries. Rules of etiquette have adapted somewhat to this new medium, especially in English-language communities, and become somewhat more global.

Naturally the etiquette of online behaviour will be no more perfect than the etiquette decreed for weddings or boat launchings, but there is developing a reasonably broad consensus about what constitutes acceptable behaviour.

UNIVERSALITY

Not everyone is able to use this medium. At the moment only a small percentage of the world's population has the resources, education, and opportunity to use internet communication. But the same was once true of literacy, telephones, automobiles, poliomyelitis vaccination, and other technological innovations. If the technology is genuinely valuable, the price will come down and thereby more people will be enfranchised.

At the end of 1997 there were 30 million computers connected to the internet with annual growth rates in every region of the world above 70 per cent per year. It is more difficult to estimate the number of people using those computers, but a conservative estimate is 100 million people worldwide.

DISRUPTION

Every hour spent communicating online is an hour not spent doing something else. There is not yet enough experience or data to draw conclusions about the cultural effect that this will have, but there will be one.

Ethical Issues

We note that this new technology offers new opportunities for misbehaving. While the nature of humankind may not have changed in thousands of years, the opportunities that one has to show the darker sides of one's nature change frequently. Here are some of the new variations made possible or made easier by ubiquitous online communication.

POSING AND MASQUERADING

It is easier to use online communication to pretend to be someone that you are not. Society has for centuries needed to deal with the problem of people pretending to be physicians, priests, policemen, or unmarried men. But it has required considerable skill as an actor to succeed at such deception. It seems to be more common for people on the internet to pose as something that they are not. Even law enforcement authorities do it. Newspapers carry stories of policemen pretending to be teenage girls, hoping to apprehend for prosecution people pretending to be virtuous teenage boys; the search of any large news archive will yield stories of arrests of adults propositioning someone they thought to be a minor. There is room for moral authorities to take an educated stand on these complex and largely undocumented issues.

A less-harmful version of masquerading is presenting an idealized version of yourself in online communication. Is there an ethical issue in representing yourself as younger, older, more attractive, more wealthy, or somehow more desirable? There is clearly a line, but where is it? If you are a convicted murderer, you will probably conceal that in online communication. What about minor crimes? Other traits that society cares about? People do this frequently in everyday life. One would not disclose parking offences at a job interview, unless perhaps the job involved driving.

STALKING AND SNOOPING

Stalking is the obsession with the whereabouts and activities of another. The internet enables new forms of stalking, which might or might not be dangerous to the object of this interest. It is probably not a violation of any law of any country for an ex-husband to masquerade as a lonely middle-aged woman and try to befriend his ex-wife online, but many people consider such behaviour unethical.

There is an increasing number of public sources of data about individuals that might better be kept private. It is against the law to amass such data in some countries, but not in others. Should there be international discussion of the ethics of such databases? Is it ethical for a citizen of a country in which the law protects privacy to use a paid service in another country to find out information about his neighbours?

BORDER DODGING

Online gambling is illegal in some countries. But there are online casinos in countries where it is legal, and they all take credit cards. Is it ethical to take advantage of the global nature of the internet to circumvent national laws? It is certainly easy. Another example, perhaps closer to home, is copyright law. Within the United Kingdom, the current text of the Book of Common Prayer and the Authorized Version of the Bible are the property of the Crown in perpetuity, and rights to it are exercised by the Crown Printer. But nothing prevents someone in, say, the United States from putting that material on a freely-available web server.

HATEMONGERING

Because of the ease of posing, the ease of forming communities, and the difficulty in determining authenticity, it's easy to use the internet to monger hate and to spread lies. There is no point giving free publicity to any hatemonger's web site by mentioning it specifically, but the ease of making such a site and its global reach is problematic. If a country has laws about such sites, but the physical facilities providing the information are in another country, it is not at all obvious what to do. Some totalitarian countries have built a firewall around their country's access to global information, allowing nothing in or out without the permission of the government. That approach, while it might solve the hatemongering problem, certainly creates others.

SECRECY

For many years, some governments have held that it is important that they be able to intercept and read any correspondence by or to their citizens. One large European country bans encryption technology entirely. The United States treats encryption technology as a weapon, and controls the export of high-quality encryption software in the same way that it controls the export of most military weapons.

Because the mechanisms of the internet are decentralized, and because encryption can be done entirely in software, it is difficult to regulate the ability of the public to use military-grade encryption technology. The mathematics of encryption are widely known. The ethical issues in the use of encryption in everyday life are not well understood.

PLAGIARISM

It is easy to find academic papers on the internet. Students from preteens to doctoral candidates place their written work online, for a wide variety of reasons. Does this form an attractive nuisance? Almost every educational institution has rules against plagiarism, but these days it is almost impossible for a teacher to track down the source of plagiarized material. Is it unethical to place such material online? To index it?

SEARCH AND INDEX

There are hundreds of search engines, topic indexes, and directory services whose purpose is to help people find online whatever they are looking for. Should the operator of a search engine be held responsible for that engine's discovery of unethical material? Is the operator of an index computer that indexes 300 million pages responsible for searching them to remove child pornography, hatemongering, mail order weapons companies, or vendors of illegal drugs? If they are, then who pays for it? If they are not, then who is responsible if a child in Peru uses a search engine in Aruba to locate a gun for sale in Texas, buys it, and commits a crime?

The Network and the Church

We exhort you to learn this new technology, or become better at it, and then go forth to love and serve.

Every time a new means of communication has become available, the church has evaluated it for use. Some were an obvious 'yes', like printing, and some were an eventual 'no', like the telegraph. Most were in the middle. Churches need lights and furnaces and indoor plumbing and such, just as do other groups.

Most technologies are useful to the church and to church people, but not intrinsic. For example, the motor car is an important technology that has transformed society, but there has never been a special concept of church cars, church garages, or any particular involvement of the church with the motor industry.

Every organisation in the church should have a web site. Every diocese, province, parish, deanery, committee, group, club, or society should participate. Church people should make sure they know how to use email responsibly and learn email manners.

There are skills that you need to learn. Just as colour photography is different from oil painting, effective use of the internet requires different skills than effective use of a telephone or a printing press. You should learn those skills, but not here. Our 'Further reading' list has some good general-interest items. Any bookshop can provide you with information about how to get started, or become more skilled, on the internet.

A special relationship with the church?

The internet is different. It *can* help the church with its mission as no technology since the printing press has been able to help. Online communication is economically advantageous to the church. It can be used to bring more information to more people more cheaply. It allows people to form communities without needing buildings. And it will reach the young.

The relationship between faith and organized religion has always been touched with complexity. There are hard questions about whether or not one needs to be involved with a formal church if one is to follow Christ. It would seem to us that, ultimately, the role of the church is not to perpetuate the church, or to perpetuate any particular branch of the church, but to continue the message of Christ and the teaching of the apostles in each new generation.

There is something very deeply valuable about the way that the internet can bring the good news of Jesus Christ to places that it not now being taken seriously. We do not presume to have the answers, but we are fairly confident that we have a good handle on the questions.

Whatever the Anglican church will be in the next century, unless it is just a memory and a note in the history books, the internet will be a significant part of it. Of this we are certain.

WHAT CAN YOU DO?

The answer might sound very simplistic, but we think it's the answer just the same: Learn how to use the internet, or how better to use the internet, in your church. Use it for mission, to spread the Word of God. Use it for community, to talk to one another. Use it for administration, to save money, and to draw closer the populace and the administration of the church. If you do this, and God calls you to do something specific, you will know it when the time comes.

If you are one of the Church's thinkers, a theologian, an ordinand, a doctoral candidate, a lecturer, then you should try to engage with the moral and ethical issues raised by the internet and its use, some of which are touched on in this paper. The internet needs serious and informed study of these points, and the Church should involve itself in them.

If you are a Christian who is not part of the structure of the church, make sure you let your Christian values and behaviour shine through on the internet the same way that you let it shine through in your daily life.

For More Information

We point, somewhat arbitrarily, to a few recent sources—both in paper and on the net—that we've made use of. Some brief comments attached to the items we found particularly interesting or helpful.

FURTHER READING: GENERAL BOOKS ABOUT COMPUTERS AND THE NET

After Thought: The Computer Challenge to Human Intelligence, James Bailey (1996, Basic Books)
From the jacket: 'Jim Bailey understands what makes the digital revolution truly revolutionary. *After Thought* explains how computers are changing not only what we do, but more importantly how we think and what we think about. Bailey argues persuasively that new computational ideas are part of a broader intellectual shift, producing new model and metaphors for understanding the world around us'. Probably will interest most those who are intrigued by questions of artificial intelligence.

Close to the Machine: Technophilia and its Discontents, Ellen Ullman (1997, City Lights Books)
An interesting, pensive, and occasionally bleak memoir about a software engineer who first began working with computers in the early 1970s. From the jacket: 'Her talent enables readers to explore intimately … one of the biggest questions of our time: What is it about the numerical, seemingly inhuman world of computing that holds such powerful, wholly human allure?'

Moths to the Flame: The Seductions of Computer Technology, Gregory J.E. Rawlins (1996, The MIT Press)
An engrossing series of essays on the power and effect of digital technology. Brilliantly written by an author with a grasp of the field and a gift for telling stories. The book is also available entirely on the web, on a well-designed site: http://www.obs-us.com/obs/english/books/rawlins/moths/

The Nature of the Book: Print and Knowledge in the Making, Adrian Johns (1999, University of Chicago)
Every technology disrupts, some more than others. Intriguing, well written, and massive, the author discusses the extraordinary changes provoked by that now harmless ubiquitous object we call 'a book'. Have a look at the author's web page, *Ten Things You Didn't Know About Your Book*: http://www.press.uchicago.edu/Misc/Chicago/401219.html

The Pearly Gates of Cyberspace, Margaret Wertheim (1999, Virago Press)
Although occasionally a bit laboured in her prose, the author nonetheless gamely tackles the linkages between the mediaeval concept of interior spiritual space and the internet. The amazon.co.uk web page gives more detail: http://www.amazon.co.uk/exec/obidos/ASIN/1860495273/026-9488167-3832223

*Release 2.0:A Design for Living in the Digital Age, Esther Dyson (*1998, Broadway Books)
An accessible, well-written overview of why the internet is a positive force in the world, by a longtime professional in digital communication. The publisher's web page about the book: http://www.release2-0.com/catalog/display.cgi?isbn=0767900111

'As Dyson makes clear, the digital society will bring profound shifts in the balance of power between producers and consumers, governments and citizens, the mass media and their audiences. Now the challenge, and the opportunity, is for citizens to resolve these conflicts and tradeoffs in their own public and private communities'.

Techgnosis: Myth, Magic + Mysticism in the Age of Information, Erik Davis (1999, Harmony Books)
A laudable attempt to deal with technology from a mystical rather than rational point of view, but it ultimately fails in its objective. Worth mining for the bits that relate to religion and community, although it is very American-centric. The companion web site—http://www.levity.com/techgnosis—offers extensive excerpts.

FURTHER READING: STARTING OUT ON THE NET, GUIDES TO THE NET

There are, quite literally, hundreds of beginner's guides and how-to books on every aspect of the internet: how to connect, how to choose a service provider, how to do email, how to develop web pages... We recommend that you visit your favourite bookshop and ask about the most popular titles in the area that interests you. Or you might choose to visit one of the online bookshops, such as Amazon or Barnes and Noble, and review the titles and descriptions of books in this area. You won't have any problem finding them.

FURTHER EXPLORATION: ANGLICAN-RELATED SITES ON THE INTERNET

Anglican news on the internet
Anglicans Online has a roster of all the official sources, the church newspapers online, and diocesan newspapers and magazines with web sites. http://anglicansonline.org/news

Anglicans Online
A good starting place for Anglican resources on the Net (This is the largest and oldest Anglican web site, with more than 5,000 links, updated weekly). You can find links to everything from online versions of the Books of Common Prayer to tips for developing good parish web sites. http://anglicansonline.org

Anglican.org
The internet domain anglican.org and how it will help you find information on the Net about the Anglican Communion. http://anglican.org

Anglican-related online mailing lists
This URL gives you a roster of most Anglican-related mailing lists, along with instructions for joining them—if you'd care to see what online community is like.
http://anglicansonline.org/resources/discuss.html

Church of England official web site
The church's official foray into explaining itself on the internet. What do you think?
http://cofe.anglican.org

BRIAN KEITH REID, PHD

by a Society of Archbishop Justus colleague

Brian Reid's work in computer science began as a student at the University of Maryland in the late 1960s. After his bachelor's degree, he continued for a year or so with the university, in simulation and numerical analysis for Apollo 17. He then joined a company working in the area of realtime airline scheduling and reservation systems.

Returning in the mid-1970s to university, Reid became a doctoral student at Carnegie-Mellon University in Pittsburgh, Pennsylvania. At CMU, Reid was a part of the core team that defined Internet email standards (1976). Reid sees his best contribution to that team as inventing the notion of 'virtual community' that led to global email groups.

His dissertation (1978-1980) focussed on the concept of creating documents that could be formatted independently of printers; for this he developed a page-description language he called Scribe, which contained in it the seeds of what we know now as HTML.

After earning his PhD, Reid was invited to join the faculty at Stanford University, where he was a member of the electrical engineering and then the computer sciences departments. At Stanford, Reid created a successful interdepartmental network using Ethernet (1981). 'We coined the name SUN—Stanford University Network—for this; the name was later borrowed by a company you may have heard of'.

In 1983, Reid 'discovered the interaction of technology and politics with respect to network empire and administration, uncovering the need for a device that would allow administrators on both sides of the boundary to feel safe and in control'. Convincing the medical center networks group to build this prototype, it became 'more or less exactly as we specified it, the first Cisco router'. During this time Reid and several colleagues founded a company that later became Adobe Systems.

Leaving academia in 1987, Reid joined the research arm of Digital Equipment Corporation, eventually becoming director of the Network Systems Laboratory. Amongst other achievements, Reid and his group created the first Internet firewall in 1987 and built the first high-powered Internet search engine, AltaVista, in 1995. (An overview of some of his lab's work is in this *New York Times* article from December 1997: http://justus.anglican.org/resources/tracts/nc/copies/NYT-9712/991207.html)

Independently he developed a distributed data-collection scheme to measure USENET flow and readership, publishing monthly results. He ran this until July 1995, producing the only worldwide aggregate readership data that exists for that era. ('One of the reasons I stopped was that the Web made the numbers plummet. I decided that whatever Usenet did that was useful was being supplanted by the Web.' —Reid in a *New York Times* article, June 1999)

Reid designed Digital's bid on the replacement of the NASDAQ stock exchange network in 1992. 'Digital won the bid and I spent the next two years engineering this network. NASDAQ wanted to design for N transactions per day; I wanted to design for 1000N transactions per day. I

prevailed, sort of: we went for 500N (the exact number is a trade secret). The new network has exceeded NASDAQ's originally planned capacity (but not mine) about a dozen times since it went online'.

Reid, with his colleagues, launched http://www.digital.com in October 1993, making Digital the first Fortune 1000 company with a web site. In 1994, in addition to his Digital work, Reid also put the City of Palo Alto on the Internet and created the city's web site, the first such municipal web site in the world. He built and ran the State of California election internet service (1994), the first live election results on the Internet.

Dr Reid figures frequently in histories of the Internet, amongst them, the bestseller *Where Wizards Stay Up Late: The Origins of the Internet* (Katie Hafner, 1998) and *Casting the Net: From Arpanet to Internet and Beyond* (Peter H. Salus, 1995). Reid's role in apprehending the superhacker Kevin Mitnick is detailed in *Cyberpunk* (John Markoff and Katie Hafner, 1995).

In spring 1999, Reid joined Bell Labs, the research and development arm of Lucent Technologies. He is based at Bell Labs Research Silicon Valley, the newest research lab of Lucent and the first to be located on the west coast of the United States.

SELECTED HONOURS

Named as one of America's top 100 young scientists.
Named in 1995 by Newsweek magazine as one of its '50 for the Future'.
Digital Equipment Presidential Young Investigator award, 1985
Presidential Young Investigator award, 1984
IBM Faculty Development fellowship, 1983
ACM Grace Murray Hopper Award recipient, 1982
Member SPS and SX

THE SOCIETY OF ARCHBISHOP JUSTUS, LTD

The society was formed in 1996 and incorporated in 1997 as a nonprofit corporation in the State of New York, for the purpose of using the Internet to foster and further unity among Christians, especially Anglicans. The society also administers the internet domain name anglican.org on behalf of the International Domain Committee. Further details about the society can be found at http://justus.anglican.org/soaj.html.

Three of the five directors of the Society of Archbishop Justus are active members of the Church of England. Two are active members of the Episcopal Church in the USA. The directors are:

Simon Kershaw, Diocese of Ely, simon@kershaw.org.uk
Cynthia McFarland, Diocese of Central New York, cmcf@justus.anglican.org
Rob Pickering, Diocese of Oxford, rob@pickering.org
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