THE DOMESDAY PROJECT

IN-SERVICE

The BBC Domesday Discs Resource Booklet for

In-Service Training

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aiv   **BBC ENTERPRISES**

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PREFACE

The BBC launched the Domesday Discs and the Advanced Interactive Video System in November 1986 to celebrate the original Domesday Book, commissioned by William the Conqueror.

These two videodiscs, the result of a project co-ordinated by the BBC in 1985 and 1986, present a portrait of Britain in the 1980s. Well over a million people in the UK were involved in creating this massive database, an interactive resource for education, industry, government and the information services. Information suppliers have included university and government statistical data banks, photo and print agencies, and nationally recognised experts in specialist subjects. However, the largest number of contributors has been the school children of the United Kingdom who surveyed their local areas in the Summer Term of 1985, supervised and assisted by their teachers and members of the local community.

This booklet, along with the others in the series, carries the Domesday Project one step further by illustrating how the Domesday Discs provide an invaluable educational resource. The BBC once again gratefully acknowledges this project work generously supported by the listed LEAs and institutions, produced by practising teachers, and trialled by young people in schools during the Spring and Summer Terms of 1987. These first steps in exploring the Domesday Discs are offered as a source of ideas to encourage others.

Booklets in this series

Curricular area	LEA/Institution
Projects and Topics	N. Ireland Education and Library Boards, Bulmershe College, Reading, Berkshire and Hampshire LEAs
Mathematics	School of Education, University of Exeter
Social Sciences	Gwent LEA and Gwent Institute of Higher Education
Art; Craft, Design and Technology	Gateshead LEA, North Eastern ELB, N. Ireland
Environmental Education	Moray House College of Education, Edinburgh and Scottish LEAs
Geography	University of Loughborough
In-Service	Christ Church College, Canterbury
	Phyllis Gove **Series Editor**

INTRODUCTION

The advent of the micro-computer in the 1970s has had an important and lasting effect on society. It has transformed mundane tasks and made computer technology available to the general public. Children introduced to computers at an early age often through toys and games, have already come to accept them as part of everyday life. Despite the important implications for people and society, education has found it difficult to respond to this rapid change. While there is evidence of some outstanding examples in all sectors of education, in many cases micro-computers are still novelties even in schools which possess them.

Interactive video, combining as it does the latest video and micro-computer technology, offers a new potential and challenge to the education system. It provides opportunities for the extension of already established computer assisted learning methods. It offers scope for introducing computer based techniques in topics where hitherto the inability to deal with images and sound has been a limiting factor. The acceptance and introduction of new educational technologies has been slow and patchy due to a combination of three factors: a lack of training and understanding amongst teachers, prohibitive costs, and inadequate educational thought surrounding their uses, particularly in relation to the development of software.

To a large extent, the success of the Domesday Project in the school context is dependent upon overcoming these three prohibitive factors and an effective in-service training programme for users can go some way to addressing these issues.

BBC Domesday Discs and The BBC AIV System

We will here refer to the BBC Advanced Interactive Video System (hardware) and the BBC Domesday Discs (software) as the Domesday System throughout this booklet.

There are two facets to the introduction of the Domesday System into the school curriculum:- first, consideration of the technology and the characteristics of the hardware; and second, examination of the information on the Domesday Discs with consideration for educational use, including the implications for organisation and teaching strategies.
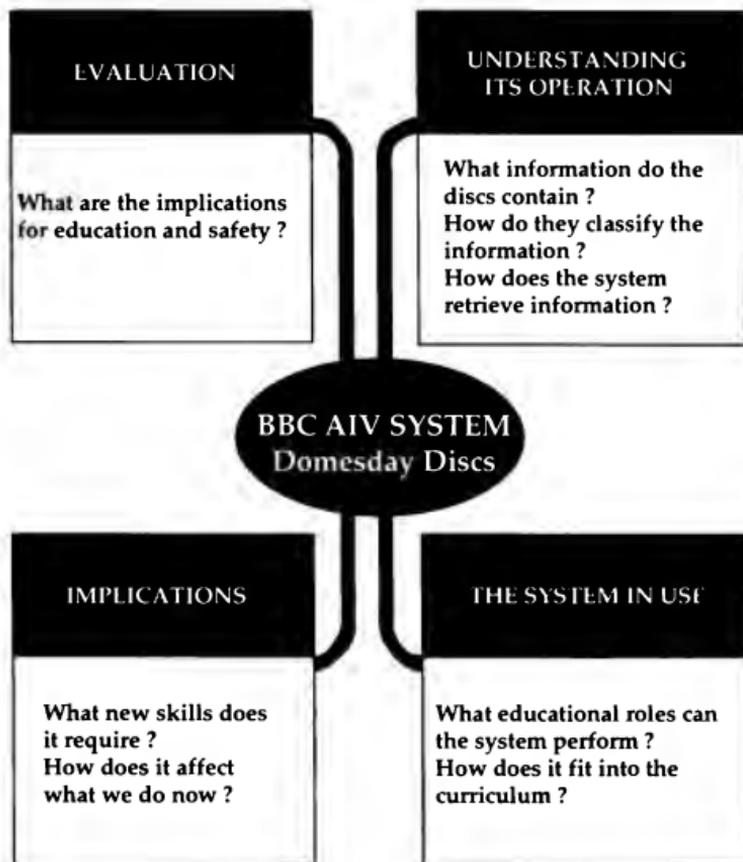
While recognising that the first facet is a worthwhile aim, it is not within the scope of this booklet to provide insight into the potential of the hardware other than what can be gained incidentally while using the Domesday Discs. It is important to stress our belief that while there are obvious extrinsic reasons for introducing pupils to new technologies, the justification for their use in education must primarily be of an enhancement of teaching and learning. Only by such an analysis can they be considered cost effective in the education system.

There are the four main areas for consideration in the introduction of Domesday into the curriculum, shown by the main headings on the diagram opposite (Fig.1).

These four areas form the framework of an in-service training programme for users and, although each area will not be considered in the same amount of depth, they form the basis of the organisation of this booklet.

A FRAME WORK FOR IN-SERVICE TRAINING
Fig. 1 (After Adams and Jones 1983)

EVALUATION

What are the implications for education and safety ?

UNDERSTANDING ITS OPERATION

What information do the discs contain ?
How do they classify the information ?
How does the system retrieve information ?

**BBC AIV SYSTEM
Domesday Discs**

IMPLICATIONS

What new skills does it require ?
How does it affect what we do now ?

THE SYSTEM IN USE

What educational roles can the system perform ?
How does it fit into the curriculum ?

In-service educations should be aimed at getting people to appreciate these four areas and to try to raise and answer questions related to each.

Understanding the operation of the Domesday System

This booklet aims to give you a sense of the scope and flexibility of the Domesday Discs in terms of the material contained and the ways in which material can be retrieved, explored and manipulated.

The Domesday System invites interactivity. While we do not wish to stifle user interaction with the discs, these notes have been designed to guide you through four sequences without exploring every possible avenue of enquiry.

We suggest that you follow each sequence through, resisting the temptation on your first go to explore alternative routes. The tasks at the end of each sequence invite you to explore and gradually become more adventurous. It is therefore advisable to work through the first part of the booklet in the order given, to become familiar with the ways of controlling the system and the variety of ways information is presented and retrieved. At various places the 'Domesday Video Disc User Guide' is referenced.
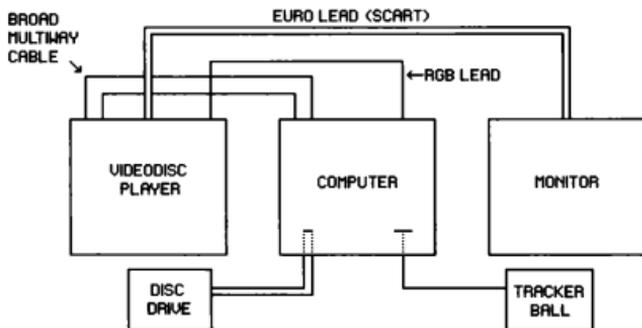
The four sequences should provide four units of work which can be used with groups on courses, by individual owners as a self-teaching course, or as self-help sheets in a library or resource centre.

The booklet provides a short in-service course in its own right, or it can be broken down into a number of activities used in order over a longer period of time. The essence of our approach is to work from structured instruction through some challenging tasks to a stage of reflection on the nature of the Domesday System. Finally we offer self-generated explorations, with the challenge of relating such a learning continuum to your own teaching.

GENERAL OPERATING HINTS

Full details of how to set up the equipment is given in the User Guide supplied with it. The following is intended only as a summary to setting up the Acorn system. Refer to other computer manufacturer booklets for reference.

The various components of the system should be connected as shown below:

It is best to turn on the equipment in the following order: monitor first, then the computer, and finally the videodisc player.

To use the interactive videodisc program load the disc into the player with label upwards.

To start the program you should use the following procedure:

Side A National Disc or either side of the Community disc.

FIRST:

Press the two keys CTRL and Q together. Whilst still holding down these two keys also press the BREAK key. Then release the BREAK key and finally release the CTRL and Q keys. You will see a prompt: BASIC > -

SECOND:

Press the SHIFT key and whilst holding it down press the BREAK key. Then release the BREAK key and finally release the SHIFT key. The software will begin to load. It will take about 45 seconds. The title sequence will then play automatically. If you do not wish to see all the sequence you can press the ESCAPE key and the program will move on to display the first menu. If you do watch to the end of the title sequence then a menu will be displayed automatically and you can control the arrow on the screen with the trackerball.

TO EJECT THE DISC:

Repeat the first step above and press the EJECT button on the left hand front of the videodisc player.

OR:

Put the arrow onto HELP on the menu bar and press ACTION (left hand button) on the trackerball or the RETURN key on the keyboard. Select SYSTEM on the next menu bar and then type EJECT in the message area at the top of the screen. Press RETURN and the disc will eject.

TO SWITCH OFF THE SYSTEM:

Remove the disc, close the videodisc player drawer and turn off at the mains.

TURNING DISCS OVER:

Discs may need to be turned as only one side is accessed at a time. Follow the instructions which appear on the screen.

MENU BARS:

Most of the key menu words are explained in the sequences which follow.

HELP; HELP TEXT; and DEMO

These are very helpful functions to explore, although in trials with groups they found them more useful after using the sequences which follow.

ACTION and CHANGE:

There are used throughout the sequences. Clearly mark them on the trackerball or mouse (see Domesday Video Disc User Guide p30-35).

THE COMMUNITY DISC

Both sides of this disc contain maps, text and pictures of the 'community's' view of itself in the 1980's and its perception of its environment. In understanding, using and evaluating the disc, a number of points need to be borne in mind.

LEVELS OF MAPS

The disc is built around maps with information available at up to 6 levels:-

Level 0 - United Kingdom

map, satellite image and specially commissioned essay.

Level 1 - Countries and Islands

map, satellite image and specially commissioned essays.

Level 2 - a 40x30km block

OS 1:625000 Maps, up to 7 satellite and aerial pictures and a specially written essay.

(The text at these levels was written by members of the Geographical Association and The Automobile Association to give a regional overview.)

Level 3 - a 4x3km block

OS 1:50000 Maps, up to 3 photographs and up to 20 pages of text.

(The text and photos at this level are the major contribution made by over 15,000 schools and community groups. The purpose of this survey was to present a portrait of the United Kingdom as reported by the residents of local communities in 1985.)

Level 4 - a 0.8x0.6km block

OS 1:10000

(There is usually no text or photograph available at this level. It is mainly used to show street maps of major towns and cities or as access to the next level.)

Level 5 - Locally produced plans

up to 3 photos and 20 text pages.

(There are just over 30 Level 5 special features available.)

Starting up the Community Disc

1. Switch on the computer, monitor and disc player.

2. Press the EJECT button on the front of the disc player.

3. Place the disc (Southern Side uppermost) in the drawer.

4. Close the drawer.

5. Wait for a few seconds. Hold down CTRL and Q on the computer keyboard, while you press BREAK.

6. Take your finger off BREAK, then off CTRL and Q. Screen displays - BASIC >

7. When the prompt symbol (>) appears, press SHIFT and BREAK. Lift your fingers from BREAK and then SHIFT. After a few seconds, a message appears -

DOMESDAY SYSTEM STARTING UP PLEASE WAIT

8. After a wait of about 40 seconds, the opening film begins. This lasts for about 1 minute. (The opening sequence can be stopped by pressing ESCAPE)

It is essential that you go through this start up procedure. At step 5 above, you may find the opening film starts before you have pressed any keys. It is still necessary to go through steps 5 to 8 or you will be unable to interact with the system when the film ends.

If at step 8, the opening film fails to start, go back through steps 5 to 8 again, making sure you press all the keys firmly.

9. At the end of the opening sequence, when the menu bar appears -

| ◀ | Help | Options | | Photo | Text | ⬐Find |

you are ready to explore the Community Disc.

This is of utmost importance.

The left hand button on the trackerball or RETURN on the keyboard is ACTION.   The centre button on the trackerball or TAB on the keyboard is CHANGE.

10.   The map of the British Isles on screen means that you are working at LEVEL 0 and there should be PHOTO and TEXT to explore.

At any map level you can explore text or photos, if they are available on the menu bar. To do this, you place the arrow on either TEXT or PHOTO so that the arrow changes to a cross. Then press ACTION.

When you select TEXT, you will usually find an INDEX appears on the screen. To select the item you wish to read, move the arrow to the required item, and when its number turns yellow, press ACTION.

To page through the text (or explore a series of photographs), place the arrow on the right of the screen and press CHANGE. (f8 has the same effect.) Placing the arrow on the left of the screen, or using f7, allows you to page backwards. (Photo sequences end with a loud beep from the system!)

Community Disc sequence

While you will obviously want to explore your own area and other places of interest, our intention here is to provide you with a sequence to demonstrate the different levels available and help to familiarise you with the operation of the system.

1. Select Southern Britain, by placing the arrow on that part of Britain.

Southern Britain turns white.

Press ACTION.

A map of Southern Britain appears with the major towns named.

You are now working at LEVEL 1 and there should be TEXT and PHOTO available to explore.

2. Place the tip of the arrow just below the first N of LONDON.

LONDON

Press ACTION.

A LEVEL 2 map (40 x 30km) 1:625000, centred on WOKING, should appear.

At this level, you will have text and up to 7 photographs to explore.

Having explored TEXT or PHOTO, you can always return to the map by selecting MAP and pressing ACTION.

3. Place the tip of the arrow on the O of ETON and press ACTION.

ETON A

1:50000 map around ETON WICK appears.

Now you are working at LEVEL 3 and there should be TEXT and PHOTO to explore.

4. When you examine the map around ETON WICK, you will find a yellow box by the village. Place the arrow in the yellow box.

Press ACTION.

LEVEL 4
1:10000 map of ETON WICK with 2 yellow boxes.

5. Place the arrow in the lower of the two yellow boxes, where it says, 'Recreation Ground'.

Press ACTION.

You are now at LEVEL 5.
There is TEXT and PHOTO to explore.

Floor plan of ETON WICK & BOVENEY VILLAGE HALL A. Ground floor.

6. You can now move back up the LEVELS, by moving the arrow to OUT and pressing ACTION.

Move up the map levels to the 1:50000 map which you had at step 4.

7.   You can now 'WALK' to the map to the EAST, by placing the arrow on the right of the screen (just below Manor Farm) and press CHANGE.

A blue arrow flashes across the screen and a map from WINDSOR to SLOUGH appears on screen.

You can walk to any adjacent map, if available, at any level.
This is done by placing the arrow in any direction and pressing CHANGE. (See p59-63 in the Domesday Video Disc User Guide.)

8.   On the 1:50000 map, there is a yellow box around Windsor Castle. Place the arrow on the box and press ACTION.

A more detailed street map appears.
There is usually no photo at this level. (LEVEL 4)

9.   On the LEVEL 4 map, you will see a yellow box around the castle. Place the arrow in the box and press ACTION.

A plan of Windsor Castle appears.

There are photos and text to explore.
(This level is only available for about 30 special features around the country.)

To move back to a previous level, select OUT on the menu bar and press ACTION.
Return to the LEVEL 2 map centred on WOKING (step 12 map).

10. We can now use the FIND function.

Place the arrow on FIND. Press ACTION.

Map by Grid Ref.

Map by Place Name

Text and Photos by Topic

Previous Query

Percentage through search

'Perfect matches' found

Move the arrow until 'Text and Photos by Topic' turns light blue.

Type in HEALTH. Press ACTION.

56 items found. Listed on screen.
This index is paged in the same way as text or photos.
Selecting any item takes you to either a page of text or a photo. You can then select MAP from the menu bar to find the area being referred to.

This is another fascinating feature of Domesday but, besides trying your own search words, eg. CRIME, TOURISM, SPORT, we would strongly recommend pages 94-102 in the Domesday Video Disc User Guide.

11. You can also find places using FIND (p91-93 in the Domesday Video Disc User Guide).
If you know the grid reference of a place, you select FIND, then move the arrow until 'Map by Grid Ref' turns light blue. Now type in 05792 01632

A yellow cross appears on the screen, identifying the exact place.
(Zooming in on the place identified should show a special feature on Hempstead Valley Shopping Centre, near Gillingham, Kent.)

12. Select FIND again.
Now move the arrow to Map by Place Name.

Type in WARKWORTH.

INDEX of place names appears on screen.

Select WARKWORTH NORTHUM.

LEVEL 2 Map appears, with WARKWORTH highlighted.
Place arrow on WARKWORTH. Press ACTION.
A series of messages concerning turning the disc over appears on screen. Follow these instructions to turn the disc and then find WARKWORTH.

You should now be in a position to find and explore places on either side of the disc.

A note on OPTIONS

(Domesday Video Disc User Guide p63-69).

There are important operations available when you select OPTIONS.

> The scale of the map can be found, distance and area measured, grid references found and a full key to the maps examined.

When in doubt about the operation of any functions remember to select HELP and then HELP TEXT or DEMO for full instructions.

Some Community Disc tasks

> 1. Explore areas you are familiar with, using FIND by place name and the point/ACTION facility on the maps.

> 2. Explore these places by using FIND and then the grid reference:

06151 01579	02921 00925
05242 01720	02233 06101
05670 54533	02943 04405 (N.Ireland)

3. Select different map areas and, using the FIND Text and Photos by Topic function, examine the items listed by using key words, such as:

AGRICULTURE, FARMING, HOLIDAYS, TOURISM, HOSPITALS, HEALTH, CRIME, POLICE, etc.

Check the Domesday Video Disc User Guide Chapter 9, 'Using the main index with find' and especially pages 94 to 105.

4. Choose an area known to you. What photographs would you take to represent it? What special features would you write about? Now compare your list with the information on the disc.

5. Plan how you would get children to re-survey an area known to you or to survey an area not covered by others at Level 3.

6. Devise some problem solving activities for groups of a given age range.

7. How could this disc be used to encourage children (or adults) to create their own learning experiences.

THE NATIONAL DISC

Introduction

The National Disc is basically a very large database covering a wide range of topics on Britain in the 1980s. The domain of any search must be 'British Life in the 1980s' as the Domesday Discs are not an encyclopaedia. The National Disc contains the official view of the UK, tapping a number of data sources. One of the major objectives of the Domesday Project was to present a contemporary portrait of the United Kingdom in one easily accessible source and to make national information widely available to the public. This immense database can form a basis for an enquiry based on exploratory learning. However, the framing of questions and the art of retrieval requires careful thought and practice.

Refer to pages 116 to 123 of the 'Domesday Video Disc User Guide' for information about FIND on the National Disc.

Information

There are four forms in which information is available:-

Pictures - in the form of photographs, moving film and surrogate walks. There are over 23,000 captioned and keyworded photographs arranged in over 500 picture sets. Side B of the disc contains 60 minutes of film clips from BBC archives of news, current affairs and sport. The nine surrogate walks allow you to explore environments by 'walking' around them and contain an additional 10,500 photographs.

Text - over 2,000 text items, from newspapers, magazines, journals or specially commissioned essays.

Data - some 9,700 sets; graphically presented statistical information in chart or line graphs.

Maps - approximately 500 specially drawn maps have been produced in tones of grey to form underlays on which spatial or mappable data in coloured areal units can be presented.

Items can be retrieved in different ways, using the GALLERY, CONTENTS and FIND. The Gallery sequence explores these.

A health education framework

In view of the enormous quantities of data available it is important to explore the information within a context or framework. Fig. 2 (page 29) shows a number of broad headings which contribute to aspects of HEALTH EDUCATION. Within these headings are some examples of more specific areas for investigation. The National Disc contains a wealth of information and data which would illuminate many aspects of health education. It is impossible in this publication to investigate all of these aspects, but we have selected some questions from Fig. 3 (page 30) and attempt to demonstrate ways in which data on the disc can be used in answering these questions. Within this framework, we demonstrate:
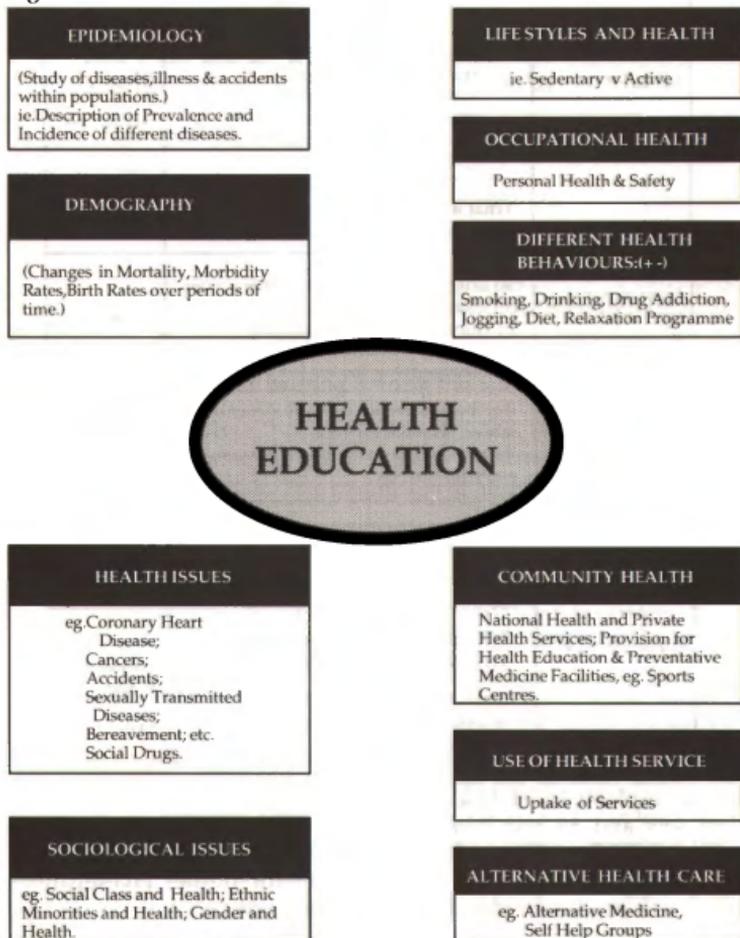
> the variety of ways in which data can be indexed and retrieved,
> the variety of ways in which data are presented,
> ways of cross referencing,
> interacting with data.

After completing the explained sequences, you might try framing questions of your own which would fall under the Health Education framework suggested, and then devise frameworks for other topics.

A MODEL TO BE USED WITH THE DOMESDAY SYSTEM

(Thanks to David Steers)

Fig. 2

EPIDEMIOLOGY

(Study of diseases,illness & accidents within populations.) ie.Description of Prevalence and Incidence of different diseases.

DEMOGRAPHY

(Changes in Mortality, Morbidity Rates,Birth Rates over periods of time.)

LIFE STYLES AND HEALTH

ie. Sedentary v Active

OCCUPATIONAL HEALTH

Personal Health & Safety

DIFFERENT HEALTH BEHAVIOURS:(+ -)

Smoking, Drinking, Drug Addiction, Jogging, Diet, Relaxation Programme

HEALTH EDUCATION

HEALTH ISSUES

eg.Coronary Heart
Disease;
Cancers;
Accidents;
Sexually Transmitted
Diseases;
Bereavement; etc.
Social Drugs.

SOCIOLOGICAL ISSUES

eg. Social Class and Health; Ethnic Minorities and Health; Gender and Health.

COMMUNITY HEALTH

National Health and Private Health Services; Provision for Health Education & Preventative Medicine Facilities, eg. Sports Centres.

USE OF HEALTH SERVICE

Uptake of Services

ALTERNATIVE HEALTH CARE

eg. Alternative Medicine, Self Help Groups

Main Topic Heading	Key Question	Form of Items available
COMMUNITY HEALTH	What health service facilities are available in my district ? Are there regional variations in spending on health ? What alternative approaches to health are there ?	Maps Maps, Text Text
	What is hospital provision for different age groups like ?	**Pictures, Text**
DIFFERENT HEALTH BEHAVIOURS	Has drug abuse increased at different rates for different age groups ? Are attitudes to smoking changing ? What alcohol problems are there ?Have these changed over the last few years ?	Data Text, Data
HEALTH ISSUES	Are there variations in the incidence of cancer, heart disease ? etc. What problems do the elderly have in everyday life ? etc.	Maps, Text Data
DEMOGRAPHY	**Are there regional variations in the distribution of the elderly in Society ?**	**Maps**
EPIDEMIOLOGY	**What are the most common sources of serious accident in the home ?**	**Data Surrogate Walks**
ETC. (see Fig.2)	Are there major sex differences in the incidence of disease ? etc.	Maps

In our exploration of Health we found 3 picture sets, 58 maps, 85 data sets and 89 text items. Further information will be available under POPULATION, SPORT, CONSUMERISM, etc. The initial question may only be the starting point for further investigations which will be stimulated by information retrieved.

Gallery sequence

Exploring picture sets, text and surrogate walks starting in the Gallery. When the opening sequence on the National Disc ends, you are left in the Domesday Gallery. The activities which follow should allow you to:

explore some of the 500+ picture sets and 45+ overview articles on 'British Life in the 1980s' while walking around the Gallery,

explore up to 9 surrogate walks from the Gallery,

demonstrate ways of retrieving picture sets, surrogate walks and text using the CONTENTS and FIND functions.

Before you start moving around the Gallery:

To pivot (turn) left(L) or right(R), move the screen arrow to the left or right of the screen and press CHANGE. This pivots you 45 degrees.
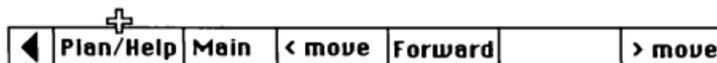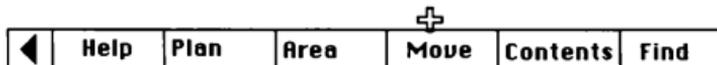
To move forward, place the arrow in the centre of the screen and press CHANGE.

Other moves can be selected from the menu bar by placing the arrow over MOVE and pressing ACTION.

Instructions for moving from one part of the Gallery to another (or moving on one of the surrogate walks) can be written as a short 'program', ie. RRFFFLFLL or 2R3FLF2L means 2 turns right (90 degrees), move forward 3 steps, turn left (45 degrees), move forward 1 step, 2 turns left (90 degrees). An examination of the PLAN for any walk can help in devising these 'programs'.

A further convention used here is to show the menu bar which appears on the screen with a '+' above the function to be chosen. Move the arrow to that position and then press ACTION.

By the end of the short sequence which follows you will feel confident to explore further:

| ◀ | Help | Plan | Area | Move | Contents | Find |

| ◀ | Plan/Help | Main | < move | Forward | | > move |

Plan of Gallery on screen. Fig 4.
A blue arrow keeps track of your position.

| ◀ | Help | Main | | | | |

| ◀ | Plan/Help | Main | < move | Forward | | > move |

LLFR(Corridor)FFF   POLITICS
                          DEFENCE
                          EDUCATION
                          HEALTH

Move arrow to bottom left of title HEALTH.

Health in the 1980s. 9 sections on 22 screen pages

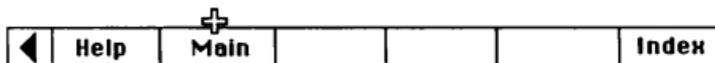| ◀ | Help | Main | | End | Print | Write |

Return to Gallery.

All the titles on the walls (over 45 in all) represent
specially written essays on aspects of British Life in the
1980s and they can be accessed in the same way.

| ◀ | Plan/Help | Main | | | Back | |

Turn R
Picture of Operating Theatre
Move arrow to bottom left of picture (not bottom left
of screen). ACTION.
Option of 3 Picture Sets on Health Care.
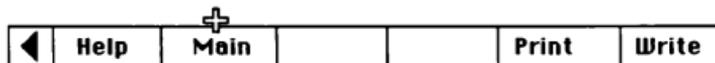Move arrow to 1 under Hospital Care. ACTION.

Set of 47 pictures showing life in several hospitals.
Page, using f8 or moving arrow to right of screen.
CHANGE.

When you have finished looking at the pictures (or at
any time before the end), you can finish by:

| ◀ | Help | Main | | | | Index |

If you select INDEX, you get a list of titles for each picture in
the picture set.

(returns you to the Gallery)

| ◀ | Help | Main | | | Print | Write |

Check your position

We are now going to 'walk' through to the 'Daily Life' room.

LFRFRFF You are now in the corridor facing the 'Royal Heritage' room.
LLFF You are now in the 'Consumerism' room.
RFRFF You are now in the 'Daily Life'room.

Now move around this room as you wish: explore some picture sets and any essays you come across (eg. Customs and Traditions).

If at any time you get lost or want to finish, you can select MAIN and then CONTENTS or FIND. If you just want to get back to the start of the Gallery, press ESCAPE.
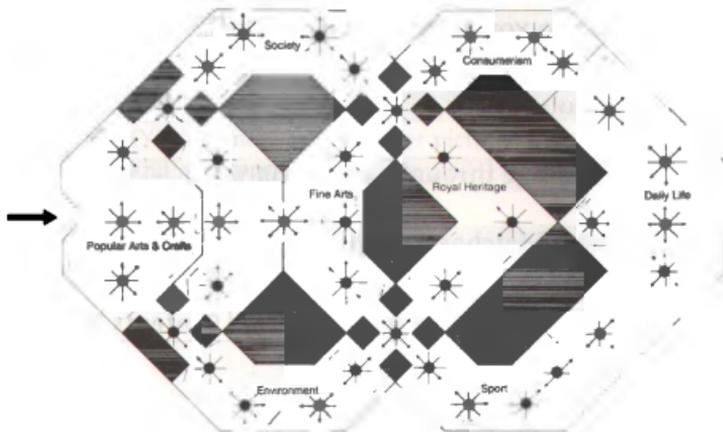
'Type R to restart or C to continue'
appears on screen. (This also applies to the surrogate walks mentioned below.)

As you walk around the SOCIETY, DAILY LIFE or ENVIRONMENT rooms, you will see doors which lead out of the Gallery. If you approach these doors head on you can go for a surrogate walk. Movement on these walks is made in the same way as around the Gallery. (See Domesday Video Disc User Guide p232-233 and 147-155) You can end a walk by pressing MAIN,

then FIND or CONTENTS; by pressing ESCAPE; or, by returning to the first frame of the walk, where you will find the door back into the Gallery.

If the walks were to be used in our HEALTH framework, we could identify potential health and safety problems in the environment being explored.

THE GALLERY

Using FIND

Using FIND for sensible searches requires practice - see the
Domesday Video Disc User Guide p115-123.

◀	Help	Plan	Area	Move	Contents	Find

BRITISH LIFE IN THE 1980s

What do you want to know about?
Type in HOSPITALS. Press ACTION.

Previous query

Percentage through search: 100%

'Perfect Matches' found: 78

◀	Help		Area	Gallery	Contents	

Place the arrow on the right of screen.

First 21 items listed on screen

- Pictures, Text, Data and Maps. Press CHANGE.

Nos 21 to 41 listed.

Select No 23 with the arrow. ACTION.
Essay on Health in the 1980s. (as was selected from
GALLERY)

◄	Help	Main		End	Print	Write

Select No 24 with the arrow. ACTION.
Picture set on Hospital Care. (was selected from
GALLERY)

◄	Help	Main				Index

(You can now explore other picture sets and text. Data
and maps are examined later.)

◄	Help		Area	Gallery	Contents	Old

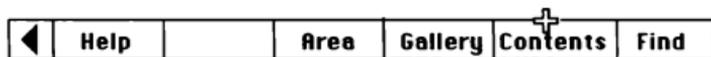Return to main menu by selecting MAIN on menu bar.

Type in WALKS. ACTION.
31 Perfect Matches.
The surrogate walks are numbers 4,5,6,7,8,9,10,11, and
14.   When you explore the 'walks' in this way, the
HELP facility is about the walks, unlike when you walk
from the Gallery. You cannot walk back into the
Gallery when walks are accessed using FIND.

Using CONTENTS

This is a very useful way of examining the disc contents under headings in a branching hierarchy. See the Domesday Video Disc User Guide p125-129. We have found several users have had difficulty finding exactly what they wanted under some headings and strongly recommend exploring other branches of the hierarchy for similar items and using CROSS-REF, (Domesday Video Disc User Guide p128). This sequence shows how we explored some items on health and demonstrates how some of the picture sets and text already seen can be reached by another route. (This applies also to data sets and mappable data which are looked at in more detail later.)

◀	Help		Area	Gallery	Contents	Find

Level 1 — 4 items. Select No 1. Society. ACTION.

Level 2 — 11 items. Select No 3. Health. ACTION.

Level 3 — 9 items. Select No 1. Text. HEALTH. ACTION Essay on Health in the 1980s (as seen in Gallery and using FIND)

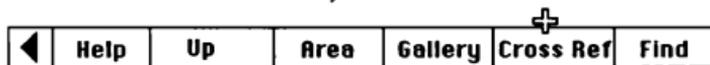| ◀	Help	Main		End	Print	Write

Select No 5. Health Services. ACTION.

Level 4 — 4 items. Select No 2. NHS: HOSPITALS

Level 5 — 7 items.   (5 of which are Text, 1 data set
and the picture set we explored in the Gallery and
using FIND).

We are now as far down the branching hierarchy as we
can go. If you have not found items relevant to your
enquiry, go back up to previous levels and try another
route, but first try ...

| ◀ | Help | Up | Area | Gallery | Cross Ref | Find |

Further items are listed - you may need to page
forward to get the full list.
Items 8 to 27 listed.
To move back up the hierarchy, select UP.

| ◀ | Help | Up | Area | Gallery | | Find |

In following each branch under Health, we found 3
picture sets, 58 mappable data sets, 85 tabular Data sets
and 89 text items.

A note on FIND.

When you have found an item you wish to return to
later, eg. from exploring branches of CONTENTS,
make a note of its exact title. This can then be put in
quotation marks and typed in when using FIND. That
item will then be displayed.   Now try the following:

| ◀ | Help | Main | Area | Gallery | Contents | Find |

Type in "HEALTH IN THE 1980S" or "HOSPITAL
CARE". It is well worth building up a list of these exact
titles for future reference.

Further activities

1. We would suggest that you become familiar with the Gallery, surrogate walks and text items. We intentionally leave such exploration open-ended.

2. Then explore more fully the FIND and CONTENTS facilities and then move on to the more complex interaction with data sets and the maps in the next two sequences.

3. How would you use the picture sets with children?

4. Devise a few structured problem solving activities for use with one or more of the surrogate walks.

5. We started this section with questions about health care for the community. The pictures and text helped us to answer some of these. From the information retrieved, what new questions arise? How would you get young people to record their responses?

6. What learning opportunities are provided by undirected explorations of the Gallery?

Statistical data sets

The extent of any coverage in the National Disc data sets is very wide ranging and has been collected from a variety of sources.

There are approximately 9700 of these data sets obtained from the Economic and Social Research Council Data Archives at Essex University, the General Household Survey, Henley Forecasting Centre and the Central Statistical Office, to name only some of the sources.

All statistical charts are given descriptive text to show their sources and specifications for using them.

Roughly one-third of the data sets on the National Disc can be displayed as Chart data and the remaining sets can be shown as mappable data.

The type of display is dependent on the means by which the data were collected.

We first examine a chart data set in the following sequence and then later explore a mappable data set.

Chart data sets sequence

Taking an example from HEALTH we have posed the following question to identify the different possible methods of finding and manipulating data on a particular topic.

What are the principal causes of death in the home?
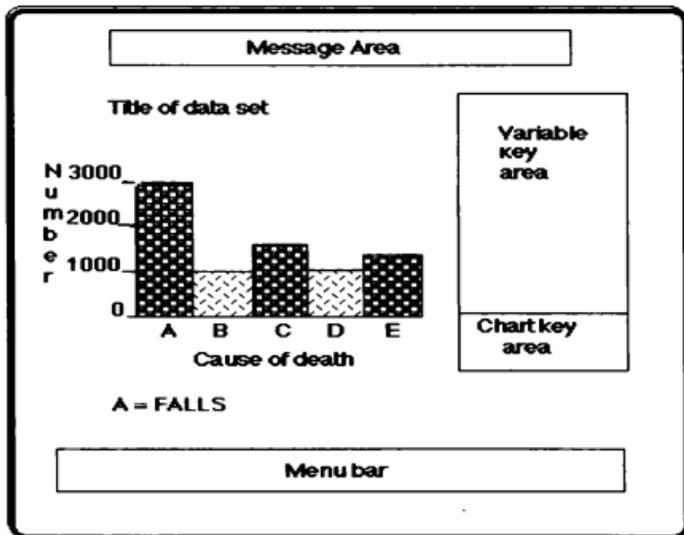
Method 1: Using the hierarchy.

1. Select CONTENTS. Press ACTION.
   Level 1 — 4 Options.

2. Select 1. SOCIETY. Move arrow to 1.
   Number 1 turns yellow. Press ACTION.
   Level 2 — 11 Options.

3. Select 3. HEALTH. Move arrow to 3.
   Number 3 turns yellow. Press ACTION.
   Level 3 — 9 Options.

4. Select 2. ACCIDENTS & EMERGENCY SERVICES.
   Move arrow to 2.
   Number 2 turns yellow. Press ACTION.
   Level 4 — 3 Options.

5. Select 2. HOME ACCIDENTS. Move arrow to 2.
   Number 2 turns yellow. Press ACTION.
   Level 5 — 6 Options.

The 6 options are:

1 Data ACCIDENTAL DEATH: SCOTLAND, 1983

2 Data ACCIDENTAL DEATHS: SUMMARY, 1983

3 Data DEATH BY POISONING IN THE HOME

4 Data DEATHS AT HOME: SUMMARY 1985

5 Data DEATHS AT HOME: LONG TERM TREND

6 Data HOME ACCIDENTS: DEATHS 1983

6. Select 4. DEATHS AT HOME: SUMMARY 1985.
    Move arrow to 4. Number 4 turns yellow. Press
    ACTION.

Data are loaded about the cause of death, for both sexes, for
two types of residence - private homes and residential
institutions.

You can now interact with the data displayed on the screen. It
is useful, before doing this, to find the origins of the data:
Select TEXT on the menu bar. Press ACTION.
Two pages of text are given.To page through text, place arrow
to right of screen:
Press CHANGE, or use f8 on keyboard.

Select MAIN, when finished. Press ACTION. Chart display reappears.

To interpret the chart:

The causes of death are labelled A to E. Below and to the left of the chart is a key: A = FALLS.

To find the other codes:
move the arrow to the key. Key turns dark blue.

press CHANGE. Code for B= is given.

continue pressing CHANGE until the display returns to A = FALLS.

To find the exact value represented by any bar:

move the arrow to the middle of the bar. Press ACTION. The value appears in the message area.

To find out more specific information:

All the variables in the variable key area can be manipulated.

You can select a particular variable name, e.g. to find out the cause of death for one sex group:

move arrow to ALL, under SEX, in the variable key area. ALL turns blue. Press CHANGE.

The code changes to MALE and REPLOT appears in the message area.

move arrow to REPLOT in menu bar. Press ACTION.
Chart provides data on all accidents for males.

This can be repeated to select FEMALES, if you wish. Similar changes can be made to the causes of death; and the type of residence.

In either of these examples, or in any of the following examples, you may want to change the scale of the vertical axis:

move arrow to the left of the chart. Press CHANGE. Chart is replotted at a scale to fit the data displayed.

You can alter the main variable display, e.g.

to find out which sex group has the greater number of fatalities move arrow to SEX in the variable key area. SEX changes blue.

press CHANGE. ALL disappears and REPLOT appears in the message area. Move arrow to REPLOT in menu bar.

press ACTION. Chart gives total deaths for males and females.

to find specific data on the type of residence, move arrow to TYPE OF RE in the variable key area. TYPE OF RE turns blue. Press CHANGE. ALL disappears beneath TYPE OF RE, and REPLOT appears. Move arrow to RELOT in menu bar.

Press ACTION. Total deaths for each type of residence is plotted.

Data on specific causes of death, or specific sexes, can be selected by following the same procedures.

The data can also be examined with different types of chart:

To change the chart type:
move arrow to 'Bar chart' in the chart key area. Bar
chart changes blue. Press CHANGE. Loop bar
appears.

continue to press CHANGE to find all types of chart
available.

Select 'Loop bar', as above. This type of chart requires
two variables.

To select your first major variable:

move arrow to CAUSE of D, in the variable key
area. Variable turns blue. Press CHANGE. ALL
disappears from the selected variable.

To select your second variable:
press CHANGE. REPLOT will have appeared in the
message area.

move arrow to REPLOT in menu bar. Press
ACTION.

Data for each cause of death are displayed against both
sexes in turn and will continue until you intervene.

move arrow to loop bar in chart key area. Loop bar
turns blue. Press CHANGE.

Select 'Pie Chart' in chart key area. Cause of death is
automatically re-selected as main variable, and
REPLOT appears in message area.

move arrow to REPLOT in menu bar. Press
ACTION.

Data for each cause of death are displayed as a pie
chart.

The data can be made more selective by altering the
variable names as explained earlier.

Select 'Back-back' in chart key area. You require two
variables. These can be selected in the same manner as
for the loop-bar, eg. select SEX by moving arrow to SEX
and press CHANGE.

move arrow to REPLOT. Press ACTION.

Data are plotted in a comparative bar chart.

You should now be able to answer the question asked at the
beginning of this section.

To get back to the main index:
move arrow to MAIN in menu bar. Press ACTION.

Method 2: Using FIND.

1. Select FIND on menu bar. Press ACTION. A chart appears which allows you to specify a named topic.

Two possible key words can be used,

EITHER:

type in DEATHS AT HOME Press ACTION. A search is made for the keywords DEATHS, HOME- which turn yellow. 7 perfect matches are found, and are indicated at the bottom of the screen. 21 items are displayed, since both DEATHS and HOME are searched independently as key words.

move arrow to number 5 DEATHS AT HOME: SUMMARY, 1985. Number 5 turns yellow. Press ACTION. The chart identified is displayed.

The search, in this instance, will identify 385 topics in which DEATHS and/or HOME are mentioned. These can be paged through by either pressing f8 on the keyboard or by moving the arrow to the right of the screen and pressing CHANGE.

OR:

type in DEATHS. Press ACTION.A total of 117 matches will be identified. Select the second page of the list by putting the arrow on the right of the screen. Press CHANGE.

select number 23, DEATHS AT HOME: SUMMARY 1985. Number 23 turns yellow. Press ACTION. The specific data set is displayed.

Method 3: Using FIND with an exact title.

If you know exactly which data set you require, you can:

select FIND. Press ACTION.

type in the exact title within quotation marks, in this case: "DEATHS AT HOME: SUMMARY 1985".

press ACTION. The specified data set is displayed.

Each of the above methods allows you to answer the question asked. However, a second data set could also be used to provide slightly different answers.

For example, if HOME ACCIDENTS: DEATHS 1983 is selected at level 5 in CONTENTS, data for all causes of death, for different age groups and for both sexes, are provided.

These data can be manipulated in exactly the same fashion described in METHOD 1 above.

Exploring data sets - further activities.

We have deliberately chosen a straightforward question which can be answered by examining a relatively uncomplicated data set. So, for our purposes here, the process of exploring the data set has been more important than the actual answer to the question. What we hope has happened is that you now understand how to manipulate a data set and you can see that your initial question can be extended by investigating the breakdown of the information using the different variables.

Groups we have worked with needed a number of data sets to explore before they felt confident that they could manipulate any data set retrieved from CONTENTS or FIND.

The following data sets can be explored using the functions explained in the sequence. They may throw up some different displays and the need to REGROUP. At this stage, p163-169 of the Domesday Video Disc User Guide are of interest and p225-228 explain the REGROUP procedure.

1. Choose some of the following data sets to explore and practice your skills of analysis. Retrieve these sets using FIND and typing in the exact title in inverted commas.

"NARCOTIC DRUGS: NEW ADDICTS"
"VISITS TO THE UK 1984"
"SCHOOL-AGE POPULATION 1971-81"
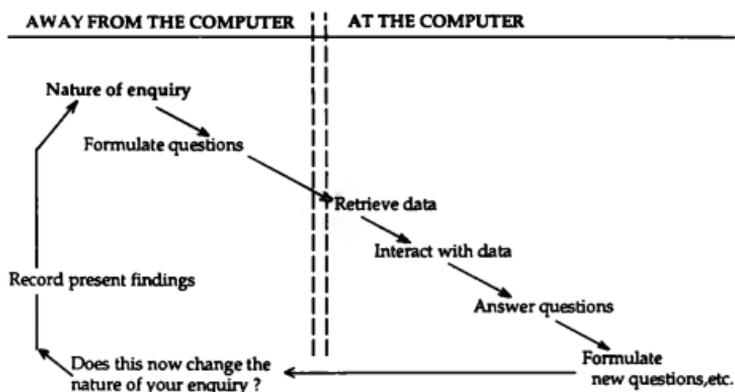"MEMBERSHIP OF ALL RELIGIONS UK"
"CHURCH ATTENDANCE 1"
"BRITISH RAIL: FREIGHT RECEIPTS"
"EMPLOYMENT:WHOLE ECONOMY A.A"

"WORKING POPULATION: (BS) A.U"
"POPULATION STRUCTURE"
"DAILY HRS TV VIEWING: ANNUAL"
"WOMEN'S PERIODICALS : READERSHIP"
"SPORT : SPECTATORS, BY CLASS/SEX"
"PRIVATE HEALTH INS. 1983: 3"
"COMMUTING : CENTRAL LONDON"
"COUNCIL HOUSE SALES"
"REGIONAL HOUSING STOCKS : GB"
"HOLIDAYS ABROAD : DESTINATIONS"

2. As you explore the data sets, see if you can frame
the sorts of enquiries these would help with. Then
note the directions your investigation may go as a
result of new information provided by your
interaction with the data sets.

AWAY FROM THE COMPUTER	AT THE COMPUTER

Nature of enquiry

Formulate questions

Retrieve data

Interact with data

Record present findings

Answer questions

Does this now change the
nature of your enquiry ?

Formulate
new questions,etc.

Does this now change the nature of your enquiry?

3. What skills are needed to be able to interact with these data sets?

4. Instead of having specific questions to answer, we may be more interested in a theme. For example, if my concern is with elderly people, I could use FIND and just type in ELDERLY PEOPLE (without quotation marks) to see what items the system provides. In this way the system's contents can structure the enquiry. What are the advantages and disadvantages of this kind of search?

Mappable data sets sequence

There are approximately 6000 mappable data sets on the disc. As there is no single set of nationally recognised geographical areas for which most of the important data sets are available, other than at a crude regional level, the data are stored for whatever areal unit was used for reporting. (There are twenty two different areal units, including district, district and regional health authority, ITV regions and Local Education Authorities.) Some data are mapped by grid squares. However, in order to ensure that as much information as possible is available for as many different areal units, the system operates the principle of data streaming. This means that the data are available at the smallest spatial area used for reporting it and at all possible higher levels that can be built up from it. For instance, Amalgamated Employment Office data may be aggregated to a number of different sets of areas, eg. Travel to Work Areas, Standard Regions, District Health Authorities and Parliamentary Constituencies.

It is important to bear in mind that mappable data in a useful form may not be available at the scale you wish to explore. Until you know how to interact with the system, you may get some confusing single colour maps - persevere!

For a detailed discussion of the statistical data sets and the areal types see the journal: Transactions, Institute of British Geographers, Volume 11, Number 3, 1986.

We can use an example from Health Education (see Figs 1 and 2 on pages 11 and 29) to demonstrate many of the functions available when you want to explore mappable data.

Variations in the distribution of elderly people will be very important in making decisions about health care provision. Having explored items listed under Old People and Elderly, we have identified a data set to use in this example. Several other items could add to our understanding of this theme but, for the purposes of this sequence, we will only use one.

FIND: Selecting a data set

1. Select FIND on the menu bar. When the message

'What do you want to know about?'

appears on screen, type in:
"VERY OLD PEOPLE"
(As this is the exact title for this data set, it must be placed in quotation marks.)

2. Select AREA. The system will now find that data set and, because it is mappable, the screen display will invite you to specify the area you wish to explore. Map of Britain appears on screen

3. Move arrow into the top box on the screen.

Type of Area (e.g. County)

Type in COUNTY. Press ACTION.

Move arrow into second box.

Name of Area (e.g. Kent)

Type in WEST YORKSHIRE. Press ACTION

A yellow rectangle gives the border of the specified area and grid references are shown in the lower boxes. After a pause, the UK map is replaced by the background map enclosing W.Yorks. and some place names are given.

The message bar will instruct you to select MAIN on the menu bar, so that the data for Very Old People can be superimposed on the base map.

When you select MAIN and press ACTION the base map disappears. Coloured blocks build up on screen and then the base map re appears.

NOTE:

It is worth remembering for later work that you could specify the area you want first, by selecting AREA at step 1.

If you are uncertain as to what types of area are acceptable, select HELP and then AREAL.

A list of areal units is given. Once these are on screen, the names of areas can be found by moving the arrow to the areal type, eg Regional Health Authority, and pressing ACTION. All the Regional Health Authorities are then listed.

Make a note of the exact name of the areal type you wish to use.

To return to the main menu bar, select EXIT and press ACTION until the main menu bar appears.
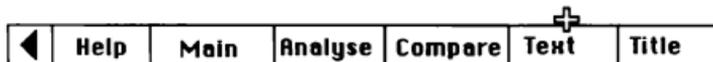
4. KEY: what the colours on the map mean.

◀	Help	Main	Analyse	Compare	Text	⚙Key

Message area now reads -

N/A	4.48	5.22	5.89	6.93	❯

When you are working at this level menu bar the
background map may be removed by pressing
CHANGE, in order to see the graphic overlay more
clearly.

5. TEXT: what these numbers mean

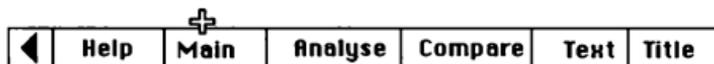| ◀	Help	Main	Analyse	Compare	Text	Title

6 pages of text, describing the origins of the data are
available-page 1 tells us the figures refer to - Residents
75 years or over per 100 residents .... from the 1981
Census. Copyright ownership is also stated.

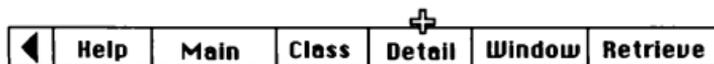| ◀	Help	Main			Print	Write

See p37 of the Domesday Video Disc User Guide for
information on PRINT and WRITE.

Selecting HELP, then DEMO and HELP TEXT will
provide further information on using the system. You
return to the main menu by selecting EXIT.
To return to the main menu bar, select EXIT and press
ACTION until the main menu bar appears.

6. RESOLUTION: the data in more detail

◀	Help	Main	Analyse	Compare	Text	Title

Menu bar changes.

◀	Help	Main	Class	Detail	Window	Retrieve

◀	Help	Main	Resolution	Areas		

The message area now reads.

RASTER SIZE 1 2 3 4 5 6 7 8 9 10 km

The **2** is highlighted as the data are mapped by 2km
rasters. We can change this to 1km by moving the
arrow to 1. Press ACTION. 1 turns yellow.

◀	Help	Main	Replot	Areas		

A new more detailed map appears.

7. AREA: areal units to display the data

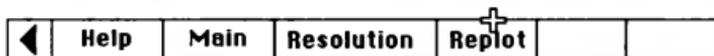| ◀	Help	Main		Areas		

The message bar now reads AMALG. EMPLOYMENT
OFFICE AREA. Move the arrow into the message bar.
Repeated presses of CHANGE scroll through all
available areal units.

You can compare the maps by selecting any of the unit displayed in the message area. So, when the message bar reads

DISTRICT HEALTH AUTHORITY AREA

move the arrow into the menu bar.

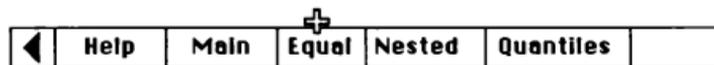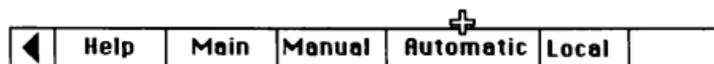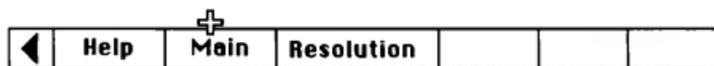| ◀	Help	Main	Resolution	Rep̶lot		

The data on Very Old People are now displayed using this new areal unit.

Repeat step 7 now to replot the data as they originally were by
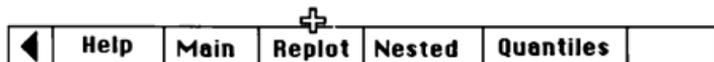
AMALG. EMPLOYMENT OFFICE AREA.

8. CLASS: changing the class intervals

◀	Help	Main	Resolution			

◀	Help	Main	Class	Detail	Window	Retrieve

◀	Help	Main	Manual	Automatic	Local	

◀	Help	Main	Equal	Nested	Quantiles	

Message bar shows:

N/A	5.11	8.49	11.86	15.24	>

The message bar flashes, indicating that you now need
to REPLOT

◀	Help	Main	Replot	Nested	Quantiles	

A different plot of the data appears.

(See the Domesday Video Disc User Guide p196-197 for
a discussion of equal, nested & quantiles)

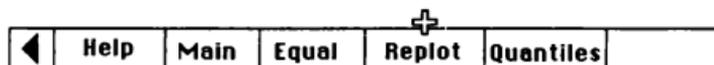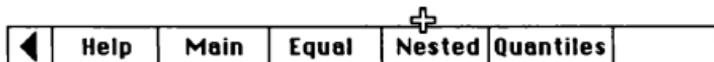To return to the original display,

◀	Help	Main	Equal	Nested	Quantiles	

◀	Help	Main	Equal	Nested	Replot	

Message bar now reads:

N/A	4.72	5.86	7.45		>

Flashing indicates need to REPLOT.

◀	Help	Main	Equal	Replot	Quantiles	

Now return to original display.

| ◀ | Help | Main | Equal | Nested | Quantiles | |

Message bar now reads:

| N/A | 4.48 | 5.22 | 5.89 | 6.93 | ❭ |

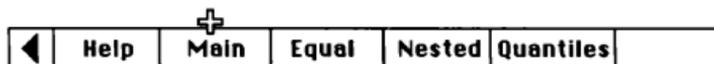Flashing indicates need to REPLOT.

| ◀ | Help | Main | Equal | Nested | Replot | |

Though the data are now replotted by quantiles two class intervals have the same colour.

9. CLASS: Selecting own colours and class intervals

| ◀ | Help | Main | Equal | Nested | Quantiles | |

| ◀ | Help | Main | Manual | Automatic | Local | |

Now move the arrow into the message area next to the 5.22. Press CHANGE. You can now select any colour for that class interval by continuing to press CHANGE until each class interval is a different colour. Other class intervals can be changed by moving the arrow.

(See p201-203 of the Domesday Video Disc User Guide for hints on use of colours.)

Now change the class intervals by moving the arrow to 4.48. Press ACTION. That class interval box is now empty. Type in 4. Press ACTION. Continue in the same way by moving the arrow to each box in turn.

Press ACTION. Insert own number. Press ACTION. Make the class intervals read 4, 5, 6, 7.

◀	Help	Main	Automatic	Replot		

Now repeat the above, changing the intervals to 4, 6, 8, 10, and REPLOT.

10. CLASS: LOCAL/NATIONAL function

A facility which does not affect this map very much but may be highly significant in other areas is the LOCAL/ NATIONAL function. (See p195-196 in the Domesday Video Disc User Guide).

◀	Help	Main	Automatic			

◀	Help	Main	Manual	Automatic	Local	

◀	Help	Main	Manual	Automatic	National	

◀	Help	Main	Equal	Nested	Quantiles	

Message bar reads:

New class intervals read

N/A	4.72	5.16	5.58	6.36	❭

◀	Help	Main	Equal	Nested	Replot	

11. Can I get more specific information from the map?

◀	Help	Main	Equal		Nested	Quantiles	

◀	Help	Main	Manual	Automatic	National	

◀	Help	Main	Class	Detail	Window	Retrieve

◀	Help	Main	Values		Unit	Write

Now move the arrow to any part of the map. Press ACTION and the name of that place (by areal unit) will be displayed in the message area.

◀	Help	Main	Values		Clear	Write

If you now place the arrow on any part of the map and press ACTION, the exact value for that square (see step 6 for details of square sizes) is displayed in the message area. The chosen square turns white.

12. COMPARE: data compared with another data set for the same area.

◀	Help	Main	Clear		Unit	Write

◀	Help	Main	Class	Detail	Window	Retrieve

◀	Help	Main	Analyse	Compare	Text	Title

◀	Help	Main	Link	Correlate	Name	

New message bar reads

Name:

Type in CHILDREN. Press ACTION.

There is a pause while the new data set is displayed. (This is a very useful facility so that different data sets can be compared over one area.)

Message bar reads

NAME

Type in VERY OLD PEOPLE

A series of messages appear until -

CORRELATION -0.773 (67 Data Points)

Thus showing a negative relationship between the distribution of the very old and children.

The enquiry suggested for the mappable data was a study of the spatial distribution of elderly people.

How would you interpret the information provided for West Yorkshire?
Repeat the learning sequence but, for the AREA in steps 2 and 3, put in COUNTY and CORNWALL.

What differences do you notice?

Now change the AREA to COUNTRY and ENGLAND to see a national picture.

What are the implications of such regional variations for the provision of health care?

Exploring mappable data - further activities

The range of functions on the menu bars for mappable data are quite complex and we would recommend practising with some of the following mappable sets and studying further the Domesday Video Disc User Guide, especially pages 164-169, 171-176, 190-191.

1. Use the FIND function and then type in the exact titles:

"AVERAGE MALE UNEMP. RATE 1979"
"AVERAGE MALE UNEMP. RATE 1982"
"CAP.EXP-HOSPITALS+COMM. HEALTH"
"OVERCROWDED HOUSEHOLDS"
"OWNER-OCCUPIED HOUSEHOLDS"
"SCHOOL CHILDREN"
"COUNCIL HOUSEHOLDS"

2. GRID MAPPABLE data are explored in a similar way but note again the Domesday Video Disc User Guide page 165 and the different RETRIEVE menu bars, page 204-205:-

"1981 RESIDENTIAL POPULATION"
"COUNCIL HOUSEHOLDS"
"OWNER-OCCUPIED HOUSEHOLDS"

3. Use the FIND facility and type in POPULATION CHANGE-there should be 27 perfect matches plus several hundred other items.

Within the first 27 items, you should find several maps on changes in population from 1901 to 1984 which are well worth exploring.

4. What skills are needed to be able to explore the mappable data sets?

5. You should now be in a position to explore topics, using CONTENTS or FIND, and interact with any item listed.

DOMESDAY IN AN EDUCATIONAL CONTEXT

Having completed the tasks in the previous sections, you will probably already have formed some ideas about where you can use the Domesday System in your own teaching. The other books in this series provide examples of how the discs can be employed in specific subjects or topics. Therefore we propose to consider some wider educational roles that the Domesday Discs might perform, in the belief that it is the quality of the educational thinking behind the use of technology that makes the difference to the use of the equipment constructively in the classroom. Teachers must find their own answers to these questions:-

What are you seeking to achieve?

How can the Domesday Discs help you to achieve your purposes?

What are the implications of this technology for your style of teaching?

Characteristics as an educational tool

The Domesday System has many characteristics which make it valuable as an educational tool. Some of these include:

the handling and recall of very large quantities of information and data,

the performance of calculations efficiently and quickly,

the fast response to users' instructions,

the display of written, numerical, graphical and pictorial information.

Whereas microcomputers can perform most of these functions this system allows for a greater degree of interactivity. Perhaps most significant is the nature of the data; Domesday is basically a multi-media national database and contains data and information not readily available elsewhere. The structuring of information within it allows the student to explore a particular subject in depth or move to associated topics. Nowhere else does there exist such a mass of national information and cross-linking with such scope and flexibility; this alone makes the Domesday Discs an ideal educational tool to help in many learning situations.

Discussion points

At this stage, you might like to consider the following questions in relation to your knowledge of the discs:

1. Does the system perform any other functions not listed above?

2. What do you consider to be the advantages and disadvantages of the way information is structured and handled on the discs?

3. Can the strengths of the machine be utilised to help and improve classroom tasks?

4. Consider the advantages and disadvantages of the way information is presented in terms of its suitability for students of differing levels of ability.

Educational roles

The value of the Domesday Discs for education lies in the various teaching methods and learning activities they can be used to support.

Kemmis, Atkin and Wright(1977) identified four paradigms for applying the computer to education:

> instructional, revelatory, conjectural and emancipatory.

Despite rapid changes in technology, this framework for discussing the educational roles is still valuable today and there are uses for the Domesday Discs which fit into each of these categories. We intend to use these paradigms as a framework for discussing the possible educational roles for the Domesday Discs.

The H.M.I. Booklet 'The Curriculum from 5 to 16' identifies four elements of learning which schools should seek to develop in pupils:

> knowledge,
> concepts,
> skills,
> attitudes.

The Domesday Discs can contribute to all four elements of learning but it is to a large extent the choice of teaching method which determines the learning outcomes.

Figure 4 (page 79) shows a teaching and learning continuum which describes the important relationships between the teaching method and the type of pupils' activity, and we have shown the position of three of the paradigms along this continuum.

The fourth paradigm, the Emancipatory, is not included, as this refers to the computer's role as an advanced calculator. In this paradigm, the computer is seen as a labour saving device, able to perform mundane and time consuming tasks quickly and efficiently, thus freeing the learner to concentrate on more important aspects of the learning process. There are examples within all three of the other paradigms where the system will be used in this way. The interactive video system's ability to perform such functions was discussed in the last section.

The continuum is not intended as a rigid classification of teaching styles, nor does it imply that any method is better or worse than others. It is anticipated that most teachers will make use of the strategies characteristic of any point on the continuum at sometime in order to achieve a full range of outcomes. The following discussion is intended to help teachers begin to consider ways in which the Domesday Discs can be utilised to offer support at different points along the continuum and to make the important link between the choice of teaching method and the learning activities.

It is important to stress that the Domesday Discs and the technology they represent should always be considered in terms of an additional resource or tool for the teacher to use and it is only one of the components of a complete learning package offered to pupils. Although in this next section we have described three roles for the systems separately, we anticipate that within one 'learning package', the system may be utilised in all these roles.

It is important for the teacher to be aware of the nature of the support that the system offers and to evaluate its role in the context of other resources which may be available.

Instructional paradigm

In this mode the computer is used to enforce student learning by building up explicit instructional strategies. The type of teaching method associated with this paradigm lies to the left end of the teaching and learning continuum. In this exposition and reception model of teaching, the acquisition of knowledge is the main purpose for the educational activity and therefore the main value of the pupil activities is limited to factual recall. The variety of information contained on the Domesday Discs can provide vital support for teaching in this mode. The 'Curriculum 5- 16' booklet suggests, "Necessary factual information is best learnt in interesting contexts....", and using the Domesday System can provide an important stimulus for such tasks. The discs are a source of illustrative maps and charts for the teacher to use and the system can provide an interesting 'electronic blackboard' for whole class teaching. The vast range of data and pictures provides many opportunities for pupils to be able to develop observation and recording skills. The naming of phenomena is important as a first stage in concept formation. The picture sets would seem particularly appropriate in this context, especially for work with pupils in the early stages of learning. For example, the naming and identification of species of birds could provide an interesting first stage within a natural history topic. The variety of data and information expands the scope of this type of work and the different contexts in which information is presented gives the system advantages over other sources available to the teacher. Of particular value are the surrogate walks which have the advantage of enabling a pupil to explore an environment from a number of different angles, so giving a more realistic atmosphere to the experience. In addition, the

process of movement within the environment can help develop spatial skills.

If the system is being used to provide instruction in basic facts or skills, then the activity falls within the instructional paradigm. In this mode the learner is relatively passive, exercising little autonomy and will usually work as an individual. Thus the educational outcomes are relatively narrow.

Revelatory Paradigm

The booklet 'The Curriculum from 5 to 16' describes concepts as generalisations which are usually arrived at through a process of abstraction from a number of discrete examples. Concept formation, other than at a basic level, involves the development of powers of reasoning and an ability to organise and classify knowledge. Within the revelatory paradigm the computer is used to provide support for the development of these abilities in pupils.

The teacher can devise a sequence of activities, using the Domesday System, which can guide pupils through a process of discovery, involving pupils looking up a series of items illustrating facets of a theme. In this way pupils can be encouraged to make conceptual links between items of knowledge. The main aim of the activity will be to develop understanding of a generalisation or concept and thus the end product is largely predetermined. Therefore the process can be referred to as a closed enquiry.

Continuing with a natural history theme, it would be possible for teachers to devise a teaching sequence to help illustrate how different groups of birds or animals are

adapted to their environments. The activity would involve classification and the necessity to establish relationships between a variety of individual items of knowledge. In this way pupils could also begin to formulate a concept of 'habitat'. Again it is the variety of data available to the teacher from one source and the degree of flexibility this introduces which makes the Domesday System unique.

Within this paradigm the educational context is widened. Students may work in groups as well as individually, so that an element of discussion and co-operation is introduced. Interpretation and analysis of a variety of data and information is required; although the pupil is less passive, the activities are designed to develop deductive patterns of thought and thus there is little room for creativity. It is the teacher who sequences events and structures the learning materials towards specified outcomes and the emphasis is still on knowledge to be acquired, albeit in the form of generalisation rather than discrete items.

Conjectural Paradigm

As we move towards the right end of the teaching and learning continuum, the pupil's responsibility and control over the learning situation increases and the teacher's role becomes one of encouraging the pupils to enquire into topics on their own, offering support and guidance, if necessary. This open or enquiry method has long been practiced in many primary schools but is gradually becoming more popular in secondary schools through curriculum developments such as the Schools Council 16-19 Geography Project and the Technical Vocational Education Initiative (T.V.E.I.) which advocate problem solving and active

learning strategies aimed at encouraging pupil initiative and developing autonomy. It is now widely agreed that procedures controlled by students are a more effective means of teaching. Where there is no rigid structure, the pupils will auto-matically be required to use a different range of skills, to collect, analyse and process information as well as organising a programme of work. Rather than knowledge being passed on to the pupil, they are engaged in discovering and creating knowledge for themselves through the exploration of information that is made available to them.

The role of the computer within this paradigm is one of offering support for the enquiry. The process of questioning and conceptualisation which the pupil is engaged in will involve continually shifting between the computer system and the world at large, rather than focussing on the technology, as in the other paradigms. The actual topic for the enquiry may have been formulated by the pupils as individuals or groups or it may be suggested by the teacher as part of a sequence of work. Generally, learning activities which fall into this category will be open-ended and the pupils should be given freedom to structure their own work and use a variety of sources of information, including the Domesday Discs, to help them develop their ideas. There is more scope within this type of work to develop decision making skills and for pupils to consider alternative viewpoints and opinions, thus contributing to values education. If pupils work in groups on such activities, the educational context is widened by the necessity to communicate ideas or make co-operative decisions.

Following on from previous activities in the other paradigms suggested under the broad theme of natural history, an individual or group of students may wish to find out more about the type of wildlife which inhabits various

environments or may become concerned about the implications of disappearing habitats. The latter example may stimulate them to begin to consider the ethics of conservation and the various conflicts surrounding land use decisions. Whatever line of enquiry the student may wish to pursue, the Domesday decision is likely to contain some useful information or data and provide a useful addition to more conventional sources. If the system does not contain the answer to the query itself, it may at least give the pupil some insight into where more data can be obtained by revealing sources of information.

The subject for investigation does not have to come from the pupils and can be a task provided by the teacher. However the task should be open-ended so that a variety of conclusions are possible, dependent upon the pupils' own selection and interpretation of the information made available to them. A common type of activity in this mode is the investigation of a proposed development involving the pupils looking at the implications of the proposal and making a judgement about whether or not it should go ahead. For instance, the siting of a new road, a supermarket, a business park, a nuclear power station or finding a possible solution to a problem which may be at local or national scale, such as, parking in a town, the supply of energy or housing for the homeless.

The proposal can be hypothetical, although real examples are often better motivators. An investigation of this sort would involve pupils looking at a range of data and information within a factual and values enquiry and the Domesday System could provide valuable support. Activities within the paradigm offer scope for development of all four elements of learning deemed important by the H.M.I. (1985).

Traditionally this style of teaching has been restricted and confined by the limitations of the information and data which could be made available to the pupils. In this context the Domesday System, offering such scope and flexibility of data, could have an emancipatory effect on the curriculum.

It is within the conjectural paradigm that the Domesday Discs provide the greatest potential for educational innovation.

The traditional ways of locating information through books and official statistics, such as census returns, have inherent disadvantages. Where the information is available, it is not readily accessible, particularly to young students inexperienced in searching through complicated sources.

One of the main advantages of using a database such as this, is that pupils can be encouraged to learn to ask the right questions and define what it is they want to know.

Too frequently, pupils conducting research simply copy out information from books without any real purpose in mind. The Domesday System is able to support both inductive and deductive approaches to data exploration.

If the pupils wish to generate new hypotheses, then they can make random searches through the data; if they want to test a specific hunch or preconception, then they can do so by making a formal search, drawing out the data which relates to a specific line of thought. In using the system, pupils will come to know a lot more about data organisation and classification, as well as appropriate sources, and provide vital insight to help meet the H.M.I. criteria ....

"that pupils should be taught how to find out what they need to know for a particular purpose and how to interpret and check it."

Pupils need to acquire these research skills if they are to become autonomous learners.

Activities

Study Figure 5 (page 80) which suggests a model for incorporating the Domesday System into curriculum planning. Choose a theme or topic suitable for your own teaching purposes.

Using the model (Fig. 5) as a guideline, devise three classroom activities around your chosen theme, utilising the Domesday System, which fall into the following categories:-

1. An activity aimed at providing instruction, involving the pupils in either learning facts or practising basic skills. (Instructional)

2. An activity which requires pupils to make links between a number of discrete items of knowledge towards the understanding of a concept or generalisation. (Revelatory)

3. An open ended enquiry where pupils are required to create knowledge through their own exploration of information which is made available to them. (Conjectural)

Evaluate the role of the Domesday System within each activity.

THE TEACHING AND LEARNING CONTINUUM
(Adapted from Bartlett and Cox 1982)

Fig. 4

Paradigms for Computer Assisted Learning	INSTRUCTIONAL	REVELATORY	CONJECTURAL	
Pupil Activities	Reception learning	Structured problem solving	Open-ended enquiry	Creative activity
		increasing pupil independence		
Teacher Activities	Transmission narration	Provides structure for enquiry and methods of investigation	Provides advice	Offers encouragement and support, but no direction.

INTRODUCING THE DOMESDAY SYSTEM INTO THE CURRICULUM - 4 STEPS IN PLANNING. Fig.5

1. Select and organise content	Choose a topic or theme which fits into your overall curriculum plan. What is the aim of the activity? What knowledge / key ideas / concepts do you wish to develop? Conduct a search of the Domesday Discs for relevant information. What other sources are available?
2. Decide how to present the information and ideas	What sort of pupil activities? What teaching methods? What role for the Domesday System?
3. Examine the activity for educational objectives. If necessary modify activities.	What range of skills are employed? Is there a contribution to development of attitudes? Is the level appropriate? Does the activity reflect your overall educational aims? Is there a balance and range of experiences?
4. Evaluation.	Does the use of the Domesday System enhance the activity? Are there any likely problems in using the system?

IMPLICATIONS AND EVALUATION

In this final section, we return to Figure 1 at the beginning of the booklet and provide some starting points for discussion about the implications of using the Domesday System and the technology it represents. It must be stressed that this is merely an introduction to some of the questions raised by the use of Information Technology in school and in the wider community. No attempt has been made to place these in order of priority.

It is clear that with technology which makes vast databases of information available, there is a need for us to ensure that people have the skills and knowledge needed to gain access to and interpret such information. In addition to a range of language skills, including reading and mathematical skills relating to numerical and graphical displays, a person we may call information literate would need to have a range of keyboard skills which may challenge our traditional approach to writing. The art of information retrieval will increase in importance, in particular the use of keywords and hierarchical classification. It could be argued that the development of these skills is a necessary part of preparation for the worlds of both work and leisure.

In the preceding chapters of this booklet, a number of claims have been made about the impact of this technology on the teaching and learning continuum. Besides this major set of implications for the curriculum, it is worth noting the potential of working with the Domesday System for developing oral work, establishing problem solving skills, such as planning, data interpretation, search for pattern and communicating findings.

In addition, the Domesday System has implications for Information Technology in the Curriculum. We would claim that use of the Domesday System can help create an interest in technology; give people confidence in using computers; provide a major challenge to people who already show some aptitude for using technology; illustrate the use of information technology across the curriculum and provide a powerful tool for examining key concepts in Media Education, such as construction of texts and their selection and how people, places and events are represented to us. Thus the system provides an exciting context in which practical criticism can be encouraged. The introduction of the Domesday System into any institution rekindles familiar, though no less important, factors to be considered in relation to the location of equipment, care and maintenance, timetabling and cost. This final section directs readers to consider some of the wider social and political questions associated with change in information technology. Within any in-service course looking specifically at the Domesday System, it is clear that understanding its operation is a necessary stage before examining the system in use. This will have taken participants to an identification of the consequences of introducing such technology. It is important therefore, that a more complete evaluation is made by considering these wider questions -

- What structure of control is there over the selection and presentation of information?

- How does technology like this affect jobs? What other social and economic impact can you identify?

- What are the implications for society when such vast amounts of data can be relatively easily compiled and made available? How can necessary privacy be protected?

- What is the impact on society of making information, such as census results theoretically in the public domain, more accessible to the public?

If we concentrate more specifically on education, what opportunities for open learning and non-school based courses does this make available? If this type of technology becomes widely available, how will institutionalised education survive? Assuming that educational institutions continue, what will be the changing role of the teacher in a society which is technologically sophisticated and makes information available on systems which are truly interactive?

These are then a few of the challenging points we need to discuss. We obviously need to plan to meet such a challenge and perhaps it is timely to end with a far reaching question: what support can we provide from both within the education service, and without, to help us meet the challenge of using such technology for the benefit of all?

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