COMMUNICATIONS FORUM

DESKTOP PUBLISHING

Muriel Cooper, M.I.T.
.lip Francis, Digital Equipment Corporation
Arthur F. Shufelt, Interdyne, Inc.

October 30th, 1986

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

DESKTOP PUBLISHING

Muriel Cooper, M.I.T.
Philip Francis, Digital Equipment Corporation
Arthur F. Shufelt, Interdyne, Inc.

October 30th, 1986

Genga Arulampalam, Rapporteur

DESKTOP PUBLISHING (DTP)

Arthur F. Shufelt - Interdyne

Shufelt began by pointing out that DTP is a skill that could take anything from half a day (to learn a little bit) to one year (to learn adequately). He suggested two books for general reading (a) The Art of Desktop Publishing by Wes Thomas, (b) any recognized book on typography. Shufelt defined terms commonly used with relation to DTP (hypenation, justification, pagination) and offered the following description of a basic DTP system:

- Extension wordprocessing
- 300 DPI
- Paper printer
- Page oriented
- PC platform
- WYSIWYG (what you see is what you get)
- Low skill level needed
- $10,000 solution

He noted that many people overstate the complexity of DTP systems and assume they must include:

- 800 DPI
- RC paper
- Typography
- Large volume
- Color
- High quality
- $100,000 solution

Shufelt discussed the interrelationship of equipment used in DTP. For example, printer types cover a continuum from low resolution dot matrix printers to high resolution typesetting equipment, such as the Linotronic Imagesetter. Laser printers are medium resolution output devices. The high quality Linotronic Imagesetter is capable of producing such sharp print because it can address 1200 oots per square inch. The most

important DTP equipment manufacturers include:

- Apple
- Bit stream
- Adobe
- Interleaf
- Xyvision
- Island Graphics
- Media Cybernetics
- Xerox
- Cannon

The success of these companies can be measured by the change in stock price. For instance, Interleaf went public recently at $10 and the stock now sells at $9 whereas Adobe and Xyvision went public at $11 and currently sell at $24 and $12 respectively.

From a business point of view, Shufelt said that there are several opportunities for developing and marketing DTP products. Some of the areas he suggested are development of fonts, page description languages, improved displays, and improved output devices (such as laser printers).

To understand the industry Shufelt suggested the reading of industrial reports. In particular he recommended the Seybold Report, CAP Report (Computer Aided Publishing), and the WYSIWYG Report.

In closing, he pointed out that in the past, the key to a successful business presentation was high quality data. However, today a successful business presentation required not only high quality data but a high quality presentation as well. This he said could be achieved with DTP.

Philip Francis - Digital Equipment Corporation

Francis began by describing the Media Communications Group (MCG) at Digital, and his function within that group. With all the advanced DTP facilities currently used by the MCG there was the potential for achieving a level of integration beyond that currently existing in the publishing industry. Digital spends $450 million per year on promotion. Francis anticipated that this figure would rise with increasing growth. The MCG, he said, looks within the company for resources to intelligently configure tools and develop applications. However, he said, the tools conceived by the engineers often don't fit the purpose mainly because engineers make too many assumptions instead of obtaining accurate information from the user. It is easy, he said, for the average user of DTP equipment to be seduced by an attractive advertisement in a major publication or news paper. He went on to assert that the computer would never replace human judgement and sensory experience in the development of viable messaging. While there have been a number of ventures to develop rule based systems that will deal with typography, the computer will never master the full complement of communication skills.

The question then is - how does one use the power of communication, and also develop appropriate tools that will allow the message originator to pass through the hands, or the eyes, or the skill set, of the message former to penetrate information barriers in the mind of the message recipient. He said that in an effort to mechanize current manual processes engineers have gone off in a wide range of directions developing tools/systems which, if not integrated now, will cause considerable integration

3

problems as they mature.

Francis asserted that all this began with industry
pressures at two levels; business, environmental. At the
business level there has evolved a greater need for productivity
in the information age followed by a need for the development of
standards. The environmental pressures he listed as follows:

- Reduced paper use
- Reduced silver base media
- Environmental legislation (air quality,
  hazardous waste)
- Human health
- Community health

He defined electronic publishing as the computerized
creation, collection, modification, and dissemination of
information for human use and stressed that one cannot violate
the integrity of the communication principle that makes the
message a good message. However, in the computing world today,
many don't quite understand this and are providing all the
compromises upfront violating the integrity of a complete good
message. Electronic publishing, he asserted, does not offer
point solutions but varies with the type of demand and the
available medium. He then summarized the electronic publishing
model as follows:

Output <==== common <==== message forming/ <==== common <==== Input
             link   proofing   link

In DTP all types of data communication have to be used
- camera, print, computer, etc. This he said is what they were
attempting to do, and are fortunate in having good operating
systems for support. He anticipated that within the next 6
months they would have many of these residing in the 'Digital

Decnet'. Currently in the page processing arena he said that they have 64 writers in one organization and 140 in another working on DEC tools. At this point Francis emphasized the need for separating form and content. A writer he said, should not have to deal with images but rather have the facility for anchoring a reference to an image. He should be provided with pointers in the system to enable him point outside either to a database, or footnote, or reference to another document. He described the danger of providing a range of fonts to the untrained public, resulting in the proliferation of documents (largely garbage), causing a problem to the information seeker who has to sift through all this material to differentiate good and bad.

Describing the Cytex system Francis stated that it is the only one in the world right now providing color processing. It allows the designer or graphic art specialist to build a page calling in windows of text, visuals, etc. The Cytex system is capable of interfacing with the DEC text processing system operating in color and black and white. Additionally, in the world of color DEC has the capability to print off video and provide scope for mix and match publishing with the user having the choice.

Francis stated that good messages depend on the following:

- Layout
- Design
- Readability
- Writing style
- Appropriate words
- Color
- Effective images

5

- Visual stimuli

A professional communicator can weave an effective message using
these functions. At the output side Francis listed a full
spectrum:

- Color hardcopy
- Demand copy
- Full motion video (both recorded and live)
- Slides
- Video discs
- CD Rom
- Micro publishing
- Video text
- TV
- Audio (record and live)
- Motion pictures (in full motion video)
- Photographs

For input the sources are as follows:

- Video disc retrieval system
- Text entry
- Optical scanning
- Low/high resolution color monochrome
- Technical illustration CADs
- Slide production photography
- Micro photography
- Image and geological recording
- Video and audio recording

In the post processing arena the factors coming into play are:

- Text composition
- Audio editing
- Artist/illustrator system
- Video editing
- Graphic design/layout system
- Language translation
- Page make-up system (color, monochrome)
- Components retrieval
- Database

In both the input and output phases common addressibles have been
indentified as resolution, software, data search, color accuracy,
operating systems, etc.

        In closing, Francis referred to building a whole new
universe of media communication. He pointed out that doing it

the right way from the beginning would not only yield a meaningful solution but also lower costs. In the future, other areas that should be considered include direct to plate technology, direct to film, ink jet proofing, management controls, high speed, full color and high resolution.

Muriel Cooper - MIT

Cooper began by defining DTP. Is it:

- an evolution or revolution?
- all things to all people?
- a blurring of traditional lines of creativity and productivity?
- an electronic rear-view mirror?

She stressed the importance and value of putting powerful communication tools in the hands of not only professionals but non-professionals as well. In taking a different view from Francis, she asserted that the separation of word and image culturally had been a significant human disaster. Technology, she said, has been responsible for this false separation. The dissemination of ideas has been very limited because it has been, until recently, difficult to merge text with images or graphics. The result is a reduced ability to express new or complex ideas.

Cooper then discussed various ways of conceptualizing DTP. DTP she said, was an inevitable result of technological change which has increased both the power and quality available to the print market. Further, DTP suited the changing communication patterns. However she asserted that DTP is only the tip of an iceberg in the communications business. Software

is still very primitive and designing and communication for print
is really not the key issue. All media - print, graphic, image
video - is converging. The first phase of this convergence will
provide physical synthesis and manupulation of all media in one
conceptual document. The second phase will add graphic
intelligence to assist in elements of the design process and will
facilitate learning by novice or non-professional writer/
designers. The third phase will produce new graphic languages
and the ability to rapidly configure systems to meet specific
design/communications needs.

   She said that her group at MIT, the Visible Language
Workshop, is looking at rule-based typography. Though they are
not sure if it is an answer to anything it still has a great deal
of evidence that makes the concept of "intelligent" typography
worth exploring. A number of projects at the Movie Image
Laboratory are investigating rules related to corporate identity
program manuals. Cooper stated that the basic role of the
designer is shifting away from simply producing a finished design
to developing a conscious understanding of the design process and
educating all the contributors to this process on both the
elements of good design as well as effective modes of cooperation
in producing an end-product. She noted that successful messages
are dependent on the writer, who originates the text and basic
concept, as the designer, who translates the writer's raw
material into a package which communicates the original idea in
the most effective manner. A designer who understands this
translation process and is a good educator and group worker will

be most successful.

In closing, she showed several slides describing DTP.