

ART OF THE DI GITAL AGE

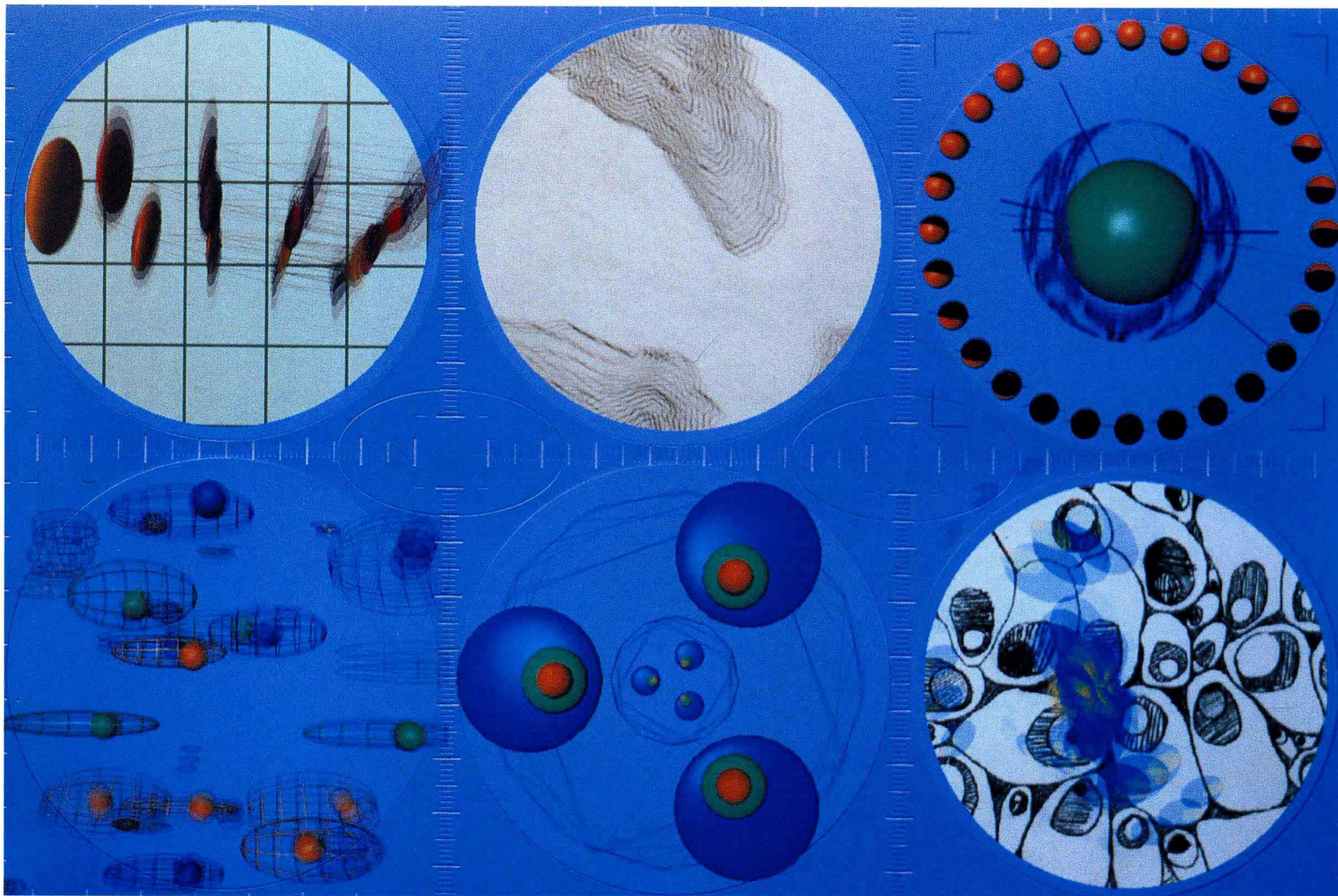
BRUCE WANDS

Thames & Hudson

ART OF THE DI GITAL AGE



Thames & Hudson



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First published in the United Kingdom in 2006 by
Thames & Hudson Ltd, 181A High Holborn, London WC1V 7QX

www.thamesandhudson.com

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First paperback edition

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British Library Cataloguing-in-Publication Data
A catalogue record for this book is available from the British Library

ISBN-13: 978-0-500-28629-6
ISBN-10: 0-500-28629-9

Designed by SMITH
Victoria Forrest
Printed and bound in China by C & C Offset Printing

JOHN F. SIMON, JR., *ALIFE*, 2003.
SOFTWARE, MACINTOSH POWERBOOK G4,
ACRYLIC PLASTIC, 45.7 X 50.8 X 5.1 CM
(18 X 20 X 2 IN)

CONTENTS

7_	Preface
8_	Chapter 1: An Overview of Digital Art
32_	Chapter 2: Digital Imaging
76_	Chapter 3: Digital Sculpture
98_	Chapter 4: Digital Installation and Virtual Reality
122_	Chapter 5: Performance, Music and Sound Art
142_	Chapter 6: Digital Animation and Video
164_	Chapter 7: Software, Database and Game Art
184_	Chapter 8: Net Art
206_	Chapter 9: The Future of Digital Art
210_	A Timeline of Digital Art and Technology
212_	Glossary
214_	Further Reading
215_	Digital Art Resources
216_	Artists' websites
218_	Image Credits
222_	Index

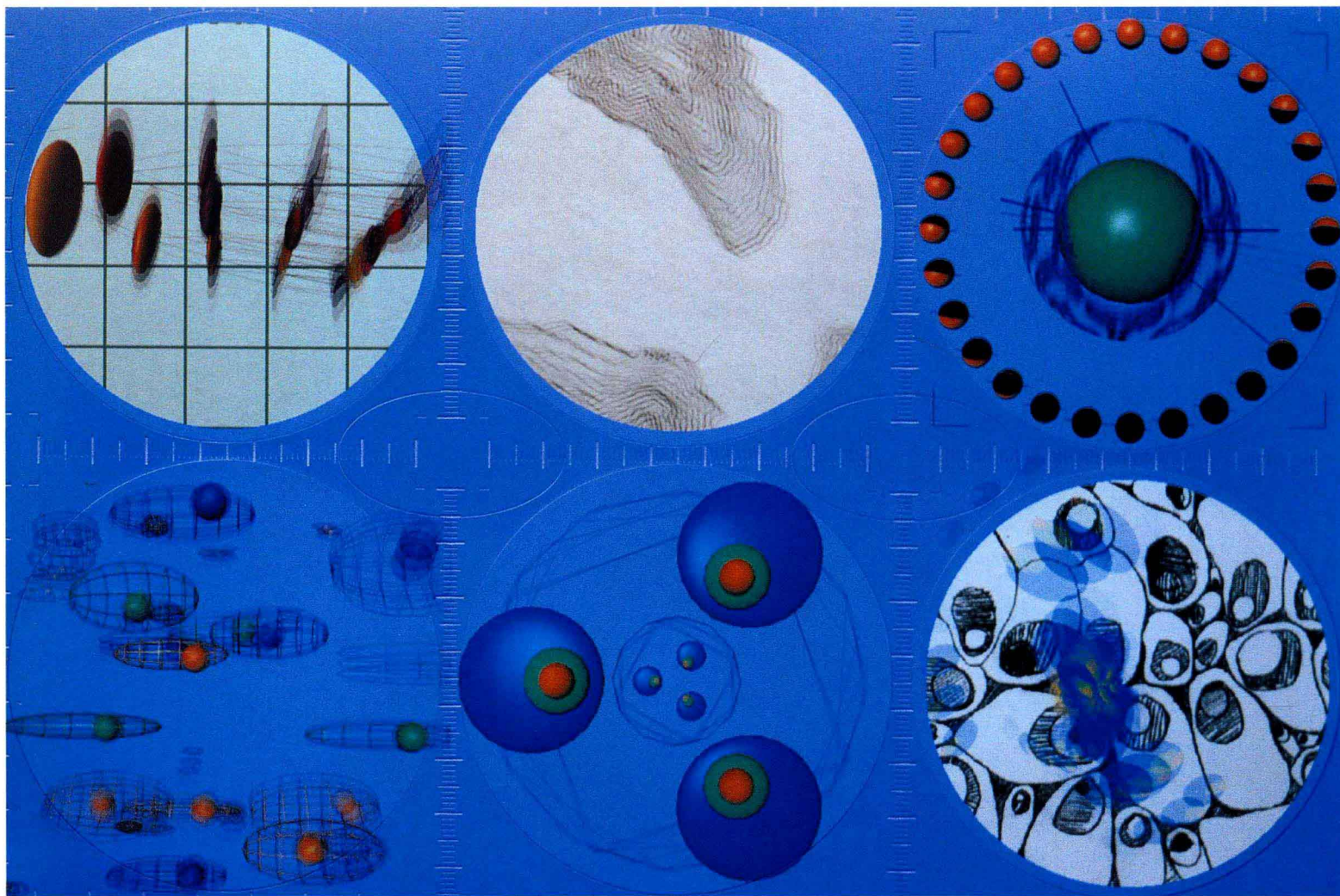
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Acknowledgments

I dedicate this book to my sister Alice, whose encouragement and support over the years have nurtured my interest in art. I would like to thank David Rhodes, President of the School of Visual Arts, for his generous support of this project; Deborah Hussey and Maryalice Quinn, whose hard work, help and energy made this book a reality; and Joe Meyer and my graduate assistants Arlene Ducao and Ju Hyun Yoo, for their help with research and with the production of the book. Finally, I'd like to thank sincerely all of the artists who have contributed their work to this endeavour.

PREFACE

My involvement with digital art began in 1976, when I was a graduate student at Syracuse University. I was enrolled in an experimental studio course in which we created drawings by programming the university's mainframe computer. Although computer graphics were still at an embryonic stage, the potential of this new medium was apparent. The computer could draw with far more precision than the human hand, and the mathematical nature of programming offered me new conceptual and creative territory.

Over the past three decades I have seen incredible developments in digital art, and in recent years there has been a growing international interest in the art form. Digital tools have become ubiquitous, and the number of artists using them continues to grow. Several international art centres have supported digital art for many years, and an increasing number of museums and galleries around the world are now exhibiting this work.

The idea for this book grew out of the tenth anniversary celebration of the New York Digital Salon, established in 1993 to host an annual exhibition of digital art in New York and to foster an international awareness of art created with the latest technology. It is my hope that *Art of the Digital Age* will achieve the same aim: that by defining digital art through an overview of its history, its recent advances and many of most prominent practitioners, this book will serve to inspire those who have not yet begun to create in the digital realm.

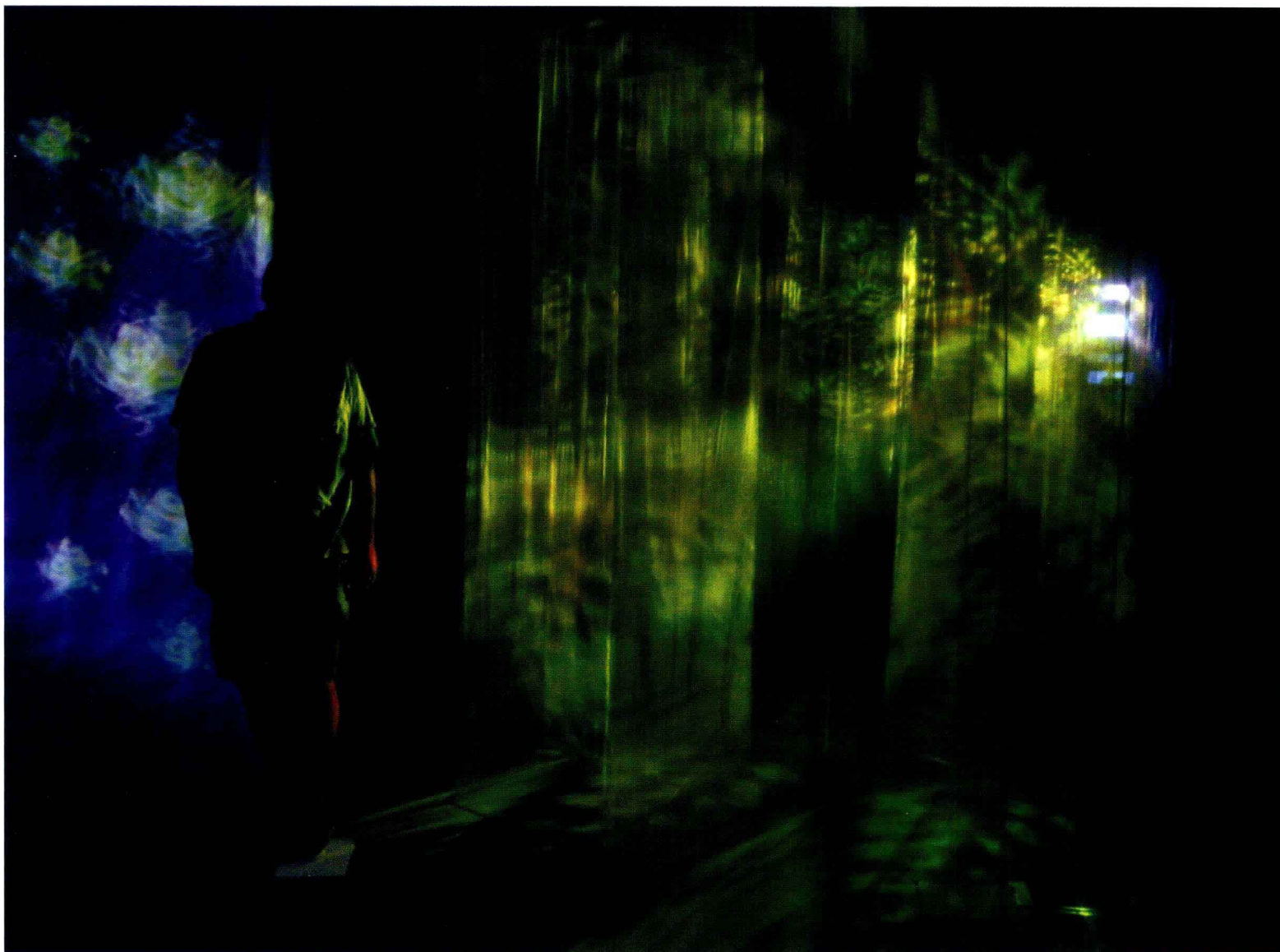
Bruce Wands

AN OVERVIEW OF DIGITAL ART

Digital technologies have had, and continue to have, a profound effect on contemporary art and culture. Born out of the electronic revolution, the globalization of mass media, and the internet, digital culture holds even more potential for societal change than television and radio once did. Whereas television and radio are broadcast media and provide only one-way communication, the internet offers the opportunity of interacting with others and allows access to a far greater range of information. We are at a time of unprecedented growth and innovation in the world of digital technologies, and the place of digital media in contemporary society and in our daily lives has been firmly established.

Contemporary artists are using the internet as a new art medium and adopting digital tools and techniques as part of their creative process. The computer has enabled artists to create works, and new types of work, never before possible: intricate images that could not be created by hand; sculptures formed in three-dimensional databases rather than in stone or metal; interactive installations that involve internet participation from around the globe; and virtual worlds within which artificial life forms live and die.

As the boundaries of digital art expanded during the mid-1990s, museums began to take a serious interest in its development. Significant exhibitions of digital art have been held in recent years, showing its increasingly widespread acceptance throughout the contemporary art community. In addition, museums and galleries are bringing their collections of traditional art online, making them easily accessible. As a result, the role and presence of art in society is undergoing considerable change and growth. The art experience extends now to homes, cybercafes and any public or private space where there is internet access or a local area network.

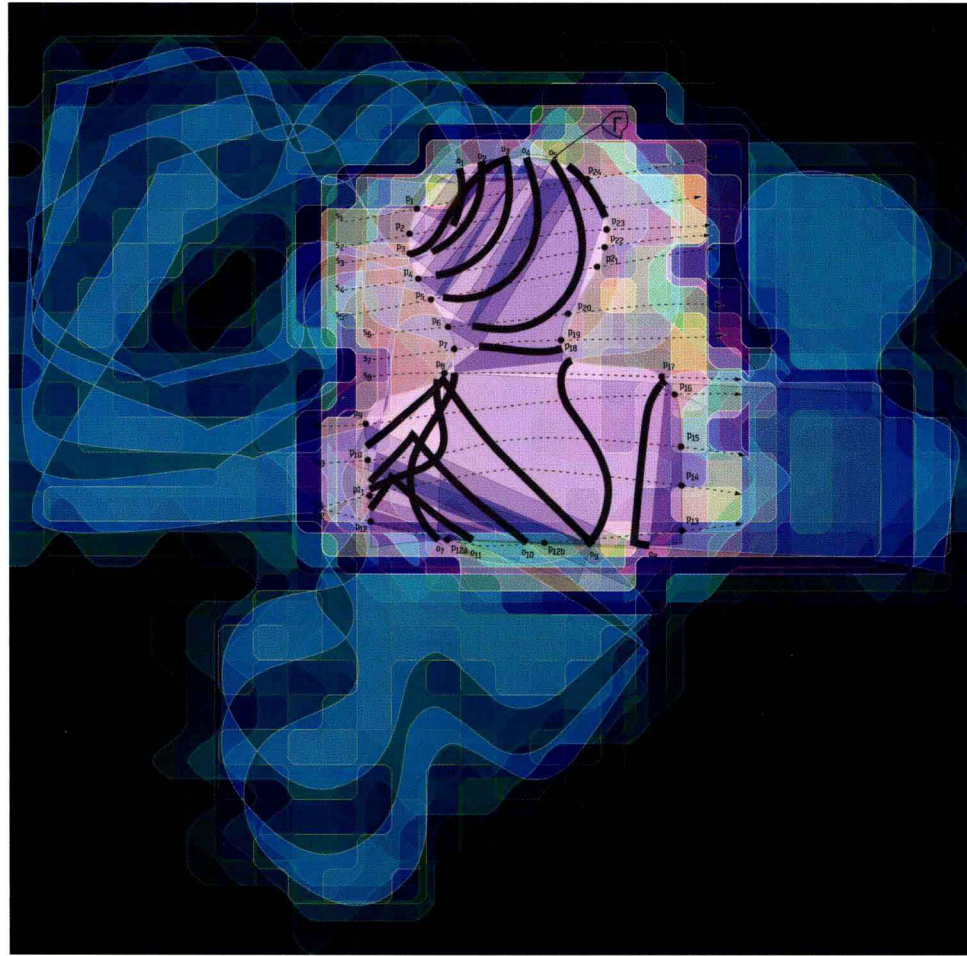


**BONNIE MITCHELL,
ELAINIE LILLIOS AND
GREG CORNELIUS,
EXPERIENTIAL EXTREMISM,
2003-04. INTERACTIVE
AUDIOVISUAL INSTALLATION,
6 X 9 M (20 X 30 FT)**

Experiential Extremism is an immersive interactive installation that uses time-based visual and sonic events to control emotional and physical responses. The piece consists of three networked computers that control real-time, multi-layered sonic and visual events, all of which are triggered by electronic sensors. The project explores the concept of extremism in today's society.

**SHERBAN EPURÉ,
CONDOTTIERE, 2003. INKJET
PRINT, VARIABLE DIMENSIONS**

Sherban Epuré uses the term 'metaphorms' to describe the results of his mathematically based image-generating process. This work, produced using algorithms, is formed by the interaction of colour with a simple geometric shape. One intent of Epuré's imaging is to forge a link between Western technology and Eastern spirituality.



What is digital art?

Fundamental to any explanation of digital art is an understanding of the context in which we view it – the 'art experience' itself. It can be said that great works of art communicate simultaneously on four levels: sensory, emotional, mental and spiritual. It is this synchronicity of body, heart and mind that helps to define our complex reactions to art, as well as to the everyday world.

The power that electronic and digital media have on us is partly explained by the way in which they appeal to our senses. One simple example is our involuntary visual attraction to motion. If we enter a room with two computers, one showing a static image and the other a moving image, our attention will automatically turn towards the movement. Sound, on the other hand, fills the space we are in and works on us in different ways. While vision and hearing are the dominant physical senses where art is concerned, other senses also have a part to play. Touch, in particular, is an important component in experiencing many contemporary artworks. The traditional museum and gallery etiquette of 'Look, don't touch' cannot be applied to interactive art, which requires the participation of the viewer and can be more accurately described as 'Look, please touch.'

The emotional and intellectual aspects of the ways we experience art are essentially a matter of how effectively an artwork can elicit a response from us. If an artwork fails to awaken any curiosity or to engage viewers on an emotional level, they are unlikely to spend any significant time with it. We may also experience a spiritual link with a work of art – a message that is communicated on an inspirational or non-intellectual, non-emotional level. Simply put, the art touches one's soul. When all of these elements combine, the art experience can become a deeply moving one.

Our experience of viewing art is further influenced by the venue. In the past, where an artwork was exhibited was often a means by which it was classified. If it was in a museum or gallery, it was considered 'art'. There is much to be said for this perspective, since curators are recognized experts in their fields and have an informed knowledge of the pieces they select for exhibition. The art historian also has a vital role, since critical writings associated with a particular artwork or artist help to create credibility.

It should be remembered that making art is far removed from the viewers' experience of it. Artists tend to be more involved with the process than with the end result, and approach the creation of an artwork as both experimental and evolutionary – something especially true of digital artists. Having chosen to use a computer to visualize a work, however, many go on to create the piece using traditional media. The forms that digital art can take – both traditional and new – can be blended in many ways, which sometimes makes the distinctions between them unclear. Traditional forms of digital art include prints, photography, sculpture, installations, video, film, animation, music and performance. New forms that are unique to the digital realm include virtual reality, software art and net art. A more complete understanding of digital art will emerge as we examine its relationship to technology and contemporary art, the way in which these artworks are created, and the inner make-up of the digital artist.

Art and technology

Digital art is intimately linked to science and technology, which are fundamental to its creation and physical substance. Arguments of technological determinism in art proclaim that it is the development of technology that has allowed artists to create these works. However, if we look at art as a creative reflection of modern culture, then digital art can be considered a subset of contemporary art. Since the adjective 'digital' is often ambiguous, and does not clearly define the work's final form, it is here applied to artworks in which artists have used the computer as a primary tool, medium and/or creative partner.

Many curators and critics see digital art as an evolutionary development of the mechanical and electrical processes of photography, film and video. This approach forms part of a larger historical perspective, in which photography itself evolved from drawing and painting. Although initially there was considerable resistance to the concept of photography as fine art, it is now widely recognized as such and occupies a place in the collections of major museums worldwide. Film is a logical evolutionary step from

photography: the physical nature of the medium is identical, although differently formatted in order to move through the camera quickly and to capture motion. Video, too, can be thought of as usurping film technology. Likewise, the internet is often considered a development of mass media, best exemplified by radio and television. One interesting aspect of mass media is its ever-increasing inclusivity: while films can contain photographs and video can contain film content and photographs, the internet is capable of communicating through text, image, sound and such time-based media as video and animation. Although an evolutionary approach to digital art based on advances in technology offers only an elementary understanding of how it relates to popular culture, it does provide a historical framework for the development of digital tools and other media now available to contemporary artists.

One dilemma that has arisen with the use of digital technology in art-making is the concept of 'the original'. Paintings are original works of art, traditional printmakers refine a work to end up with an artist proof that sets the standard for an edition of prints, and even photographers have adopted the concept of editions and originals. Since a digital file is stored electronically and can be reproduced with all its elements intact, how does it relate to the concept of the 'original'? Some artists make only a single print from their file and thus have a single original, others make limited editions of their work, and some create open editions. Needless to say, the value of an individual print in the commercial art world is dependent on how many multiples are in circulation, as well as the strength of the market for which it is intended.

A portrait of the digital artist

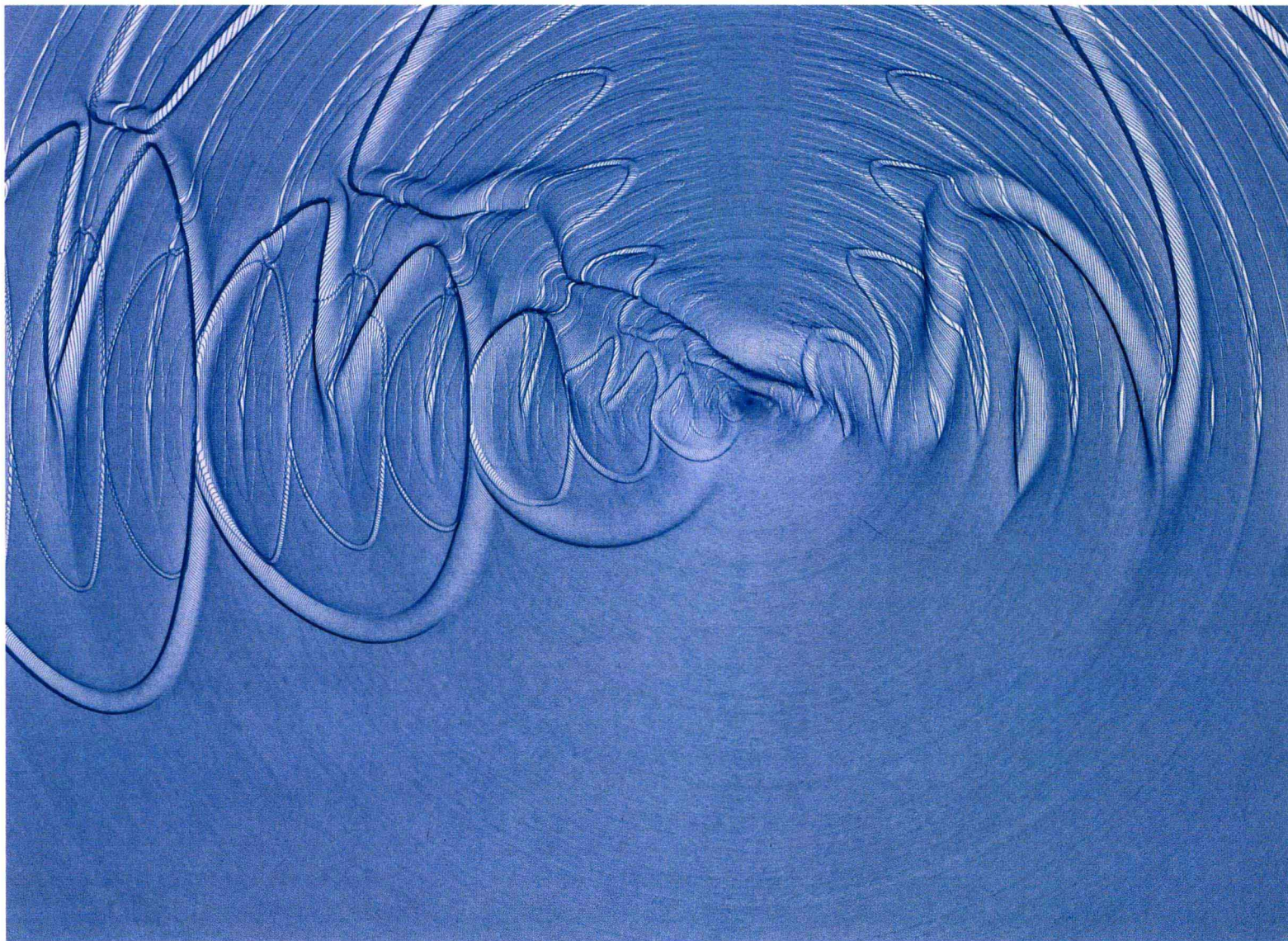
One way of gaining a better understanding of digital art is to consider the people who create it. Although all are involved in the familiar artistic processes of self-expression and discovery, digital artists can be characterized in several ways: some are also computer programmers who write their own code in order to create the work, whereas others collaborate with programmers and computer technicians in order to realize their creations. Even in these collaborative relationships, artists must have an understanding of both the potential and the limitations of using digital tools, as well as a fairly high level of technical knowledge. Technological curiosity is thus an important facet in the make-up of a digital artist.

Another aspect common to digital artists is a desire to create artworks using new tools and techniques. Although what is 'new' is continuously evolving, many artists were first attracted to digital tools because they offered creative opportunities not possible through traditional means. One benefit that digital tools offer is increased authorial control. This can be both a blessing and a curse, since greater control often means that creative 'accidents' happen less often. On the other hand, deliberately created random effects can provide artists with results they may not have previously considered. For example, an artist may create software that progressively changes an image over time, letting the computer create several hundred variations of an image, then selecting the final images they like best.



JAVIER ROCA, TOPOGRAPHIC HEAD, 2002. INKJET PRINT, 99.1 X 32.5 CM (39 X 12.8 IN)

Making full use of the unprecedented level of control that computer software offers over light, shadow and colour, Javier Roca combines traditional figurative illustration with layered elements of the techno-surreal.



**JEAN-PIERRE HÉBERT,
UN CERCLE TROP ÉTROIT:
DÉRIVÉE SECONDE, 1995.
INK ON PAPER DRAWING,
48 X 35 CM (18 $\frac{7}{8}$ X 13 $\frac{3}{4}$ IN)**

Jean-Pierre Hébert is considered one of the pioneers of digital art. A self-defined 'algorist', Hébert uses algorithms as the core of his software programmes and to drive his pen plotters. In most of his works, he incorporates traditional tools such as pens, pencils, brushes, magnets and pendulums, along with exploring alternative media such as sound and sand.