NATIONAL COLLEGE OF ART AND DESIGN

FACULTY OF DESIGN

DEPARTMENT OF FASHION AND TEXTILES

THE EMERGENCE OF 'SECOND NATURE' IN FASHION

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Submitted to the Faculty of History of Art and Design and Complementary Studies in candidacy for the degree of Bachelor of Design in Fashion Design.

1997

CONTENTS

The Emergence of 'Second Nature' in Fashion

		Page No.
INTRODUCTION		**6**
CHAPTER 1	**Cyber Fashion**	**12**
	Cyber Culture	
CHAPTER 2	**The Emergence of Interface Design**	**17**
CHAPTER 3	**Fashion Interface Design**	**23**
	a) Fabric Interface Design	
	b) High-Street Fashion Interface	
	c) Designer Interface	
CHAPTER 4	**Second Nature**	**44**
	a) 'Human Interface', the Birth of the Cyborg	
	b) Stelarc and the Theory of 'Second Nature'	
	c) Medical Advancement in 'Interface'.	
CHAPTER 5	**The Designer Cyborg**	**53**
	a) Technology Creates the Ideal	
	b) The Cyber Doll	
	c) The Future of Cyber Fashion	
CONCLUSION		**70**
BIBLIOGRAPHY		**72**

LIST OF ILLUSTRATIONS

		Page No.
Fig.1	The Mask, Face Facts, Sunday Times Magazine	5
Fig.2	Pierre Cardin, 1968 Cosmo Collection	7
Fig.3	Stelarc with Computer Enhancements, 1996	10
Fig.4	Orlan in mid-Operation, Arena 1995	11
Fig.5	Calvin Klein Advertisement, 1996	13
Fig.6	Mobile PC, Wired Mag, 1997	15
Fig.7	W&LT, Spring / Summer '97, from Uomo Collezioni	16
Fig.8	Robocop, Dr Who and Stelarc, Focus 1997	18
Fig.9	Space Odyssey, 2001, from 1968 Armani 1997	19
Fig.10	Pocket P.C., Irish Times, 1996	22
Fig.11	Philips Computer Clothing, 1996	24
Fig.12	Lycra Advertisement from Du Pont, 1996	26
Fig.13	Tactel Advertisement for Du Pont, 1996	27
Fig.14	Tactel Sample, 1996	29
Fig.15	Tactel Sample from Du Pont, 1996	30
Fig.16	Tactel Diagram from Du Pont	31
Fig.17	Nike Advertisement, 1996	32
Fig.18	Polo Sport, Ralph Laurent Advertisements, Arena 1996	33
Fig.19	Polo Sport, Ralph Laurent Advertisements, Arena 1996	34
Fig.20	Stone Island Nylon Jacket, Arena, 1996	36
Fig.21	Darth Vader	37
Fig.22	W&LT, Uomo Collezioni, 1996	38
Fig.23	W&LT, Uomo Collezioni, 1996	40
Fig.24	John Rocha, Remoulded Rubber Tyre Jacket, Sunday Times Magazine, 1996	41
Fig.25	Carol Christian Poell. Kevlar Jeans	43
Fig.26	Armani Advertisement, 1997	46
Fig.27	Stelarc Performing, 1994, Arch. Mag.	48
Fig.28	Prosthetic Legs, Arena 1995 Advertisement for Colors Magazine	50
Fig.29	A Cochlear Implant, Focus Magazine, 1997	52
Fig.30	Corset, The Unfashionable Human Body, 1972	54
Fig.31	Pamela Anderson on the Internet, Arena 1996	55
Fig.32	The Mask by Dr. Marquardt, Sunday Times Mag., 1996	57
Fig.33	Cindy Jackson, Focus Magazine, 1997	60
Fig.34	Vogue, January 1997, Spring / Summer Collections	61
Fig.35	Orlan, 'Before and After' Operation	62
Fig.36	Super Model Advertisements, Sunday Times Mag., 1996	64
Fig.37	You Magazine Advertisement, Vogue 1996	66
Fig.38	Virtual Reality Headset, Leonardo Mag., 1997	67
Fig.39	Computer Wire Frame of the Body, Architectural Design Mag., 1995	69

'Although the human shape was designed by the greatest of artists, his taste does not necessarily coincide with ours; at no time did man accept the image in which he was created as final ...'

(Rudofsky, B., The Unfashionable Human Body, 1972)

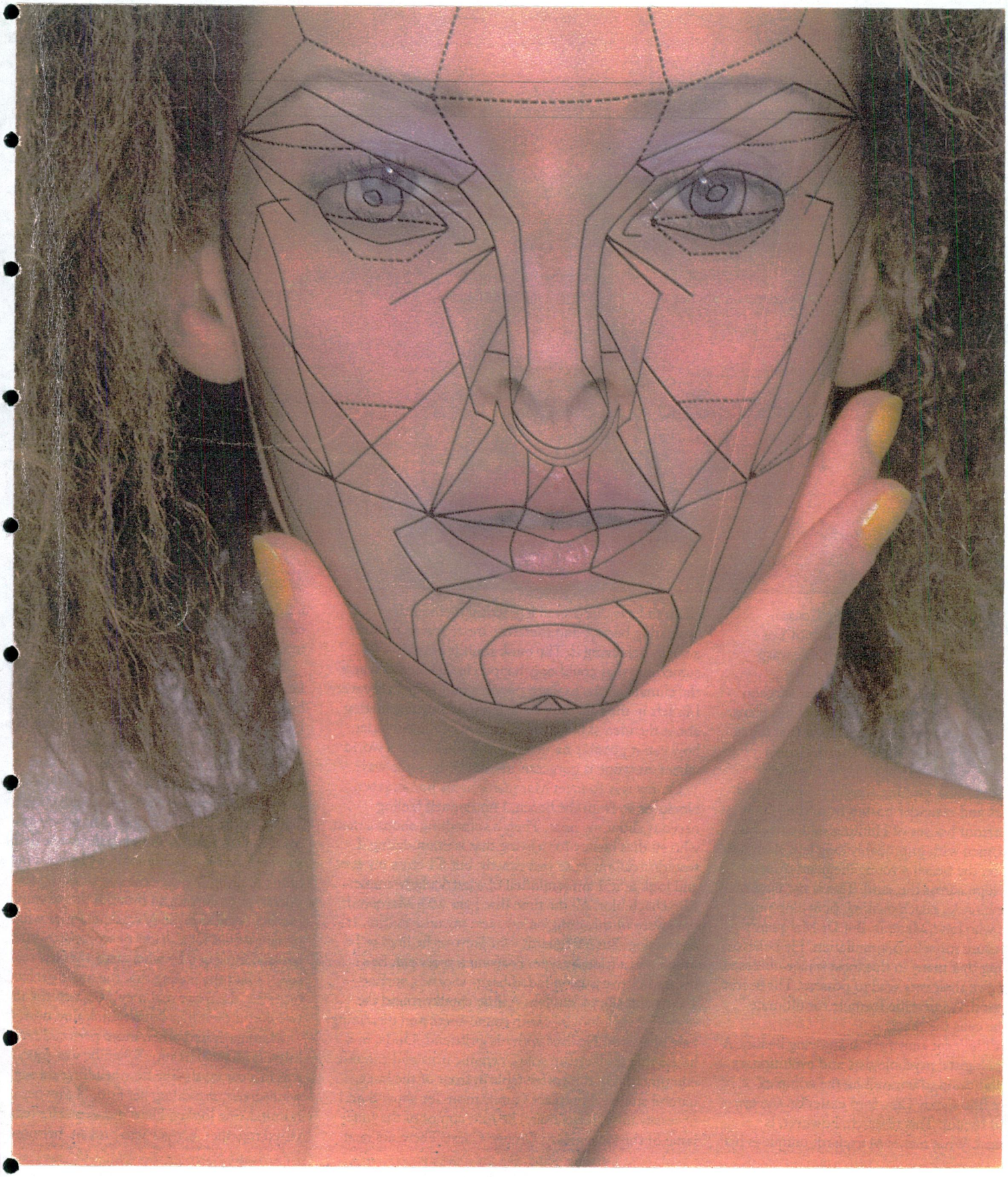


Fig.1 **The Mask, Face Facts, Sunday Times Magazine, 1996**

INTRODUCTION

Second Nature is a term used to describe the new reality created by man through technology. It is a term used by Sherry Turkle in her book, 'The Second Self', discussing the discovery of 'self' within the context of a technological environment. 'Second Nature' may be seen as the relationship between this 'new self' and the term for our acceptance of the new reality : the machine.

The growing relationship between us and our creation, technology is termed 'Interface'. Interface describes the interactive relationship between man and machine, which is rapidly developing. Developments in technology have always had an important impact in the ways in which fashion was produced and consumed. The same developments have also had an impact on the appearance of clothes. For example, the sewing machine gave rise to increased numbers of straight seams, often in the form of flounces, used to elaborate the dresses of the 1850's. Space age developments inspired the astronaut-look of the 1960's (Fig. 2). Although technology has played a significant role in the fashions of both sexes, it is in menswear that it has been visually expressed the most. Now menswear designers are approaching men's fashions with this strongly male theme. There is also a subtler form of Cyber fashion that crosses all areas of fashion and textiles. This thesis proposes that the modern relationship between fashion and technology is becoming much more profound. Indeed, that developments in technology are altering the very nature of fashion and its terms of reference. The body has always been within the term of reference of fashion. But now the new relationship between fashion and technology has major implications for the role of the body in fashion.

The role of technology in fashion is becoming more substantial but less overt, more subtle. As we become more and more familiar with technology, we allow it to play a bigger part in our lives. We are no longer scared of it. It is no longer alien to us, it is our creation, for us. In the future, it will become more and more a part of us. As it reshapes our society, it also alters our idea of the fashionable body.

Fig.2 **Pierre Cardin, 1968, Cosmo Collection**

This thesis looks at the role of technology or Second Nature in contemporary fashion. It examines the expression of 'cyber-culture' in contemporary clothes and textiles. It questions whether this expression is all style without meaning, or whether the current futuristic trends express a fundamental change in the nature of clothing, textiles, technology, fashionable living and their inter-relationships. The thesis suggests that current trends in fashion are operating on two parallel levels, one of which is a passing style or fad and the other which will have a significant impact on our bodies and the way we approach dressing in the next century.

It further suggests that the influence of technology and its relationship to fashion will fundamentally alter our vision and understanding of fashion. Our current concept of fashion involves adopting fashionable physical attitudes, ideas and making the best of the body we've got through manipulation of fabrics, colour, cut and textiles, as well as through diet and exercise.

In the next century, our concept of fashion will be altered to incorporate a much more invasive role for technology and 'interface design'. The new face of fashion will comfortably incorporate synthetic body parts and even bodies. In this new concept of fashion, fabrics will not just clothe the body, but interact with it and enhance its physical properties.

The main sources for this thesis are Nicholas Negroponte, from the Institute of Technology in Massachusetts, who in his book, 'Being Digital', 1995, discusses how 'interface design' in the clothing industry, will make our lives easier as new 'techno-functions' are added to clothing. Mark Dery in 'Escape Velocity', 1996, discusses the extent of the likelihood of man's conversion into the Cyborg, culturally and physically. Mark Slouka, in 'War of the Worlds', 1995, reinforces the debate saying that the Cyborg conversion has begun and did in fact begin with the introduction of the first machine into our lives. He argues that as man-made realities, like television, are considered more and more real, our sense of what is natural and real is altered.

The works of Performance Artists 'Stelarc' and 'Orlan', where technology is used to control the body, are considered to encapsulate these ideals (Figs. 3 + 4).

'Second Nature' is the title to a song on a recent 'Electronic' album, 'Raise the Pressure';

> 'We are distanced from reality by a life we do not lead, therefore we are also distanced from one another. We experience the world through television and use drugs to enjoy social communication. We use machines instead of our bodies and then when our bodies fail us, machines keep us alive.'
>
> (Electronic, Raise the Pressure inlay, 1995)

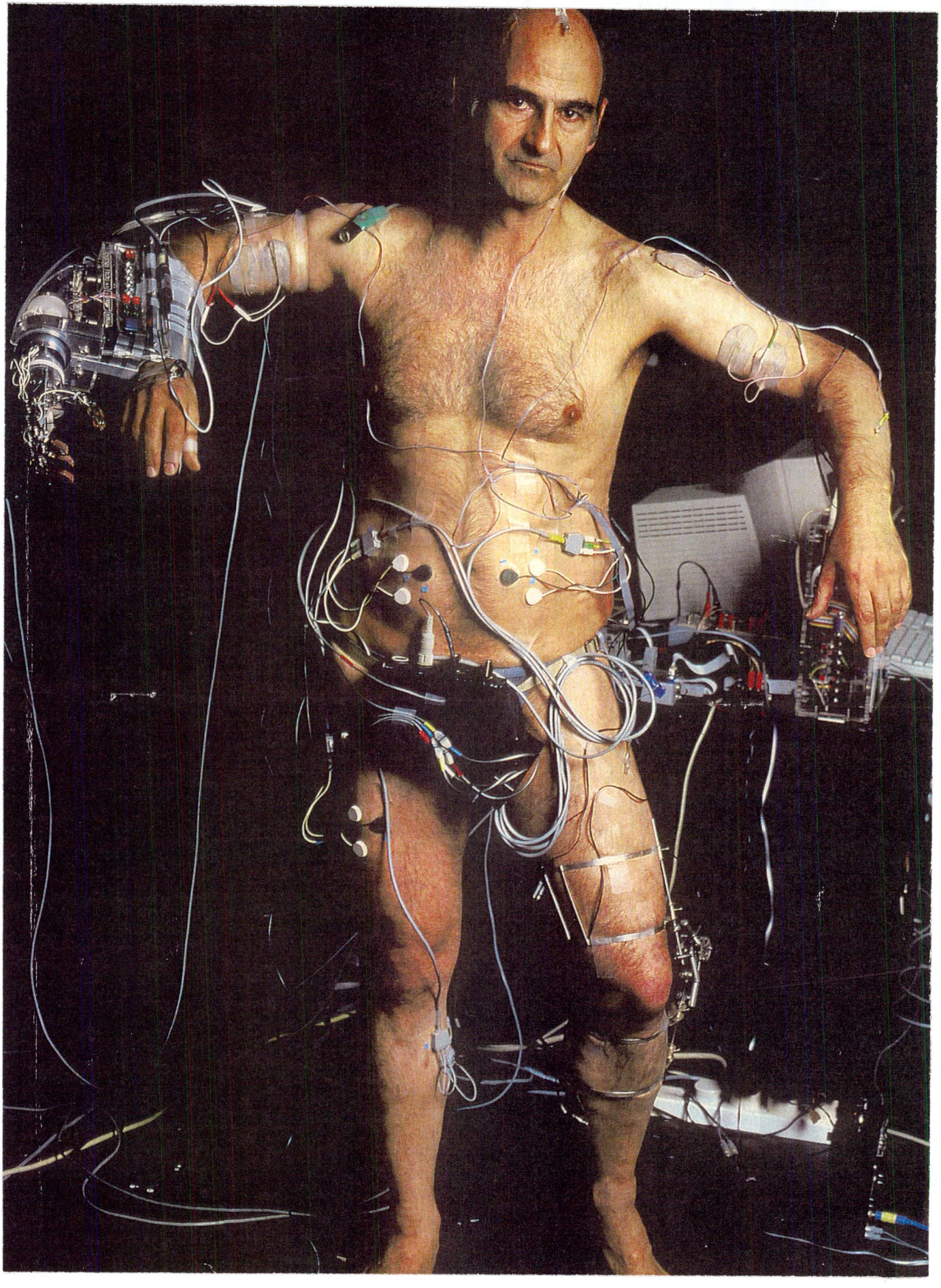


Fig.3 **Stelarc Performing his Post-Human, Computer Enhanced Body Piece (Arch. Des. 1995)**

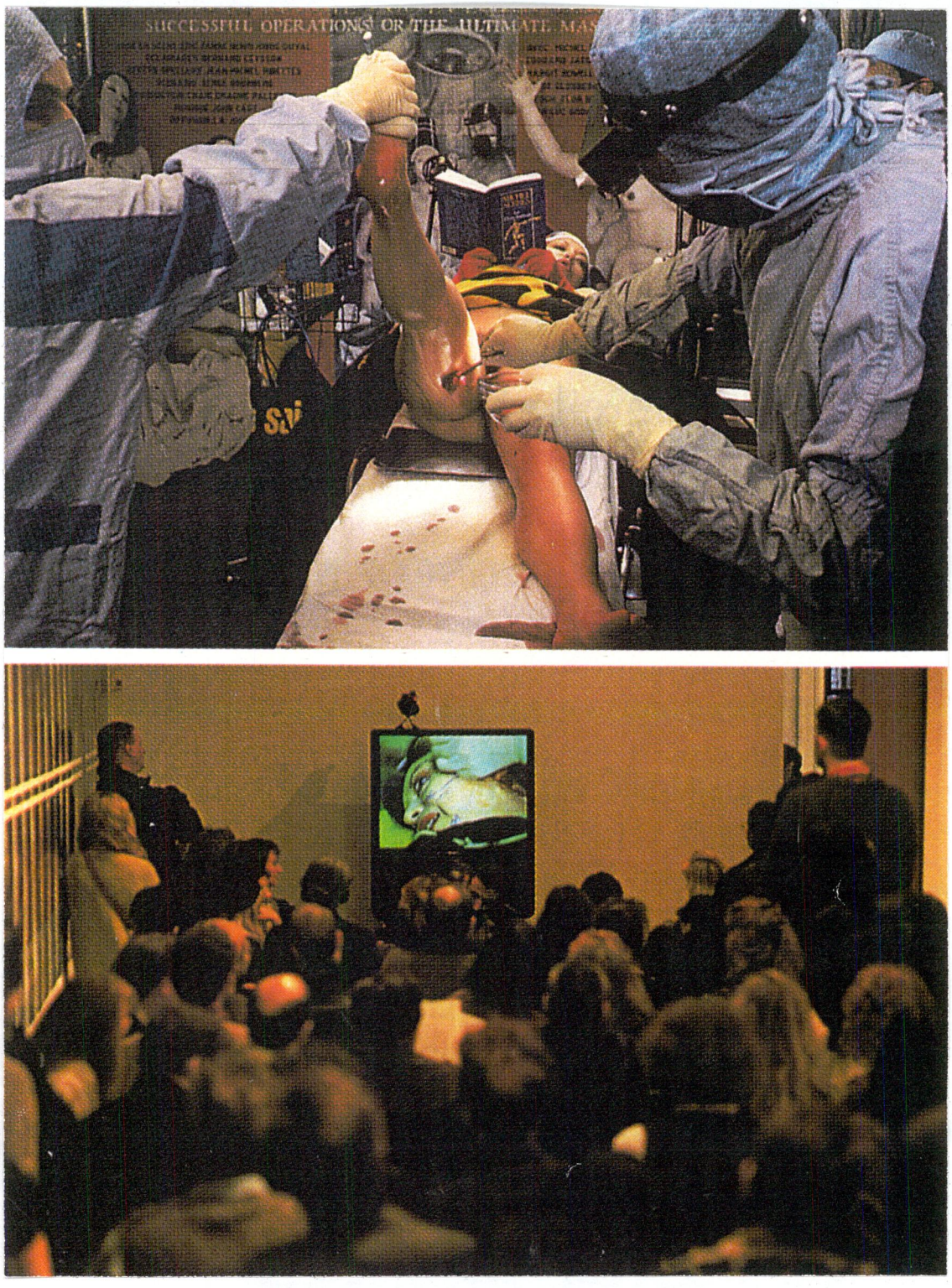


Fig.4 **Orlan in mid-Operation, Part of her Performance Art Piece, Arena (1995)**

CHAPTER ONE

Cyber Fashion

CHAPTER ONE
'CYBER FASHION'

Cyber Culture

Cyber-culture originated from the late eighties rave and acid house club scene which started as a new exciting sub-culture. The 'Techno' scene split from this to create a hard electronic style, 'Safe' from fashion trends they dressed in;

> 'Anti-radiation suits, and masks, flak jackets and urban commando camouflage.'
>
> (Polhemus, Ted, 1994, pp.124-127)

'Cyber punks' aspire to a technology run society, surfing on 'the net' and proposing a network global system without hierarchy. It is the 'Mad Max' vigilante approach to techno-culture. The symbols of cyber-culture have been adopted by popular culture and fashion. Through the expression of the Internet, the appearance of cyber fashions on fashion catwalks and the popularity of dance music. Our acceptance of, and dependence on technology in the 1990's is arguably leading to the fulfilment of cyber punk ideals.

Fashion by definition is fickle, ever-changing and expressive. It's turbulence is what keeps it a profit making industry. It reflects the social changes in society. It sets trends. It instructs us in how to dress and how to view and present our bodies. Indeed increasingly, it tells us how to shape our bodies (Fig. 5).

Technology has played a role in shaping fashion for a long time. Often in ways that can be seen as restrictive, limiting and imprisoning, like the corset or the bustle.

> 'Bored with the natural shape of his body, he delights in getting away from himself, and to judge from past and present performances, the resources at hand for making his escape are inexhaustible.'
>
> (Rudofsky, 1972, p.94)

This century, especially the last two decades, has seen the growing consciousness of 'interface design', with people becoming more conscious of designs working with the body instead of just adorning it. The technology of interactive designing aims to

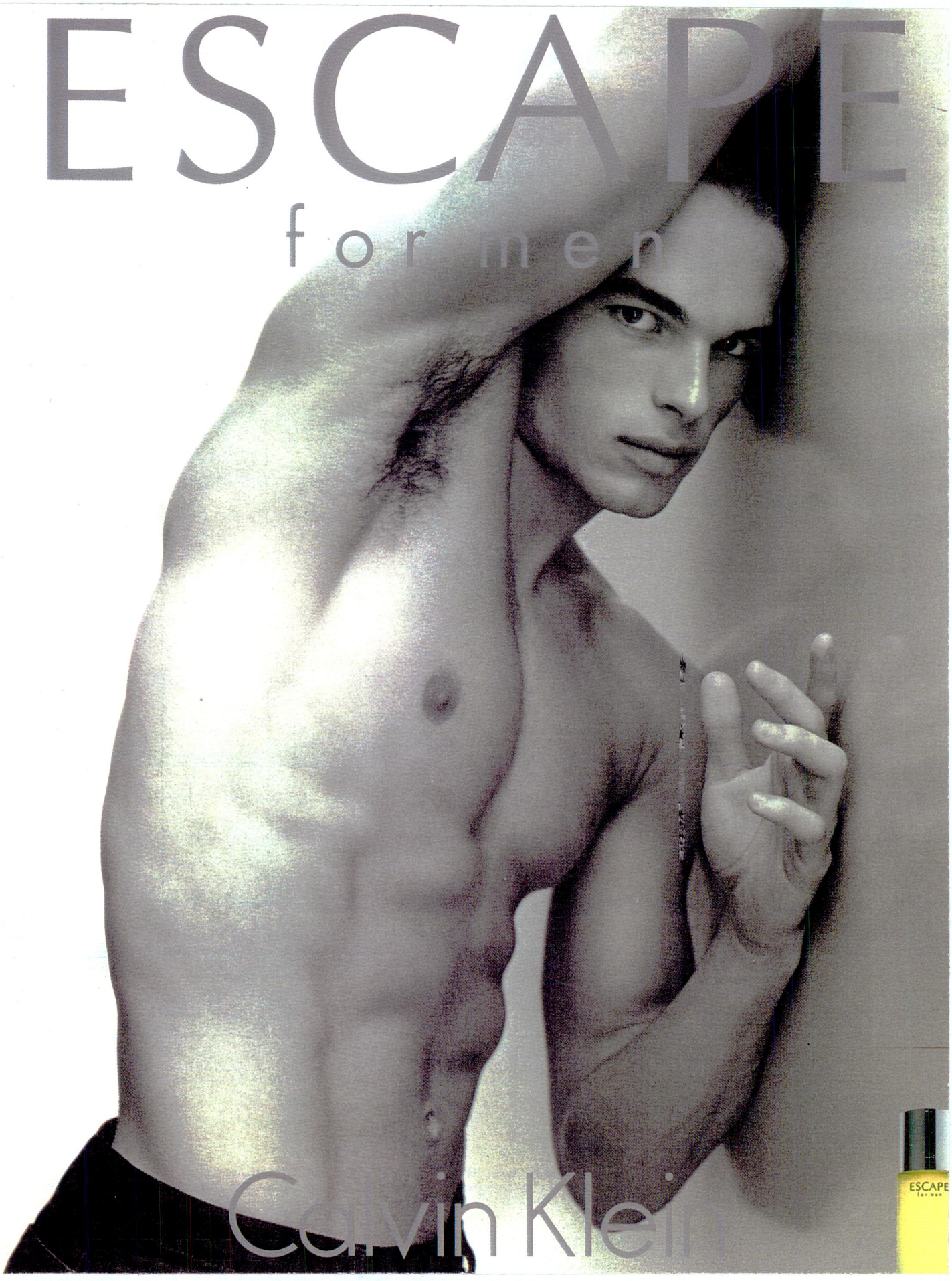


Fig.5 **Calvin Klein Advertisement, 1996**

liberate and enhance the body. Although the technology of the corset and bustle were altering the body, they did not work with it. They imprisoned and hindered it.

The miniaturisation and simplification of computerised machinery for the user, has brought the machine and the body together, interacting in endlessly different capacities during the course of everyday life.

> 'It has been just over a decade since the computer revolution moved beyond the esoteric sub-cultures of researchers and hobbyists to become a mass culture phenomenon with the debut of the IBM Personal Computer in late '61 and the Apple Macintosh in early '84.'
>
> (Dery, 1996, p.5) (Fig. 6)

Cyberculture has become popular culture. Computers are accessible to everyone. With the growing familiarity of the use of the 'hi-tech' (the use of computerised machinery, the new) people demand and expect interaction with technology. The impact of cyberculture has meant that cyber fashions in clothes have come and gone; glitsy science-fiction fads, decorative impractical garments, from another planet, appears on the cat-walks from time to time (Fig. 7). But now interface design has created a much more functional, subtle form of cyber fashion that is more substantial and arguably, here to stay.

Technology of the 1990's has brought us 'clever cloths' and 'hi-performance' (hi-performance fabric has added functions, it more than warms and clothes the body, e.g. waterproof) fabrics.

> 'They have already had an astonishing impact on our lives and are set to enter an almost de-materialised sphere of existence, bringing invisible benefits, magic to our clothing.'
>
> (Du Pont article, Alchemy, p.1)

The adorning garment is becoming less significant in fashion as the functional takes over. This is obviously leading to a growing importance for technology in the fashion arena and possibly vice-versa. The cyber person rather than being the goofy mad scientist type, is becoming more fashionable. Functionalising itself with portable phones, portable personal computers, pagers and C.D. Walkmen. Sipping coffees in cyber cafes and listening to techno-music.

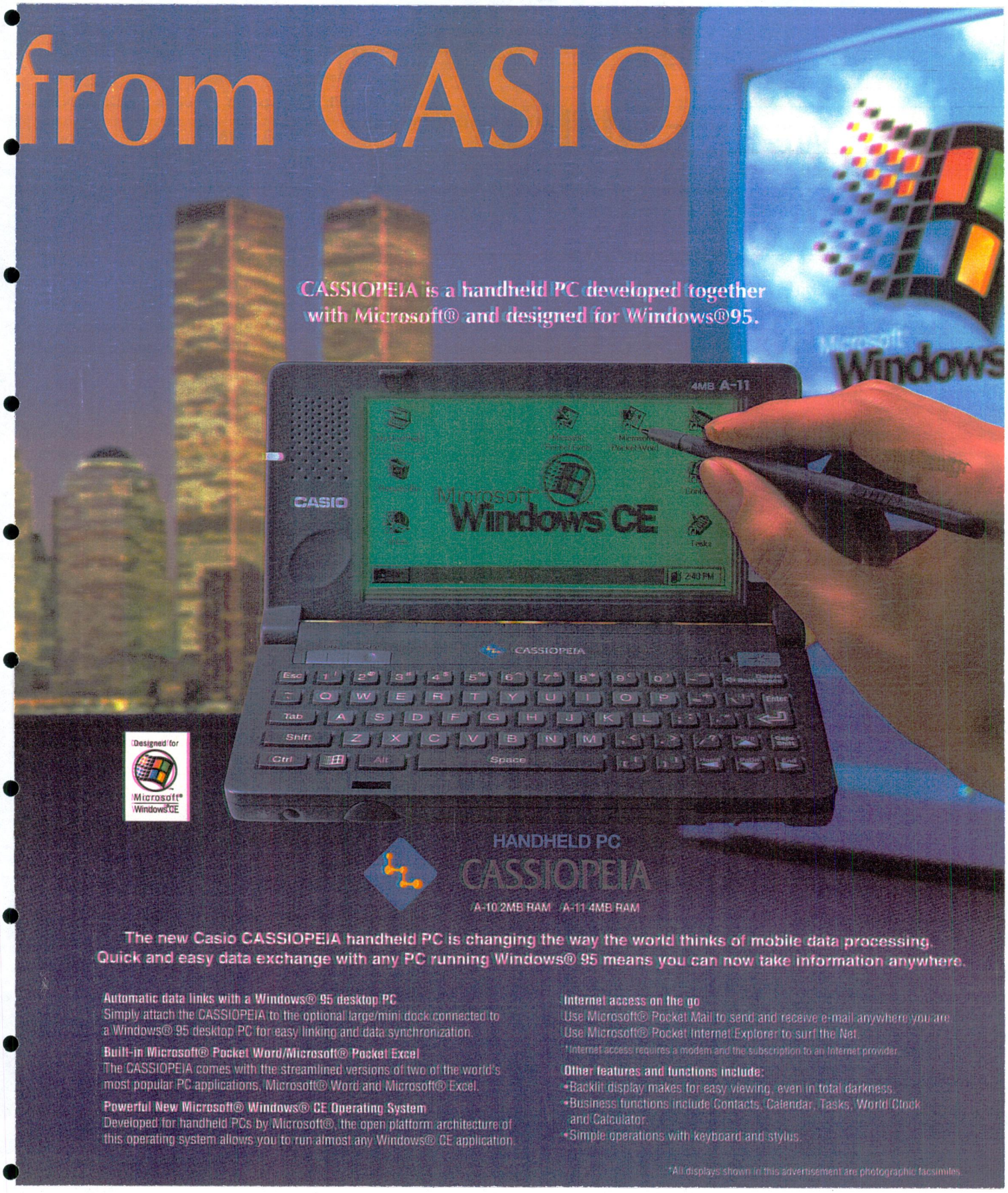


Fig.6 Mobile P.C., Wired Mag, 1997

Fig.7 **W&LT Spring / Summer 1997 from Uomo Collezioni**

CHAPTER TWO

The Emergence of Interface Design

CHAPTER TWO
THE EMERGENCE OF 'INTERFACE' DESIGN

Technology has been the means of man's advancement and that of society, since the beginning of time. In the twentieth century our advances have been rapid and extensive.

> 'We are moving at dizzying speed, from a reassuringly solid age of hardware into a disconcertingly wraithlike age of software, in which circuitry too small to see and codes too complex to fully comprehend controls more and more of the world around us.'
>
> (Dery, 1996, p.4)

Interface has always been something that has shocked and excited as a concept. Science-fiction characters, half-human, half-machine have thrilled us for decades, e.g. Robocop, Terminator and Cyberman from Dr. Who (Fig. 8).

> 'It comes down to our collective fascination with cyborg. In Britain, it all began with the Cyberman in Dr. Who.'
>
> (Focus Magazine, Cyborg, p.56, Jan '97)

But today are these fictional characters really so far fetched ? The race to the moon in the 1960's is a landmark of this century, as man finally escaped the boundaries of the earth. This lead to a new enthusiasm for space and the future. Space-Age fashions emerged as seasonal fads. They were bold, brash and decorative. The clothes and styles were representational and kitch; e.g., Paco Rabanne, Courrèges and Pierre Cardin (Fig. 9).

The enthusiasm for the space race was evident, the filming of '2001 A Space Odyssey' began in 1968. Fashion was strongly influenced.

> 'Cardin, always preoccupied with futuristic imaginings, was fascinated by the conquest of space and the paraphernalia that accompanied each launch.'
>
> (Cardin, Past Present Future, 1991)

Cardin launched his 'Cosmo' range in 1966. It was uni-sex, catering for all. Jersey rib sweats that were clinging to the body covered by tunics and pinafores. The clothes were accessorised with space visors and caps. Cardin 'even went so far as to release' Cardine, a synthetic fabric. That could be moulded to create beaded evening dresses.

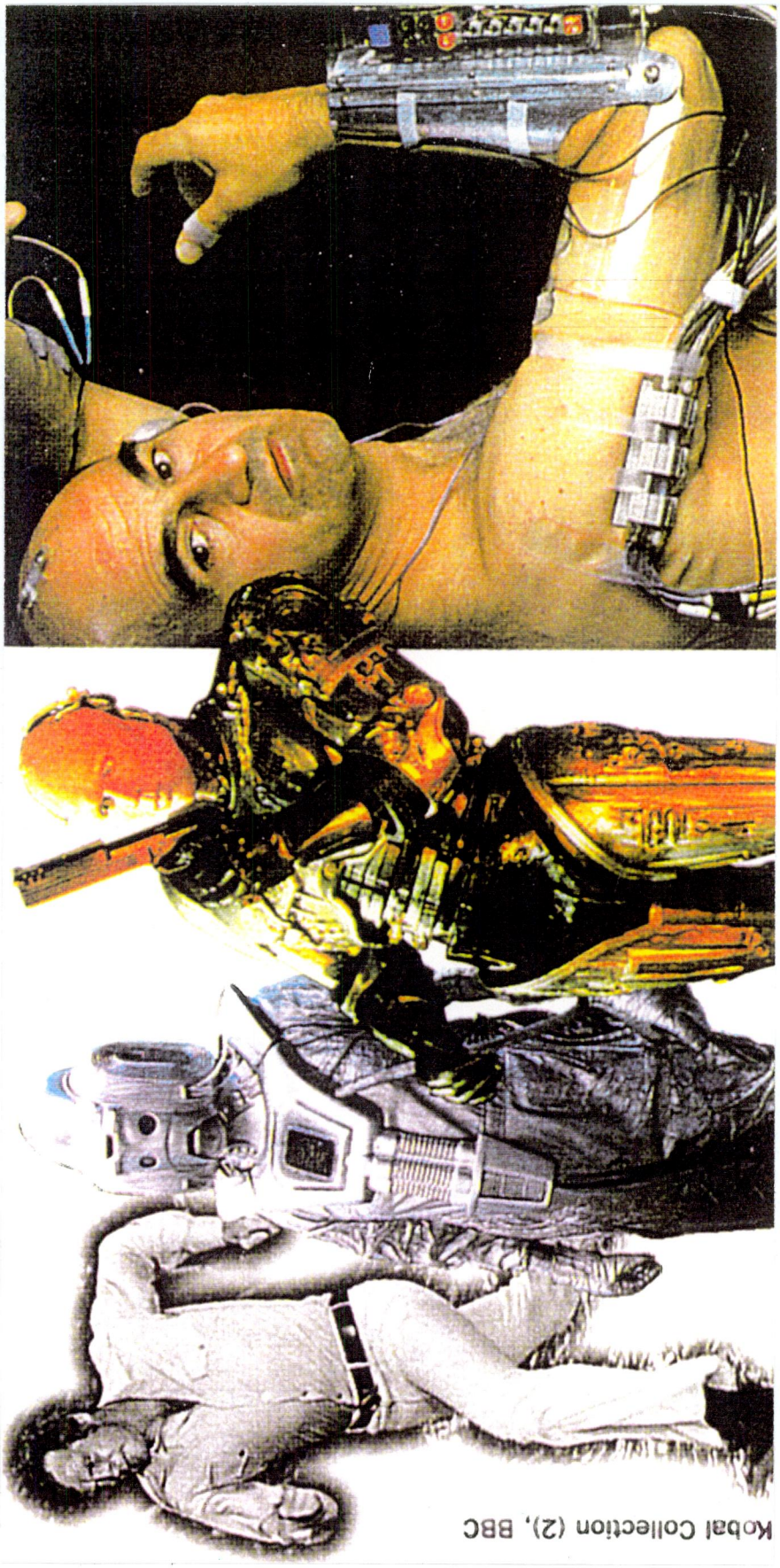


Fig.8 **Robocop, Dr Who and Stelarc. Focus Magazine, 1996**

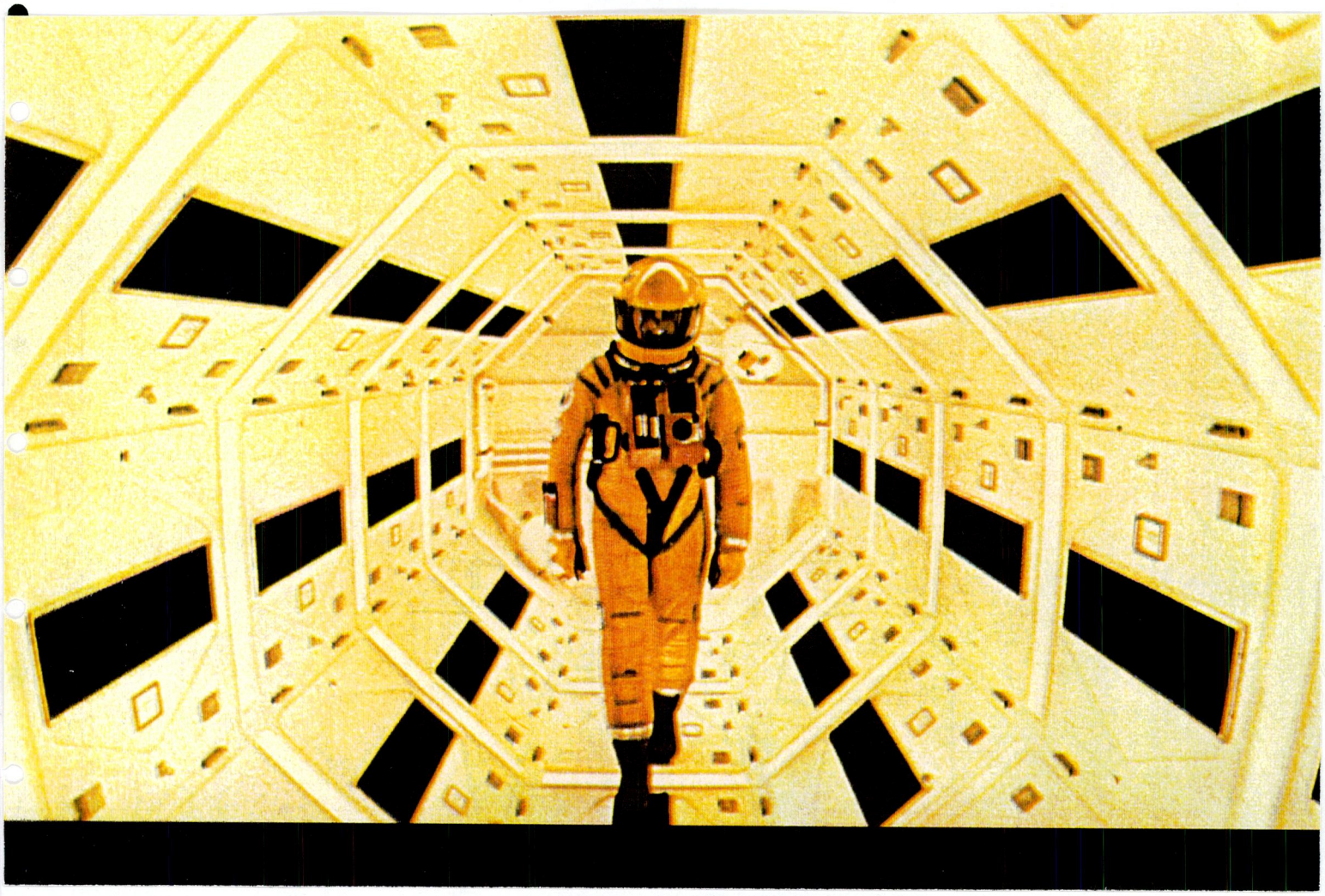


Fig.9 **Space Odyssey, 2001, from 1968, Armani Catalogue 1997**

The events of the nineties and the end of the century have given cyber fashion a rebirth. At one level we see the representational fads, but with the expansion of 'interface design', we are beginning to see a much more serious, functional, subtle form of cyber fashion. The mainstreaming of cyber culture has helped in its development.

> 'The history of human endeavours to make machines more usable is almost exclusively devoted to enhancing the sensory points of contact and evolving better physical designs.'
>
> (Negroponte, 1995, p.91)

The aesthetic of the machine has become socially acceptable, even commonplace. Society today depends on it. It is becoming familiar and accessible but also less recognisable and harder to define with our daily inevitable usage and interaction with computerised machinery, pass machines and C.D. players. These objects have lost a techno feel, and have become comfortable parts of the way we live.

The advancement in communication and increased accessibility of information have lead to the reality of a global network of the necessary technology. And as miniaturisation continues, cyber culture is made more and more mainstream.

> 'Even as the computer is revolutionising our immaterial lives through electronic interconnection, it is irretrievably altering out material lives as well. 'Embedded' micro processors - speck sized computers mounted on tiny flakes of silicone make our car engines, microwave ovens, stairmasters and sewing machines . . .'
>
> (Dery, 1996, p.7)

> 'The incredible shrinking computer now accompanies the user virtually anywhere as a laptop, palm top, or pocket-sized computer / communicator...'
>
> (Dery, 1996, p.7)

The latest miniaturisation is the pocket P.C. Developed by LE Electronix. It is 6.7 inches wide and 3.9 inches long, 1.03 inches thick and weighs only 11.9 ounces. It was released just before Christmas 1996.

> 'He said the strong sales indicated that the time for the pocket-sized computer may finally have arrived.'
>
> (The Irish Times, Big Factor for Tiny PC's Nov, 25th, 1996)

Our interaction with technology and our inevitable interface with it is no longer science-fiction, it's science-fact (Fig. 10).

> 'Think of the last time you pushed and elevator button and the light did not come on. The frustration is enormous, did it hear me ? Interface design and function are very important.'
>
> (Negroponte, 1995, page 90)

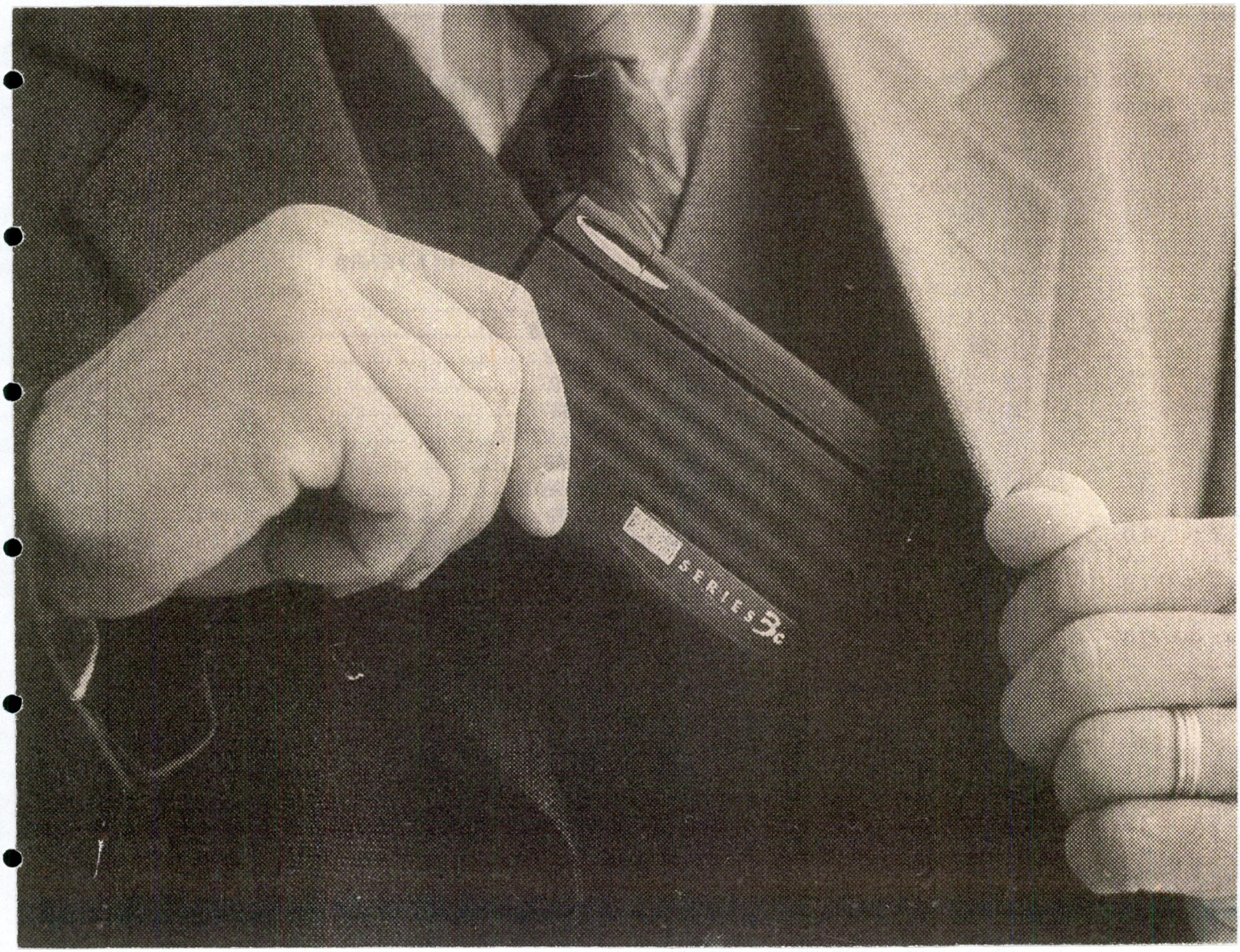


Fig.10 **The Pocket P.C., Irish Times, Dec. 1996**

CHAPTER THREE

Fashion Interface Design

CHAPTER THREE
FASHION INTERFACE DESIGN

In the past decade, we have seen the emergence of new possibilities in garment and fabric designs with 'Interface Design' becoming one of the more important factors.

> 'Computer corduroy, memory muslin and solar silk might be the literal fabric of tomorrow's digital dress. Instead of carrying your laptop, wear it. While this may sound outrageous, we are already starting to carry more and more computing and communication equipment on our bodies.'
>
> (Negroponte, 1995, p.211)

The idea of a wrist television, hand communicators and a computer headset are no longer concepts of the world of science-fiction. Many of these are now products, and even fashion accessories. The transition of these producers into garment design or elements of garment design is possible as Philips have shown (Fig. 11). Probably the biggest exponent of fabric 'interface design' is the textiles company Du Pont.

a) Fabric Interface Design

Du Pont was the first company to create man-made fibres. In 1938, they created nylon. Created in a test-tube, its strength and waterproof qualities were its fortes. The synthetic industry grew through the post-war years. Other products developed to meet the growing demand, orlon, dacron, terelyne, courtelle, crimplene. These were revolutionary fabrics at the time being water-resistant, but they did not take the human factors into consideration.

The 1970's saw a return to natural fabrics and a demise of the synthetics industry. A taste for synthetic fibres was still minimal in the 1980's when people were more interested in the wool's and linens of the 'Oxford preppy look', sparked by Ralph Lauren.

Fig.11 Philips Computer Clothing, 1996

It's only this decade that has seen the re-birth in fashion synthetics. Du Pont, aware of the customer's growing demand for comfort and durability, saw their product Lycra launched in 1958, move from hosiery and underwear into almost every area of the fashion industry by the mid 1990's. It is a chameleon fibre that takes on the appearance of the fibre it is blended with. It gives a garment stretch, drape and recovery. This gives great comfort and durability to garments. (Alchemy, 1995, p.5).

Lycra has been followed by Tactel. This is a component fibre that allows any amount of variation from light silk drape to heavy coat fabrics. It is a polyamide fibre first launched in 1983 (Fig. 12). It can be blended with other fibres to create multi-functional fabrics; water-resistant; breathable or porous, with stretch, recovery and drape. (Alchemy, 1995, p.10) (Fig.13).

Tessitura di Rovereto, an Italian fabric company, specialising in sportswear were one of the first to use Tactel. The Managing Director, Mr Velardita said using cotton meant a nice finish and handle but it wasn't practical, while nylon is more practical yet it doesn't have a nice handle.

> 'So, as soon as 'Tactel' came onto the scene, it provided the answer to these problems.'
>
> (From Function to Fashion, 1996, p.14)

The use of such high-performance fabrics has mainly been in the underwear and sportswear markets to date. Synthetic fabrics lack breathability, i.e.: the body is unable to breathe through unperforated fabric, which has been a deeply negative factor for synthetics. But the creation of 'Gortex' and 'Thermax', which are fibres that can be blended with others and are breathable, has created new possibilities. They breathe and still remain water-resistant, using a 'surface tension' mechanism. Supplex is a similar fibre which in addition, can feel as soft as cotton.

These new comforts in sportswear have made it more attractive for a wider audience. The leisure of the style mixed with the comfortable fabrics are making the sportswear area much more interesting and marketable. These 'clever cloths' are as soft and comfortable as their natural counterparts, but have the added bonus of their many in-built functions.

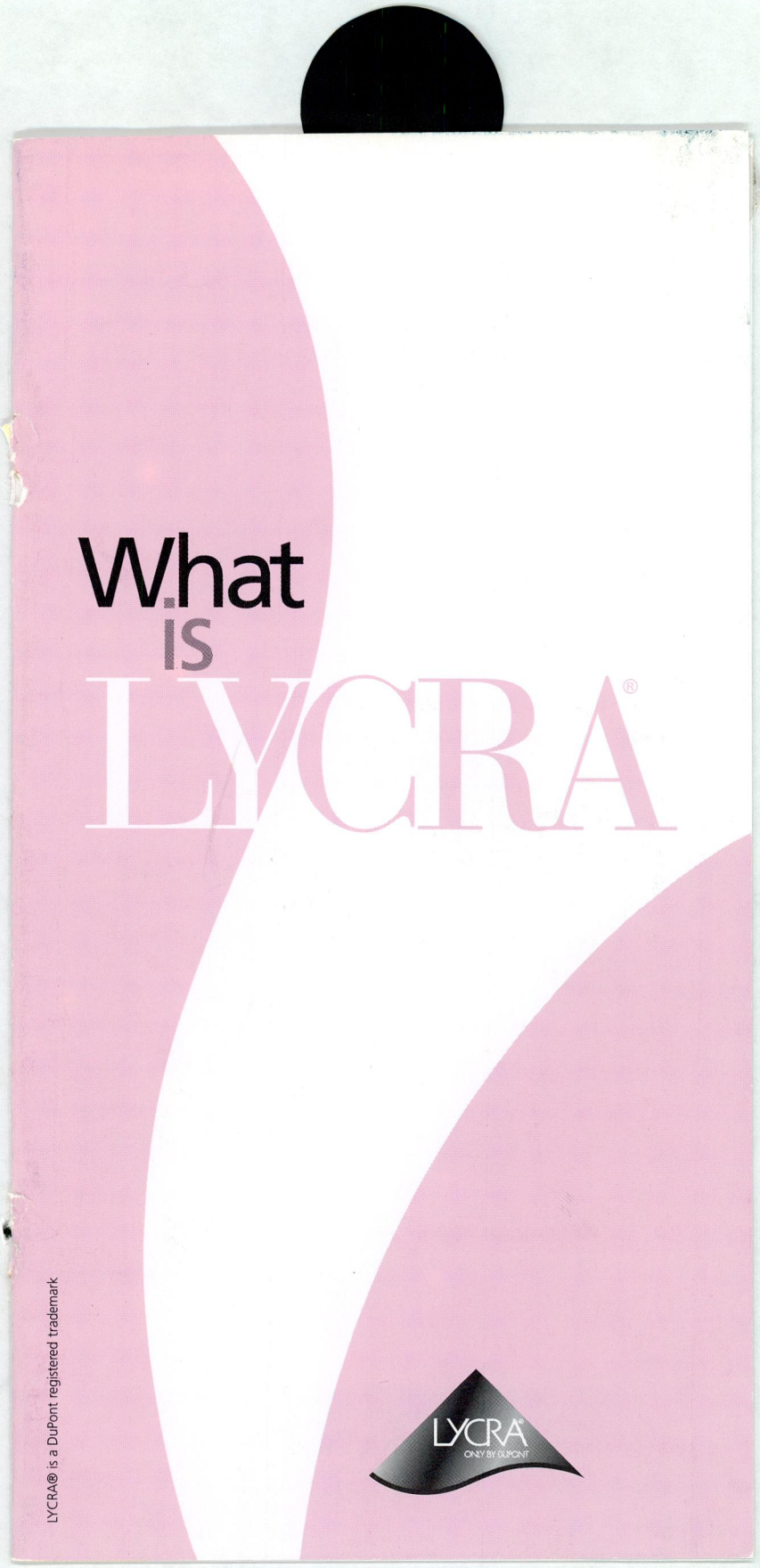


Fig.12 **Lycra Advertisement from Du Pont, 1996**

How to care for garments containing LYCRA®

Follow the manufacturers' instructions in caring for garments containing LYCRA®. In the absence of instructions, wash or dry clean according to the major fibre component.

What a difference LYCRA® makes!

LYCRA® is more than an elastic fibre. It is a world-renowned name, a registered trademark of DuPont that represents added value for fabric and garment manufacturers, as well as their customers. It epitomizes DuPont's continuing commitment to product innovation and leadership, as well as to customer service that ranges from technical support to fashion direction and merchandizing/promotional assistance [illegible] the most important [illegible] persuasive [illegible] consumer [illegible] LYCRA® on a hang-tag or label adds the quality and performance reassurance of one of the world's best-known, most highly valued brand names. It makes good business sense to feature the name and logo in your [illegible]

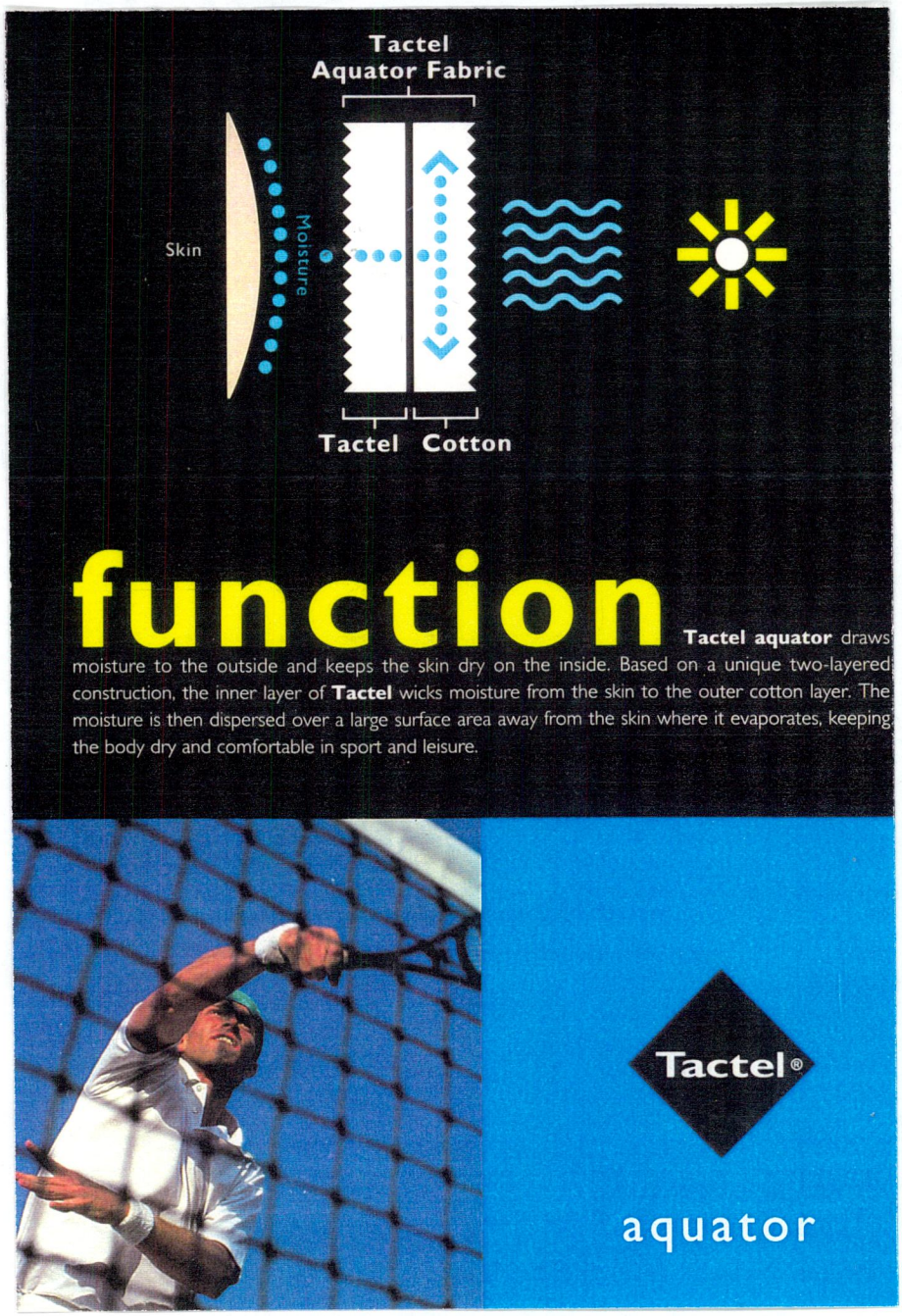


Fig.13 Tactel Advertisement

b) High-Street Fashion 'Interface'

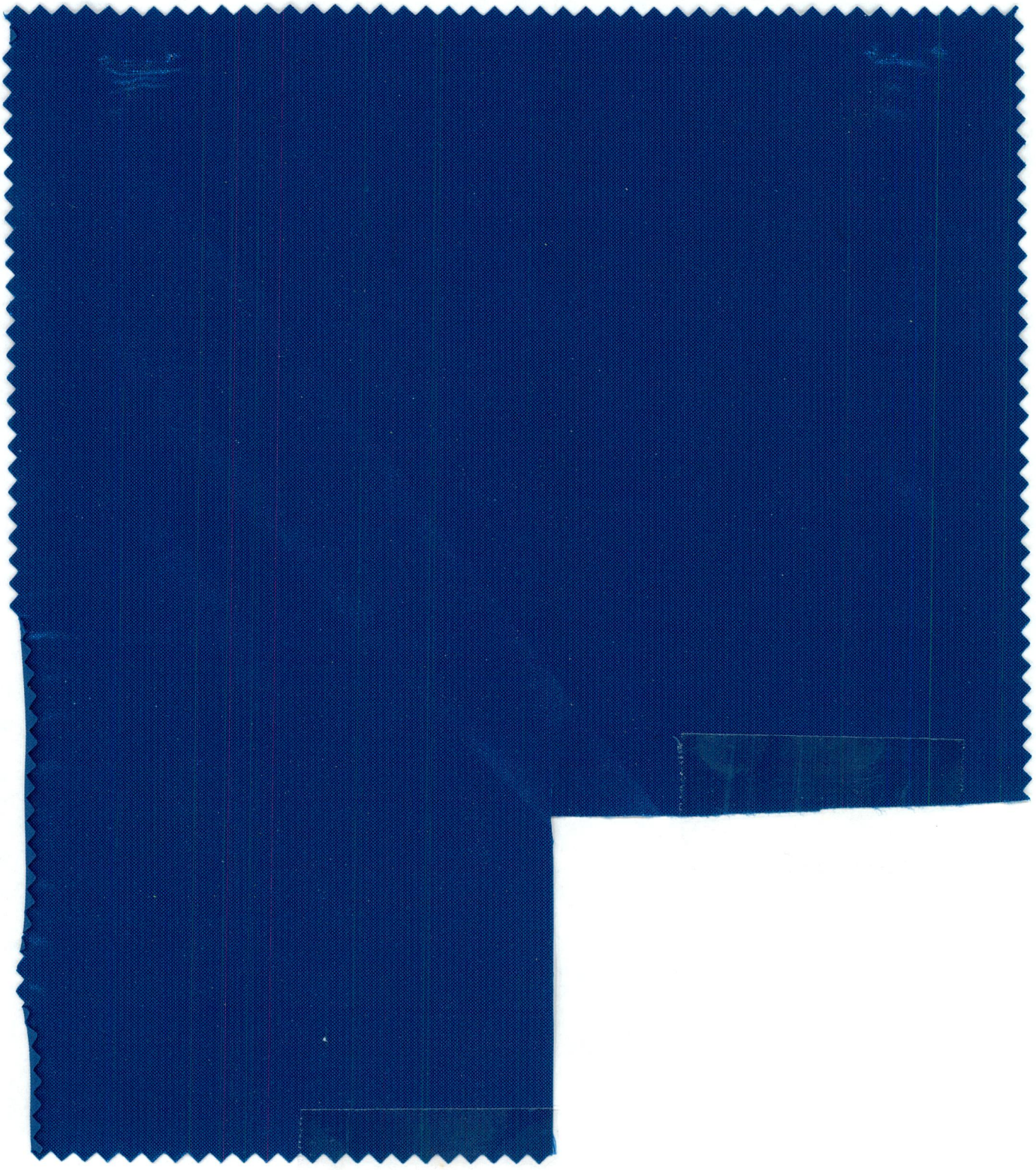
These high performance fabrics have made their way into many of the major high-street stores. Designers at Bairdwear, lingerie manufacturers for Marks and Spencer's, spotted 'Tactel'. It was used to base a new range of lingerie on in 1994. The range was first launched in five stores, quickly expanding to thirty. Now the range sells in up to a hundred Marks and Spencer's stores across the UK and Western Europe. Hosiery and underwear have used Lycra for some time, but it is the new popularity of sportswear that has pushed the expansion of the synthetics industry.

Now, Marks and Spencer's new golf wear, swimwear and ski-wear ranges carry Du Pont swinging tag on these garments to inform the customer of the make up of the garment and showing the hidden functions (Figs. 14-16). Consumer satisfaction with these products has led to their usage in other more traditional areas of the clothing industry. Traditional suiting, evening wear and jeans wear are all being re-shaped. For example, suiting materials include 5% Lycra and Teflon, a water resistant yarn, is a common element in knitwear.

The major sports wear labels themselves have utilised them also. America's last Olympic strip by Nike was made from the high-performance fabrics; Lycra and Tactel (Fig. 17). The sportswear industries have expanded into street fashion which has given a new dimension to the designs, for example, runners with reflective strips and torches in the soles.

c) Designer Interface

Sportswear has become a major part of the design market. Sportswear's new flexibility, its acceptance as street and day wear, even club wear, has created a booming market for the big labels, like DKNY, Polo Sport and so on (Figs.18 +19). Can the interaction between sports wear and high fashion be considered as a cyber movement ? It certainly represents a new age of 'interface design'.



DUPONT

W6710

Developments by DuPont Nylon

WEAVING
WEBEREI

TISSAGE
TESSITURA

Fabric description Stoffbezeichnung Description du tissu Descrizione tessuto	TOTALLY EFFECTIVE MULTISOFT	Weave Bindung Armure Armatura	Design 49

Warp yarn(s)
Kettgarn(e)
Fil(s) de chaine
Ordito
78f51 K0342

Weft Yarn Source	Throwster Product
Weft yarn(s) Schussgarn(e) Fil(e) de trame Trama	2/96(78)dtex,46fils,circ. mid-dull. False Twist Textured

Warping Schären Ourdissage Orditura	Tsudakoma sized	Loom Stuhl Metier Pettine	Air Jet

Construction Konstruction Contexture Costruzione	In loom Im Webstuhl Au metier In pettine	Loomstate Rohware Tombe de metier Greggio	Dyed Gefarbt Teint Tinto	Heat set Fixiert Fixe Termofissato (between pins)	Finished Ausgerustet Fini Finito
Threads(/cm) Faden Fils Fili	48x33				66x34
Width (cm) Breite Largeur Altezza	145	131	105	108	105.5
Weight (gsm) Gewicht Poids Peso					160

Finishing route
Ausrustung
Methode d'apprets
Finissaggio
Jig scour,H/set.Jet dye,H/set 190°c/30 sec.F.C.fin.
Cal close 180°c.P.U breath.coat by Carrington's

94W003/18

Fig.14 Tactel Sample

Developments by DuPont Nylon

Tactel Multisoft / Lycra

Fig.15 Tactel Sample from Du Pont

DuPont Nylon developments are illustrative concepts and do not imply any guarantee or suitability for any specific textile use.

For further information please contact your local DuPont sales office.

Les développements DuPont Nylon sont des conceptions illustratives et n'impliquent aucune garantie ou aptitude à un usage textile spécifique quelconque.

Pour des informations supplémentaires vous êtes priés de vous adresser au bureau local DuPont.

Entwicklungen von DuPont Nylon sind bildliche Konzepte und stellen keine Garantie oder Eignung für einen spezifischen Einsatz in der Textilindustrie dar.

Für weitere Informationen wenden Sie sich bitte an Ihr nächstliegendes DuPont Büro.

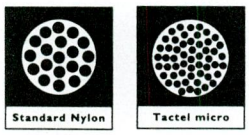
Gli sviluppi della DuPont Nylon sono soltanto dei concetti illustrativi e non contengono nessuna garanzia o affermazione che sono adatti per un uso specifico tessile.

Per ulteriori informazioni contattare l'ufficio DuPont locale.

Tactel® micro

Tactel micro is DuPont's brand name for their range of high technology polyamide 6.6 yarns consisting of many ultrafine filaments. DuPont guarantees that **Tactel micro** yarns are produced from filaments of less than 1 decitex per filament - finer than 8 microns.

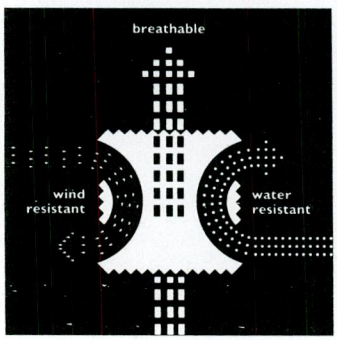
These ultrafine filaments, with their intrinsic strength and lightness, are used to produce fabrics which are weather resistant but breathable with an **especially soft handle** and **luxurious aesthetics** for rainwear, street fashion and casualwear.

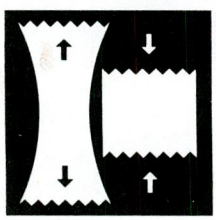


The secret of the Tactel micro touch and luxurious aesthetics lies in the ultra fine filaments which make up the yarn. This fineness and the extra large number of filaments in even the lightest yarns provide new levels of softness and strength.

In tighter constructions and when treated with Teflon® fabric protector, **Tactel micro** fabrics offer better resistance to stains and moisture without affecting comfort and breathability for active sportswear.

Used in hosiery and lace, **Tactel micro** produces fabrics and garments with the ultimate luxury of exceptional softness and comfort.





Tactel yarns are extremely strong and therefore bring improved tear strength to Tactel micro fabrics.

Tactel **micro** effects

- **Softness**
  Especially soft touch from ultrafine filaments for superb handle.
- **Comfort**
  Exceptional fineness and lightness create luxurious and comfortable fabrics and garments.
- **Weatherproof, breathable**
  Improved cover, in tighter woven constructions, with **Tactel micro** yarns can increase water repellency but retain breathability.
- **Colour Value**
  Enhanced colour vibrancy due to increased dye sites and surface area with ultrafine filaments.
- **Quick dry, easy care**
  Excellent drying properties with easy care, including machine washability of most garments.
- **Strong, light and supple**
  Increased strength and abrasion resistance at light weights for sports and casualwear.
- **Brand Scheme**
  Specially designed swing tickets carry the product message to garment makers, retailers, and on to the consumer. Marketing, technical support from DuPont Textile Centre, and strict branding criteria maintain the unique product offer.

Tactel®

Fig.16 Tactel Diagram from Du Pont

the Tactel® effect Yes!

Fig.17 Nike Advertisement

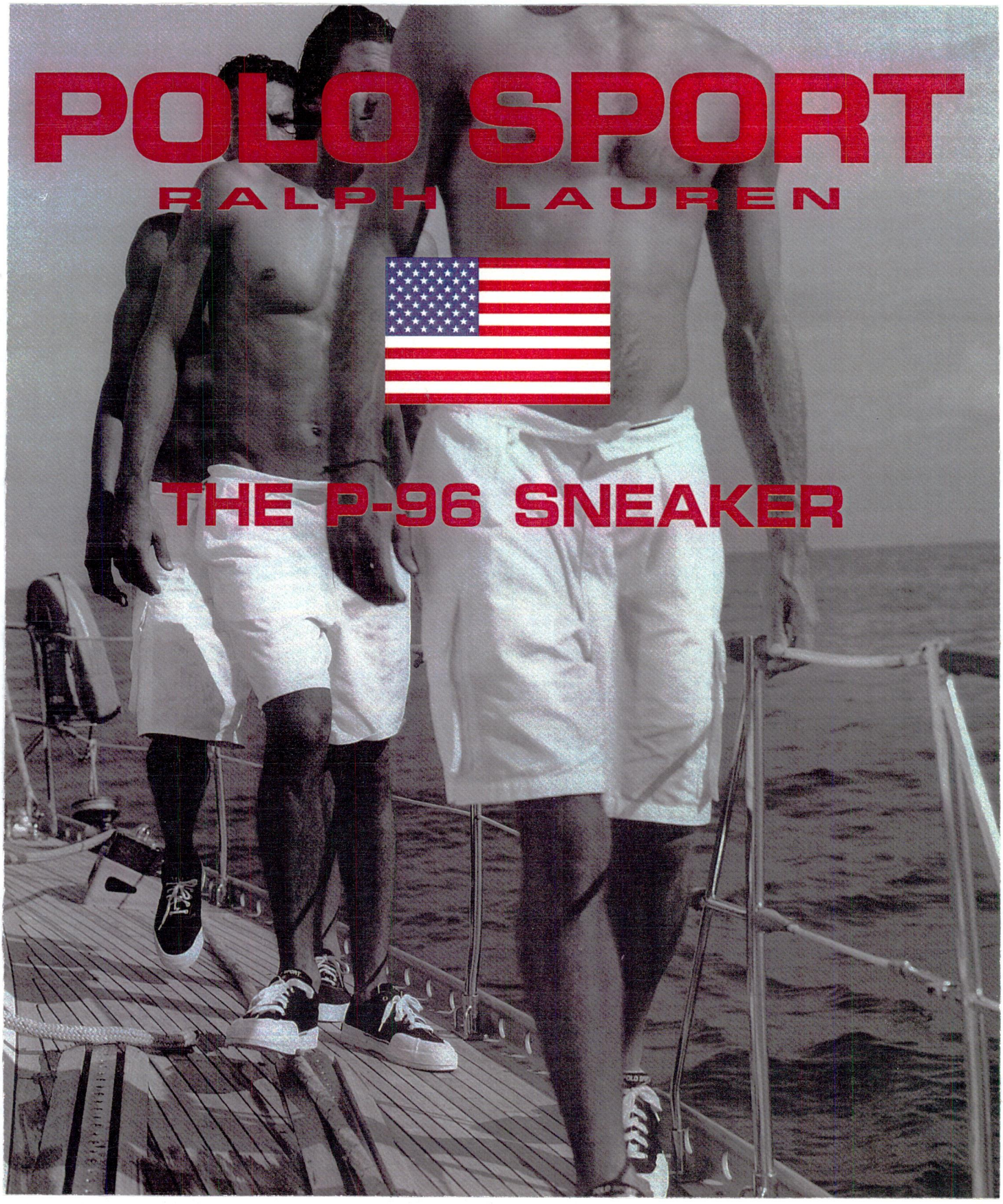


Fig.18 **Polo Sport Ralph Lauren Advertisement, 1996**

Fig.19 **Polo Sport Ralph Lauren Advertisement, 1996**

The 1990's have also seen a new wave of 'cyberpunk' fashion, an enthusiasm for new technologies and the new millennium. Cyberpunk uses the shocking device of high-technology as adornment.

While technology has always been an important influence on the construction of clothes for both sexes, it is in menswear that the visual aesthetic of technical precision has been expressed. The technology of precision tailoring has been an essential element in menswear since the 19th century. It is a strange truth that the cyber-fad of the 1990's is rearing its head in menswear and the cyber-fad of the 1990's is finding its strongest and primary expression in menswear fashion.

In the past number of decades, the fashion world has tried to incorporate the male population into its structurewith very gradual effects.. Gaultier's 'men in skirts' for example, didn't take off. Grafting a female fashion element onto men didn't work. Now designers like W&LT are approaching the incorporation of males into the fashion system from a more successful angle. They are using an established male fantasy as a basis for their designs. Now designers like W and LT are exaggerating men's clothes using a very 'male' influence. The area of computers and gadgets has always been associated with the male. Science-fiction has always been the male hobby. Now this technology is being expressed through cyber-fashions, even down to the subtle resemblance of the ubiquitous nylon black jacket to Darth Vader's outfit in Star Wars. Men are attracted to cyber-fashion's expression of 'maleness' (Figs.20+21).

'W & LT' or 'Wild and Lethal Trash' is a fashion label strongly influenced by the Internet. It glamourises the most extreme expressions of cyber culture (Fig. 22).

> 'Paris extra-terrestrials were fighting on a grand video screen . . . The funky futuristic show electrified the French menswear season. It also lived up to its name, 'Wild and lethal Trash.'. With sexy stretch synthetic fabrics, computer wave patterns and comic book explosions of biff and zap.'
>
> (International Herald Tribunes, Sat / Sun July 9th, 1995)

Fig.20 **Stone Island Nylon Jacket, 1996**

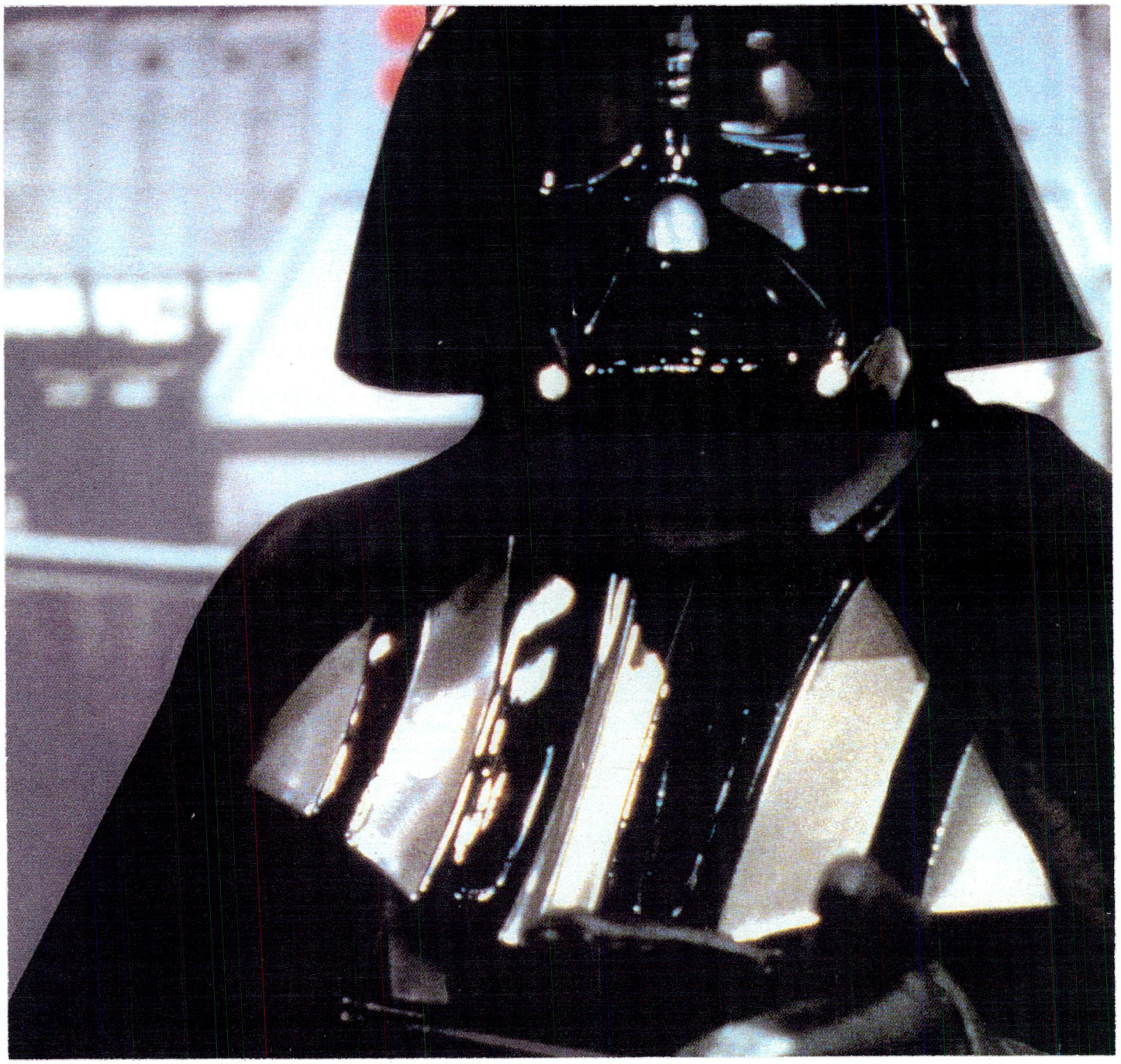
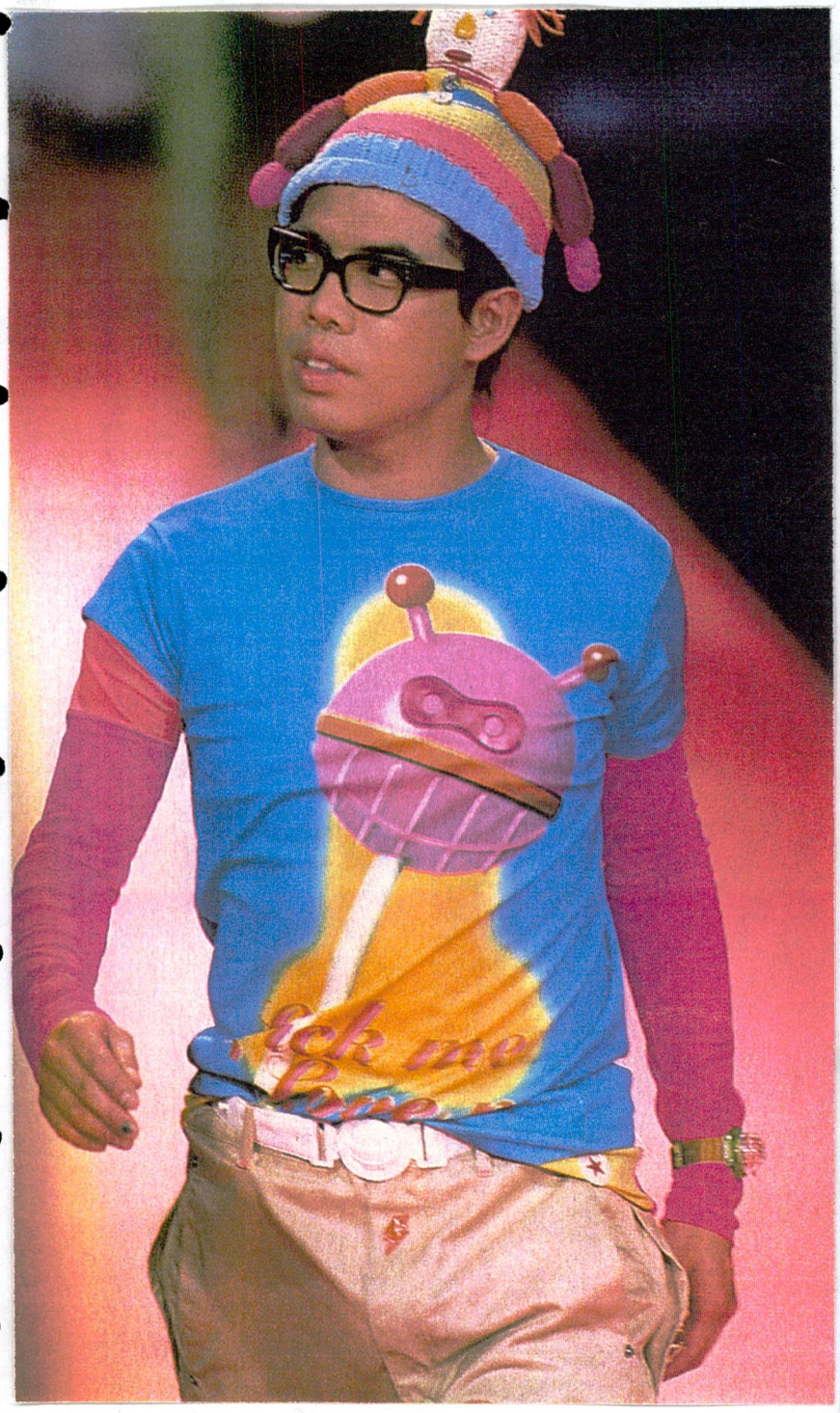
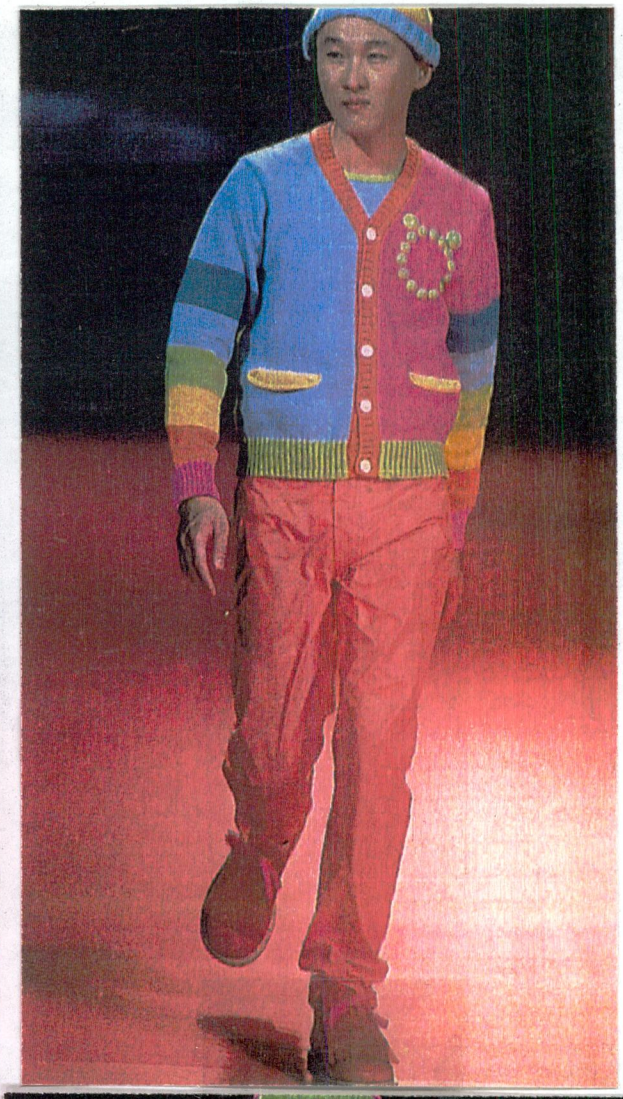


Fig.21 **Darth Vader**





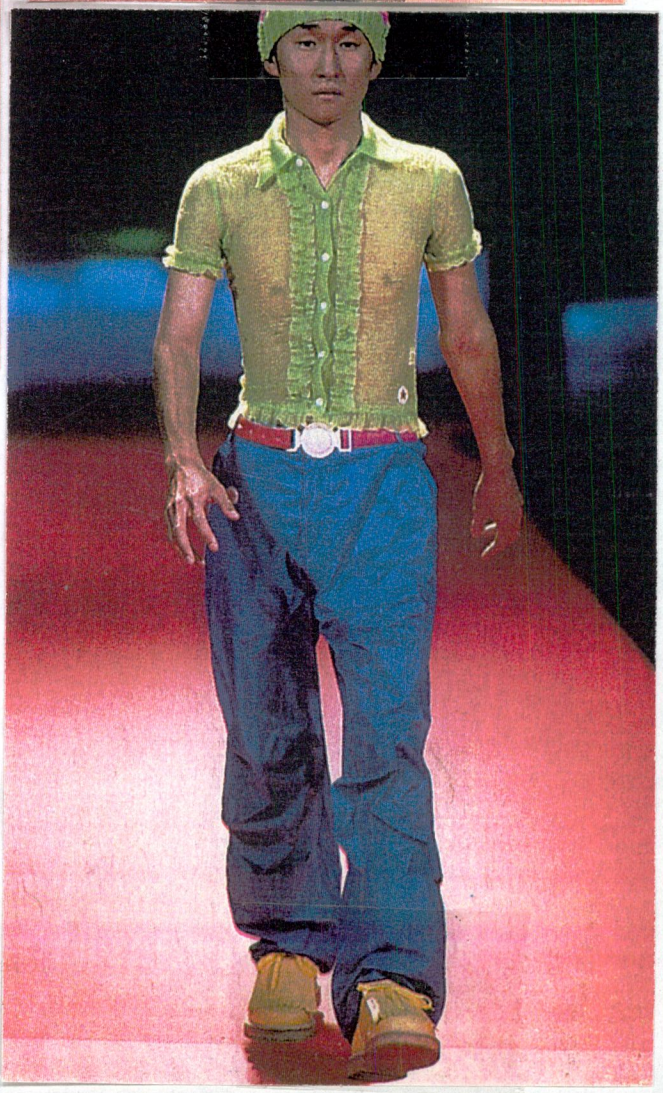


Fig.22 **W&LT Uomo Collezioni, 1996**

> 'Like enchanted visitors from distant galaxies, they toyed with colours and fantastical patterns.'
>
> (Uomo Collezioni, Tribunale di Modena, 1996, p.330)

Some of the lower end of the market jeans companies also picked up on this fad, (Fig. 23), creating a kitch, club style that has many parallels with the space age fashions of the late 1960's. So not all interaction between fashion and synthetics is of a profound nature.

Designers still use non-functional synthetics for effect. Futuristic looks are common like John Rocha's plastic coated velvet suits and remoulded rubber tyre coats (Fig.24). Technology is making it now possible for synthetics to look natural. In Hussain Chalayan's winter '96 collection, he designed a lace fabric backed with foil. The lace is 100% silk, but the backing is 100% viscose, with 100% polyester coating. The benefits are that it's light but incredibly warm.

As technology is increasingly making synthetics more like natural fabrics, designers are more freely using them as they begin to open new doors. Techno-fabrics no longer have to resemble astronaut apparel. A new form of 'cyber'-fashion is developing.

> 'Times have changed. Designers including those in the conservative upper reaches, are picking up on all kinds of test-tube products. Even fashion houses that favour little or no completely synthetic fabric are getting into the game through blends that use natural materials like silk and wool in combination with various stretch or glitter threads.'
>
> (Duffy, 1996, p.70)

Many designs have pointed out the new advantages of synthetic fabrics and now that they can look like quality fabrics, they are inevitably popular.

> 'The advantages of artificial fabrics are myriad. They are durable, usually washable, don't wrinkle and take colour increasingly well. Some also move sensuously well with the body,' says Christian Lacroix.'
>
> (Duffy, October 7, 1996, p.70)

Fig.23 **W&LT Uomo Collezioni, 1996**

Fig.24 **John Rocha Remoulded Rubber Tyre Jacket, Sunday Times Magazine, 1996**

Designers and customers are tired of simply picking a different retro style, dropping and raising skirt lengths and changing the highlight colours for blacks.

> 'Clothing needs some rethinking and new fabrics are important aids in this endeavour.'
>
> (Duffy, October 7, 1996, p.70)

Clothing is limited by the shape it covers. This may not always be the case, but for now, designers can use the new fabrics to bring a fresh feel and functionality to our clothing.

> 'Solutions that are too far fetched, however, would involve reconstituting the body and evolution has not yet pointed in that way.'
>
> (Duffy, October 7, 1996, p.72)

The popularity of 'interface design' is expanding, Du Pont tells us how we can now create 'clever clothes'.

> '. . . garments which become our own micro-environments moisture managing our body temperature or thermally controlling it by simulating the opening and closing of the skin's pores, fabrics which react to light, change colour, protect us form harmful ultra-violet rays or release a chosen fragrance into the atmosphere.'
>
> (Alchemy, 1995, p.2)

Many of the fashion and textiles students at the Royal College of Art in London are working on similar areas. Dr Francis Geesin, a part-time student who also teaches is one of these. By combining carbon fibres with nylon threads, she has discovered fabrics that can transport electric currents. Although her project is only at an experimental stage, others are working on fabrics that can be moulded or scented.

Today's turbulent society has been taken into consideration by some designers, creating a different sort of protective clothing. Carol Christian Pall is a Milan-based designer who is working with a US laboratory. Together they have created a polyamide and Kevlar denim (Fig.25). Kevlar is a bullet proof micro-fibre, which is as soft and flexible as a cotton and is another example of 'interface design', technology used for function, to help us.

Fig.25 **Kevlar Jeans by Carol Christian Poell**

CHAPTER FOUR

Second Nature

CHAPTER FOUR
SECOND NATURE

a) 'Human Interface', the Birth of the Cyborg

'A Cyborg is a cybernetic organism, a hybrid of machine and organism.'

(Haraway, 1985, No.80, p.65)

The 1900's have arguably seen the most radical advancement of mankind. Our relationship with reality has altered. Technology has been subtly creating a new world, cyberizing us.

> 'Our new technologically enmeshed relationships oblige us to ask to what extent we ourselves have become cyborgs, transgressive mixtures of biology, technology and code.'
>
> (Turkle, Life on the Screen,1995)

Mark Slouka in his book, 'War of the Worlds', discusses man's 'denaturing' or move from the natural origin, over the past century, into the future. He argues that 'interface design' began with the industrial revolution or earlier. More recently, the radio and television brought new artificial, representational realities to us. The automobile created a mechanical bubble for us to speed through the natural world. Representations of reality became more accessible and arguably easier to deal with than the reality itself. From generation to generation and with expansion and development, the representation becomes more real.

> 'Representations of life on radio and seen on television and in movies, would come to seem more lifelike, to us than their originals.'
>
> (Slouka, 1996, p.5)

Visiting a representation of something on television is often more inviting than the actual event itself. The telephone and now the Internet, have helped expand and quicken our forms of communication. By doing this, they have also coded the way we communicate, removing personality and arguably making face to face communication seem more awkward and difficult.

> 'We've come a long way very quickly. What surprises us now, increasingly is the shock of the real; the nakedness of face to face communication, the rough force of the natural world.'
>
> (Slouka, 1996, p.3)

As technology makes our lives 'easier' it makes natural relationships harder to deal with. The representation of what's real is safer and easier to handle.

> 'We'll be able to immerse ourselves in an entirely synthetic world that exists only as a trick of the senses, a computer-induced hallucination.'
>
> (Slouka, 1996, p.24)

As we are liberated from our natural limitations, we are less able to cope with the reality of ourselves or others. De-naturing or 'second-naturing' is making us uniform, creating impersonal, non characteristic people. The unique is now the eccentric or even obsolete and unfashionable.

The industry of representation, or movie making and broadcasting, now equals if not out profits, any other industries. It is an industry built around abstraction.

> 'The origins of industrial production have given way to an information economy that produces intangible commodities - Hollywood blockbusters, TV programmes, high-tech theme parks, one-minute mega trends, financial transactions that flicker through fibre-optic hurdles to computer terminals a world away.'
>
> (Dery, 1996, p.3)

The growing cyber-trend is looking to this acceptance of the unreal as real. As people talk at speed in real time from one side of the world to the next, the distance i.e. the reality, becomes insignificant, so that we are left with a global network of users tapping into a representational, non-existent reality.

> 'These who spend an inordinate amount of time connected by modem via telephone lines to virtual spaces often report a peculiar sensation of 'thereness', prowling from one conference to another, eavesdropping on discussions in progress, bears an uncanny resemblance to wandering the hallways of some labyrinthine mansion poking one's head into room after room . . .'
>
> (Dery, 1996, p.5)

A global network has led to global fashions. Designers and multi-nationals have the power to influence global understanding of fashion, to influence the perceived ideal. The rich cultural variations are being dissolved into this global boiling pot (Fig.26).

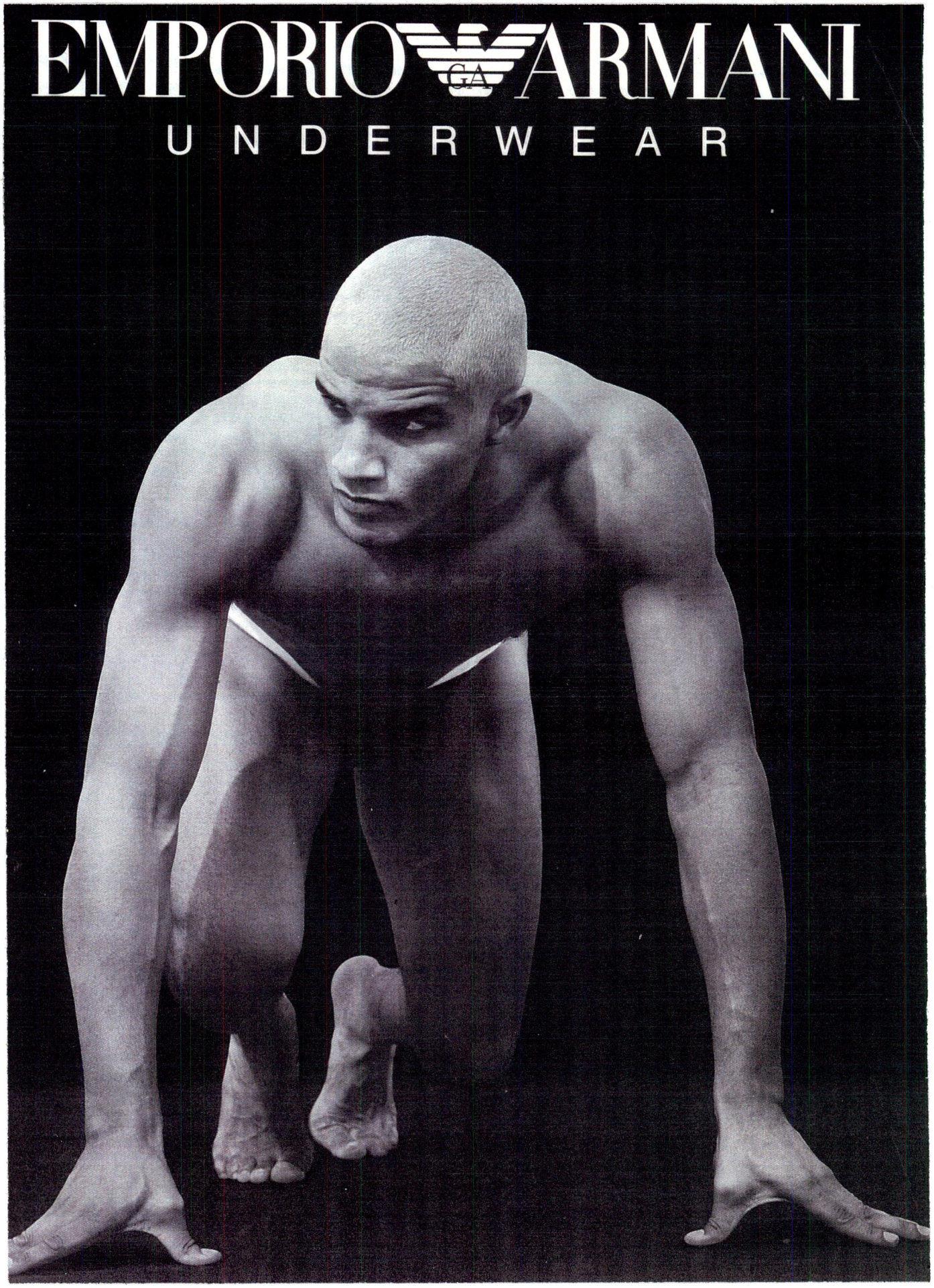


Fig.26 **Armani Advertisement, 1996**

The capitalistic choice of trend becomes the goal for all. This global culture is a consumer culture. People are forced on-line to fit into coded styles world wide. Retro and ethnic influences may still be evident but real personality and character is eliminated, in dress and arguably in self, as we are lumbered with universal visual references and rules and regulations as to how we approach our bodies.

b) Stelarc and the Theory of 'Second Nature'

Stelarc, an Australian performance artist, has spent the past two decades investigating the idea of the 'post-human'. The body in 'second nature', the cyberizing of the body. He 'upgrades' his body with a third cybernetic arm and medical devices: displaying his heartbeat, brainwaves and muscle impulses (Fig. 27). A muscle stimulator system lets the audience take over his body. Their inputs over-ride his brain's commands using electrical signals generated by remote computers.

He uses machine and human interface as the next logical step of evolution.

> 'It's time to question whether a bipedal body with binocular vision and a 1,400 a brain is an adequate human form.'
>
> (Stelarc, Arch. Des. Mag.1994, p.9)

He suggests that we should choose our own evolution. The combination of man and machine leads to the 'post-human', a superior, 'cyber-system'. The body will shift from an object of desire and adornment to being an object of design to be enhanced, made 'perfect', 'idealised', made as functional as is possible. Maybe even immortalised and made flawless !

Stelarc sees the ongoing advancements of medical prosthetics as being the first stage. The body becomes the limitation in a world of technology. Stelarc idealises about a 'synthetic skin', that absorbs oxygen and can convert light to nutrients. He claims that the human organs could be removed and the body hollowed to allow for direct interface. The hollow body being a host for techno-prosthetics.

Technology, 'second-nature', can survive in space and, functions more efficiently than we do. It doesn't rely on nutrients. Stelarc sees the advancements of virtual reality as

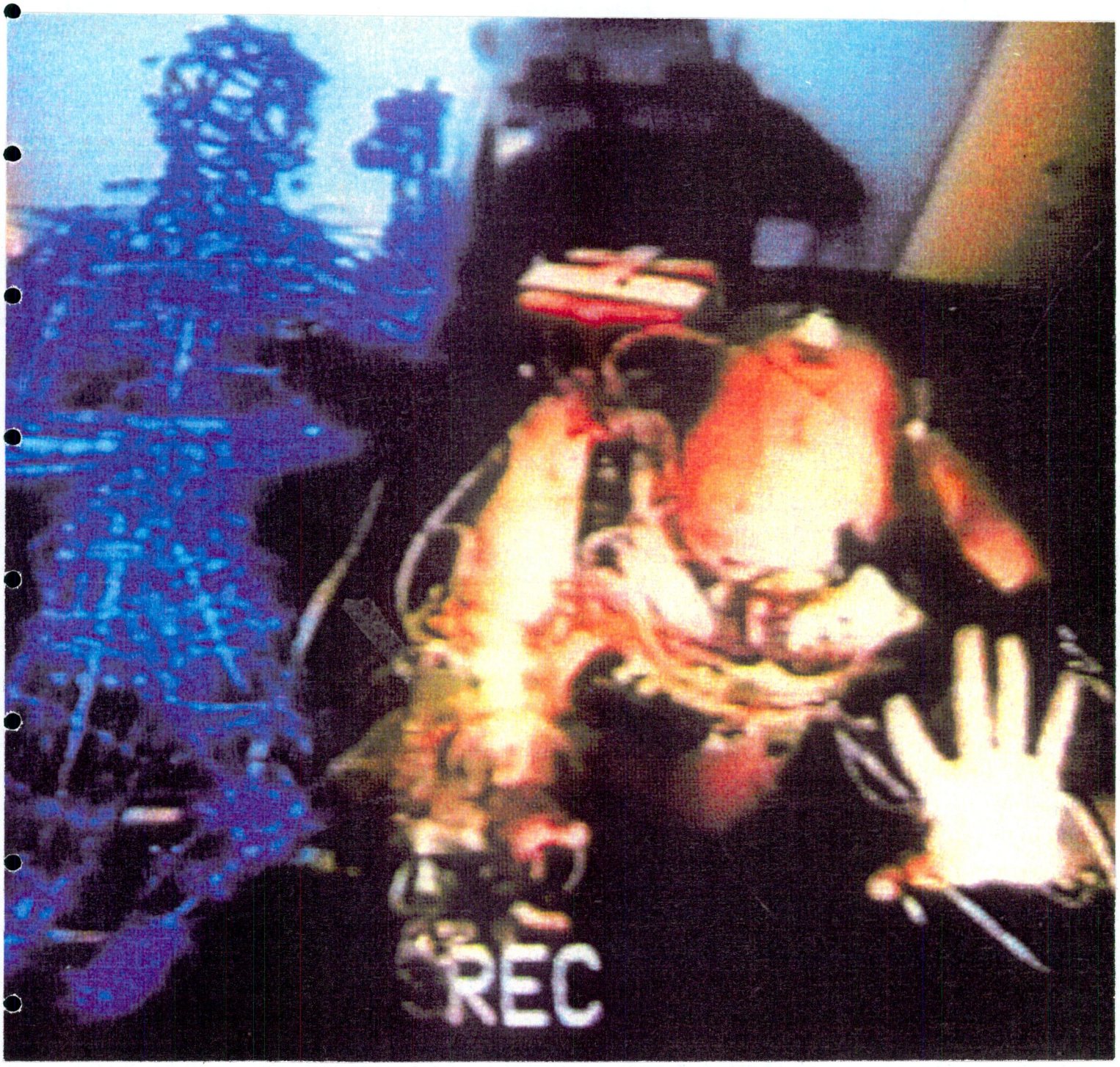


Fig.27 **Stelarc Performing**

being a big step to inevitable interface as it breaks down the boundaries between the sexes, mortals and machines, and even time and space.

Stelarc creates a shocking performance. From a fine art perspective, he expresses concepts that are being developed in society at a much subtler and more tangible level.

> 'The artificial intelligence theorist, Hans Moravec calmly assures us that we are about to enter a 'post biological' universe, in which robotic life forms capable of independent thought and procreation will mature into entities as complex as ourselves.' 'Soon', he insists, 'we will download our willing spirits into computer memory or robotic bodies and do away with the weak flesh altogether.'
>
> (Dery, 1996, p.8)

The ideals now being set by society, fashion and multi-national advertising will be achievable and achieved by cybernetic evolution. The mathematician and science-fiction author Vernon Vinge insists;

> '. . .Cybernetic evolution will give life to a greater than human intelligence between 2005 and 2030, at which point, ultra-intelligent machine life will assume control of its own destiny, producing ever smarter progeny at an ever faster pace. The inevitable result, he argues, will be the ascent of a super-evolved, technologically enhanced posthumanity.'
>
> (Dery, 1996, p.9)

c) Medical Advancement in 'Interface'

In medical technology we have seen the beginnings of the 'post-human';

> 'By the turn of the century, every major organ except the brain and the central nervous system will have an artificial replacement', says Dr William Dobelle, an authority on bionics.'
>
> (Dery, 1996, p.231)

Today's older generation is quite happy to accept artificial devices into their bodies to replace the old ones. Science-fiction writers never predicted our grandparents would be cyborg and that we might consider them as fashion leaders ! Medical technology is using interface as a means of survival instead of fashion, but it still shows us the capabilities and universal acceptance of artificial body parts (Fig.28).

Fig.28 **Prosthetic Legs, Arena, 1995**

Artificial electronic limbs or 'bionic' limbs are now in widespread use. A Japanese firm has developed a bionic hand that has the sensitivity to pick up a light paper cup like a human hand. Bionic ears have also been produced using electrodes to mimic the tiny hairs that convert sound into electronic impulse. (Blair, Cyborg, Jan. '97, p.56)

Interface has helped restore sight, Professor Eugene de Juan, of John Hopkins School of Medicine ;

> '. . . replaced damaged or dead light-sensitive cells on the retina with 25 electrodes, each just 0.01mm long, super glazed into place.'
> (Blair, Cyborg, Jan. '97, p.56)

Peter Gannoits is probably the first example of a brain to computer interface. Gannoit is paralysed from the neck down, and up until this operation, he could only communicate by using an eyebrow to stimulate the mouse of a computer. Now his brain, in the same way it works to move limbs, enables him to operate the cursor on the computer screen (Fig.29).

These highly practical discoveries will become irresistible to the gimmick consumer. Implanting a T.V. screen into the retina, a telephone into the ear. A trend of prosthetics is on the cards. In fact, it is already here and is a growing industry.

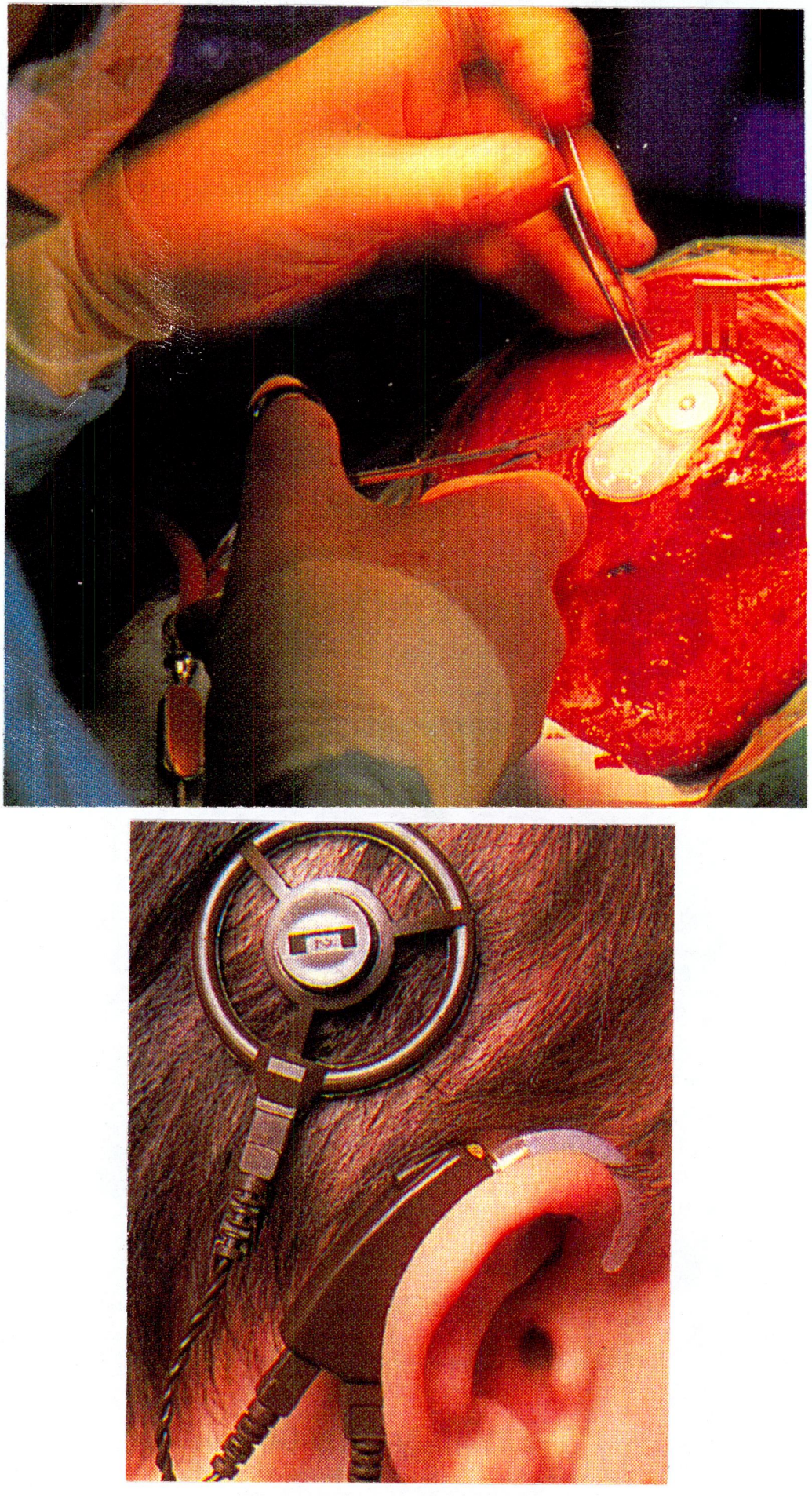


Fig.29 **A Cochlear Implant, Focus Mag. 1997**

CHAPTER FIVE

The Designer Cyborg

CHAPTER FIVE
THE DESIGNER CYBORG

a) Technology Creates the Ideal:

> 'Time and again, patriarchal culture has brought technology to bear on women's bodies in the service of male fantasies.'
>
> (Dery, 1996, p.237)

The corset squashed women into an unnatural shape, with 'heaving bosoms'. The bustle thrust the buttocks out into a shelf-like silhouette. Man has always altered the body, never satisfied with the natural form. Some African tribes have for centuries remoulded the skull, flattening it. Similarly, in parts of France, the custom was to bind children's heads, this practice that only ended at the turn of the last century, was for 'educational' reasons. Obesity for centuries in the Western World was seen as a symbol of beauty, style and stature.

Obvious examples in the Western fashionable history of body reshaping are the corset and bustle;

> 'Man's admiration shifted to the stout woman with a tiny waist, a combination that does not occur in nature. It cannot be produced by cross breeding or special exercise; it exists only as a sartorial illusion, achieved by applying a vice known as a corset.'
>
> (Rudofsky, 1972, p.100)

The most unnatural shapes have been seen as fashionable and desirable, with women using the technology of the time to redesign their bodies (Fig.30). Now technology is being used in a different way to achieve a fashionable ideal. Technology is now penetrating the flesh, making the transformation more permanent, more serious. Our role models are computer enhanced, touched up, denatured (Fig.31).

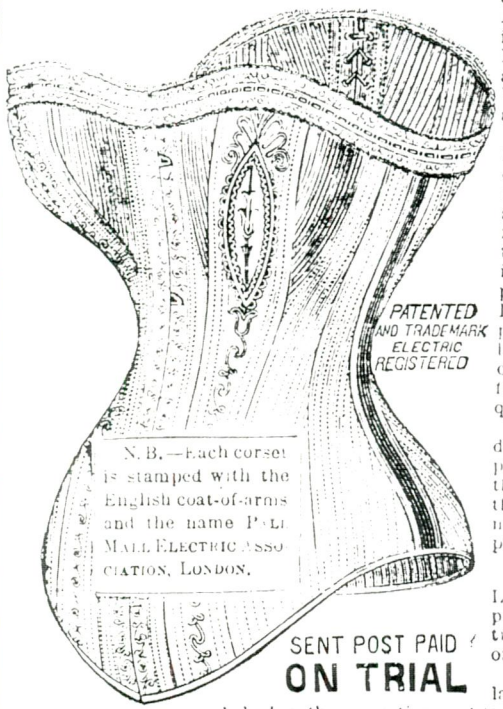
> 'The impossibly flawless models in ads and fashion layouts in women's magazines exist only as digitised photos, retouched with computer graphics software. Air brushing age from women's faces is routine" even in general interest publications, she reports, and 'computer imaging . . . has been used for years in women's magazines beauty advertising" to remake reality to corporate dictates.'
>
> (Dery, 1996, p.238)

1883---New Prices!---1883.

DR. SCOTT'S ELECTRIC CORSET.

$1, $1.50, $2, $2.50, $3.

Owing to the unprecedented success attending the sale and use of our $3 Electric Corset, and the constant demand for Electric Corsets of less price, but of the same therapeutic value, we have decided to place upon the market **A HANDSOME LINE OF ELECTRIC CORSETS**, ranging in price from $1 to $3, thus bringing them within the reach of all who desire them. They are equally charged with electro magnetism, the difference being only in the quality of material. The higher grades are made of extra fine English Sateen, while those of lesser price are of correspondingly good quality. All are made on the latest approved Parisian models, thus imparting a graceful and attractive figure to the wearer. By a recently invented process of boning or cording, we are enabled to offer to the public an **ABSOLUTELY UNBREAKABLE** Corset, and will guarantee them as such with all ordinary wear.



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ON TRIAL

Being **"Electric," "Unbreakable,"** the true French shape, and of **better material** than those ordinarily sold at the prices, these Corsets will command the preference of the purchaser. They are constructed on scientific principles, generating an exhilarating, health-giving current to the whole system. Their therapeutic value is unquestioned, and they quickly cure, in a marvelous manner, Nervous Debility, Spinal Complaints, Rheumatism, Paralysis, Numbness, Dyspepsia, Liver and Kidney troubles, Impaired Circulation, Constipation, and all other diseases peculiar to women, particularly those of sedentary habits. They also become, when constantly worn, equalizing agents in all cases of extreme fatness or leanness, by imparting to the system the required amount of "odic force" which Nature's laws demands.

Scientists are daily making known to the world the indisputably beneficial effects of Electro-Magnetism, when properly and scientifically applied to the human body in this manner; and it is also affirmed by professional men that there is hardly a disease which Electricity and Magnetism will not benefit or cure, and all medical men daily practice the same. Ask your own physician!

DR. W. A. HAMMOND, of New York,

Late Surgeon-General of the U. S., an eminent authority publishes almost miraculous cures coming under his notice. Always doing good, never harm, there is no shock or sensation felt in wearing them.

The ordinary Electric Battery, when resorted to in similar cases to those above mentioned, is often too powerful and exciting doing good during the operation, but leaving the patient more exhausted and weakened than before; whereas by daily (and nightly, too, if desired) wearing our Electric Corset as ordinary corsets are usually worn, a gentle and exhilarating influence is lastingly and agreeably perceptible, quickly accomplishing that good for which they are worn. They will never harm even in the most sensitive cases.

Ladies who have once tried them say they will wear no others. The prices are as follows: $1, $1.50, $2, $2.50 and $3. The two latter kinds are made in Pink, Blue, White and Dove; the others in White and Dove only. Each Corset is sent out in a handsome box, accompanied by a silver-plated compass, by which the electro-magnetic influence of the Corsets can be tested. We will send either kind to any address, postpaid, on receipt of the price; also add 10 cents for registration, to insure safe delivery. Remit in P. O. Money Order, Draft, Check, or in Currency, by Registered Letter.

In ordering, kindly **mention this publication,** and state exact size of Corset usually worn; or, where the size is not known, take a tight measurement of the waist over the linen. This can be done with a piece of common string, which send with your order. Make all remittances payable to

GEO. A. SCOTT, 842 Broadway, N. Y.

DR. SCOTT'S ELECTRIC HAIR BRUSH—new prices $1, $1.50, $2, $2.50 and $3—sent postpaid on receipt of price.

Fig.30 The Corset

Fig.31 **Pamela Anderson, Arena 1996**

Technology is being manipulated by designers who play with sexuality to create a surreal ideal. These are imposing icons of exaggerated proportions. We aspire to meet these ideals and we are made feel inadequate with our natural bodies.

> 'to airbrush age off a woman's face is to erase women's identity, power and history.'
>
> (Dery, 1996, p.238)

Fashion itself is being reshaped by this. Personality in dress is seen as unattractive, variations are unacceptable.

> '. . .their idiosyncratic features are defaced and refaced in the name of a generic standard of beauty.'
>
> (Dery, 1996, p.230)

An American plastic surgeon, Dr Stephen Marquardt, has spent twenty years trying to standardise beauty. Using a series of interlocking pentagons, he manufactured a grid system on computer, he calls the 'mask'. This grid is meant to represent the 'ratio of beauty' which is apparently 1 - 1.682. This is placed over a photo of a face and the focus inaccuracies become apparent. He says that this provides evidence of hormonal markers, signs we subconsciously use to identify a good mate. The mask identifies the instinctive attractions of a human face. He claims that beauty and what we identify as being beauty, are signs and signals. We use beauty to find the best mate to have a child with. Structural face, lips, eye colour and size, nose, proportions and so on. Does this all mean that beauty can be measured ? (Fig. 32).

> 'It all boils down to a single mathematical equation:
> a / b : (a + b)a : phi The Golden Ratio, or to be more specific, 1 to 1.618'
>
> (Face Facts, Sunday Times Magazine, 15 Dec '96, p.20)

So the notion of beauty being in the eye of the beholder is out of date. We should all apparently aspire to be the same ratio of beauty. No longer are people making the best of what they have and letting their personality, elegance and style enhance their beauty. Now technology has made it possible to match the computerised ratio, and the airbrushed, computer morphed physique of the 1990's fashionable body.

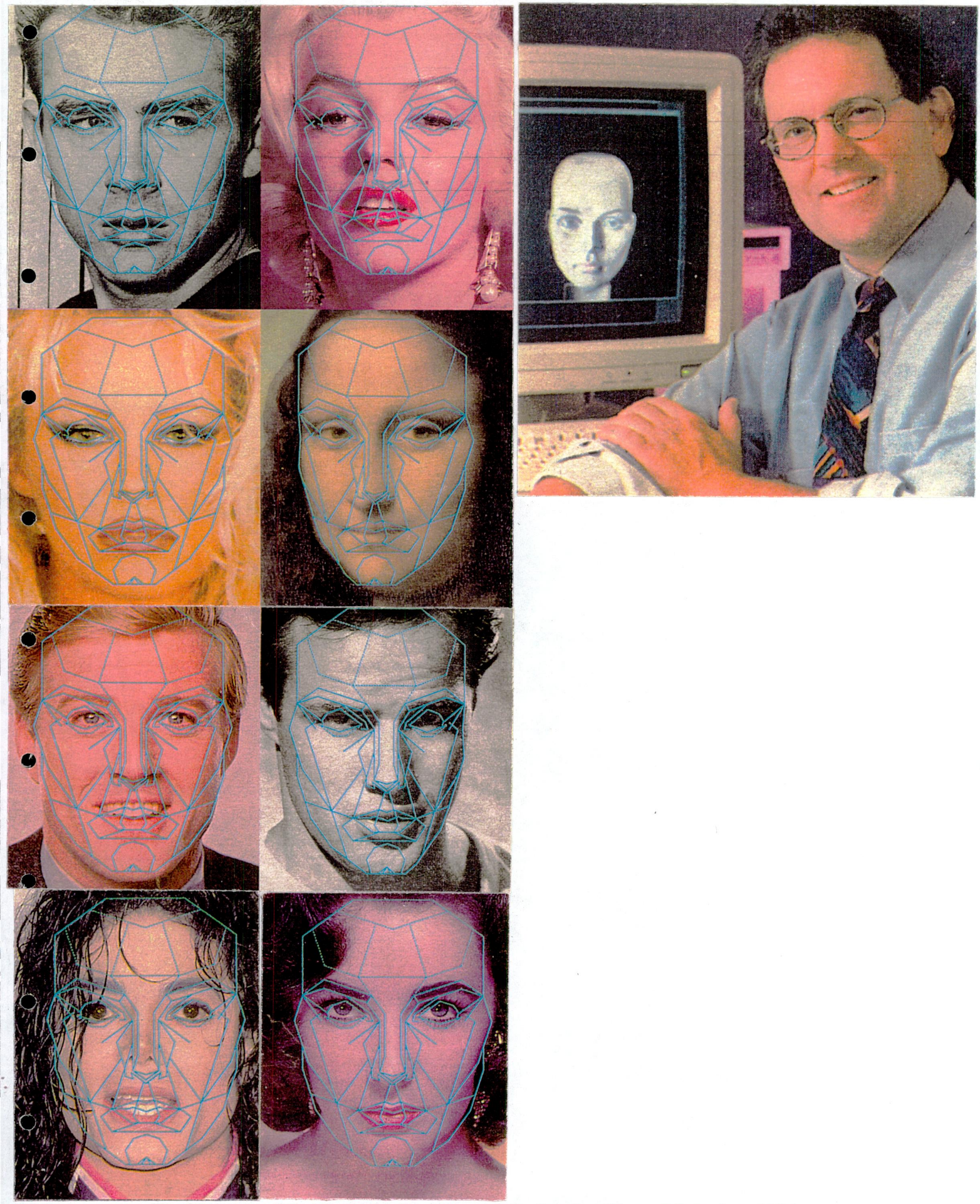

Fig.32 **The Mask, by Dr. Marquardt, Sunday Times Magazine, 1996**

Psychologist Victor Johnson has created 'Face Prints', a computer programme to monitor our taste in beauty. It is a computer version of a Miss World Contest. You choose on a scale of one to nine, from various faces, the most to the least beautiful. Johnson agrees with Marquardt, he says there is a universal agreement on beauty. There is a particular aesthetic that fits the ideal. Is this our biological ideal or one manufactured by the fashion industry ? (Face Facts, 1996, p.21)

Charles Darwin said;

> 'It is certainly not true that there is, in the mind of man, any universal standard of beauty with respect to the human body. It is however, possible that certain tastes may, in the course of time, become inherited.'
> (Rudofsky, 1972, p.94)

Has fashion instructed us to agree on this image of beauty, like they do with clothing ? We are sold an ideal lifestyle, the body, the diet, the exercise, the job, the social life and the clothes to wear to go with it all. Is our modern concept of beauty now based on a 'post-human' ideal ?

Human nature calls out for variation,

> 'If all our women,' he argued, 'were to become as beautified as the Venus de 'Medici', we should for a time be charmed; but we should soon wish to see certain characteristics a little exaggerated beyond the then existing standard.'
> (Rudofsky, 1972, p.94)

As cyber fashion becomes more infiltrated into our lives, do we loose the desire for variety ? Is our desire for 'self evolution' a new form of fashionable variety, seeking a new aesthetic ?

b) The Cyber Doll

Are we becoming designer cyborgs ? If designers can influence us with these unnatural ideals, do we strive to be fashionable ? Interface design is making it possible.

> 'We are closer to the era of total reconstruction surgery than people think', says D'Amato. 'The same computer imaging techniques described in Beauty (Beauty is a novel about the messy collusion of postmodernism, plastic surgery and the beauty myth) are already in use in plastic surgery clinics all over the world . . .'
> (Dery, 1996, p.239)

Cindy Jackson, a white 41 year old Londoner holds the world record for the greatest number of cosmetic surgery operations. After ten years, and twenty operations, she has transformed herself into this ideal (Fig.33).

> 'To achieve here look, she chose Christie Brinkley's eyes, Elle MacPherson's nose, Claudia Schiffer's cheekbones and Julia Robert's mouth.'
>
> (Focus Magazine, Jan.1997, p.60)

Her transformation cost £55,000. The future of fashion will be not only choosing the clothes but choosing the body to wear them.

> 'The human body is becoming increasingly malleable. Into the next century, changing the way your body looks and works may be a matter simply of visiting your high-street plastic surgeon, gene-bank or the human hardware store.'
>
> (Focus Magazine, Jan 1997, p.60)

As fashion ideals become more accessible for everyone, will we become more unnatural or 'second-natural' ? As we put more emphasis on designing our bodies, will fashion put less on designing the clothes to mask it ? We can see in many of the latest collections, a move to the nude, (Fig. 34) revealing cuts and fabrics. In order to wear these clothes, the ideal body is essential.

> 'Come the next century, going under the knife to improve our looks will be as common as buying a designer suit.'
>
> (Focus Magazine, Jan 1997, p.60)

In 1994, there were 48,000 cosmetic surgery operations in the United Kingdom, it is rapidly expanding. (Focus, Jan 97, p.60) Cindy Jackson knows she is not the only person cyberizing themselves. Will it become competitive, like the best outfit at the Oscars ?

> 'I don't ever think I want to walk down the street in California. They've all done what I've done, over there I'm just another Barbie doll.
>
> (Focus, Jan 97, p.60)

Using different models, and aiming to achieve different ends, Orlan, the French 'artist', uses cosmetic surgery to make a statement (Fig.35). She shocks viewers by the comfort she displays with her physical invasion. Since 1990, she has undergone

Fig.33 **Cindy Jackson's Transformation, Focus Magazine, 1997**

Fig.34 **Vogue, Spring / Summer 1997**

Fig.35 **Orlan, Performance Artist, Arena, 1995**
Before and After an Operation

seven operations. This is in order to achieve her goal, to create the 'Ultimate Masterpiece : The Reincarnation of Saint Orlan.' She wants to transform herself into a collage of famous artistic features. A computer generated template is marked on her face.

Orlan's ideal is; the forehead of the Mona Lisa, the eyes of Gerome's Psyches, the nose of a Diana attributed to the school of Fontaire-Bleue, the mouth of Boucher's Europa, and the chin of Botticelli's Venus. (Dery, 1996, p.239)

The surgeons are dressed in designer robes, each operation is a performance. These are videod and photographed. She saves the fatty extract in jars to be viewed. Orlan, who is only on local anaesthetic, directs operation.

> Orlan says 'Religion and psycho analysis maintain that we must accept ourselves as we are . . . but in an age of genetic manipulation, this is a primitive outlook.'
>
> (Dery, 1996, p.241)

Orlan wishes to be the first 'post-human' of the art world. She wishes to give herself a 'cyborgian makeover', to morph herself into a synthetic art history lesson.

From the art world to fashion. Society's view of the body is changing dramatically. It is a more flexible and changeable notion now and not a fixed entity with mysterious and religious overtones.
Orlan says, 'I think the body is obsolete.' (Dery, 1996, p.241)

c) The Future of Cyber-Fashion

What turns us on today is no longer knowledge and the world around us, it is the opposite;

> 'The dream of the perfect fake, the undetectable forgery.'
>
> (Slouka, p.100, 1995)

As fashionable ideals become integrated into our society more and more, we are cornered by advertisements. Magazines, bill-boards, television and modern life has made it unavoidable for us to feel self-conscious and inadequate (Fig.36). But these

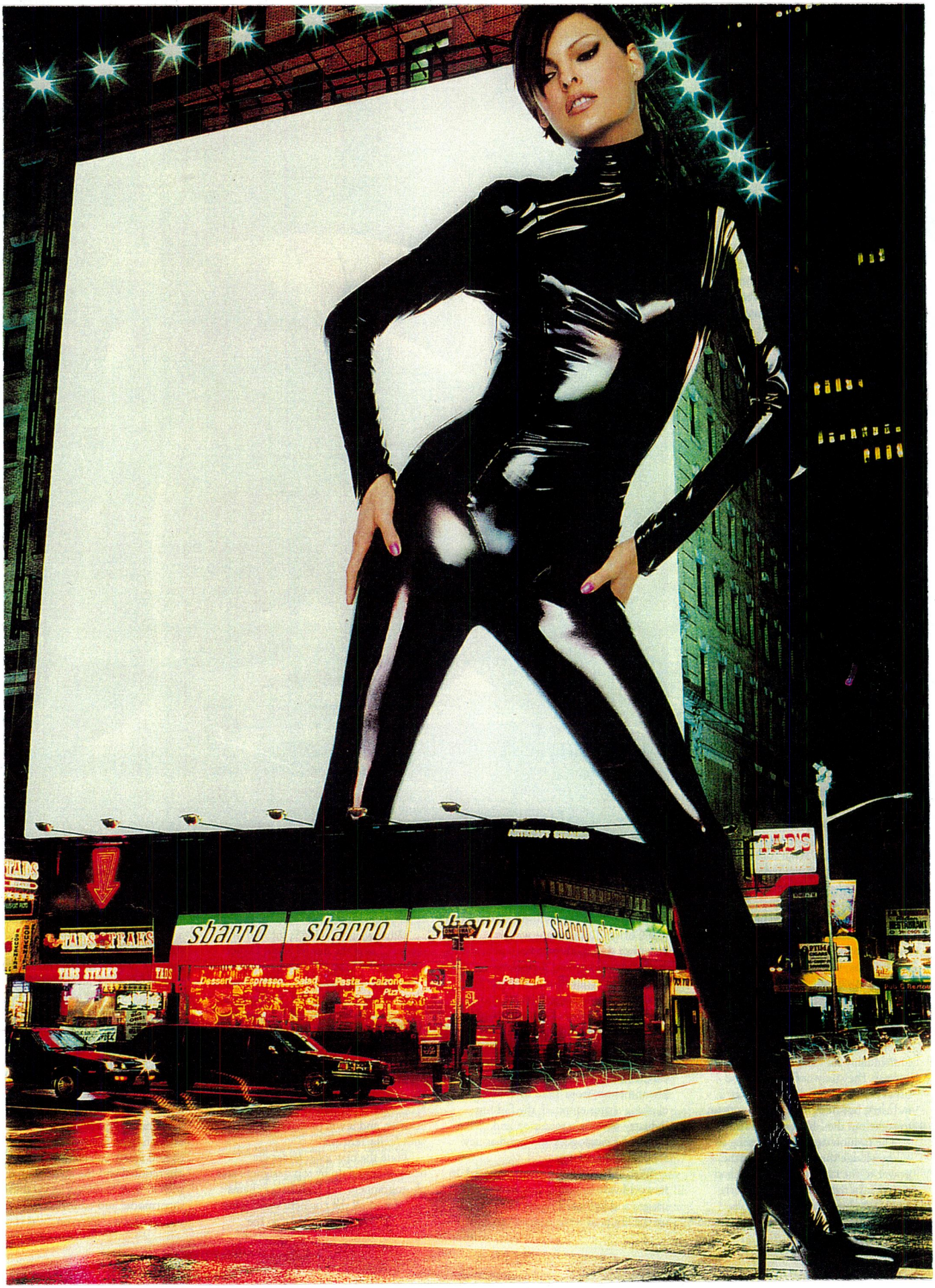

Fig.36 **Supermodel Advertisements, Sunday Times Mag, 1996**
The Imposing Figure on a Bill Board

modern ideals are not human. Manufactured by fashion, medical technology and digitally altered, airbrushed and glamourised, this imposing figure of perfection is a product of 'second nature' (Fig.37). But these ideals have become accessible to the average consumer. Technology has made it possible for Cindy Jackson to become a supermodel look-a-like. Technology's new capabilities will be irresistible in a growingly consumerised society.

So what is the future of cyber-fashion ? I have already stated that technology is reshaping fashion and its ideals. But it is only starting. Fashions emphasis will change from clothes to the body. Our bodies will express trends and ideals. Clothing will be much more functional. In a fashion context, it will be used to enhance the perfected body. Cosmetics will become fashion's focus point.

Can we foresee an age of designer bodies ?

> 'Into the next century, changing the way your body looks and works maybe a matter simply of visiting your high-street plastic surgeon . . .'
>
> (Blair, Jan 1997, p.60)

Fashion houses could be eventually accessed on the Internet, our credentials tapped in and a designer could choose our look. The ultimate in made-to-measure fashion.

> '. . . and in the future, patients themselves could redesign the way they look. Images created by two dimensional computer tomography scans will be fed into a program to produce a 3-D head with which you could try out different styles of nose, eyes, ears and lips.'
>
> (Blair, Jan 1997, p.60)

What society has geared us to find attractive is no longer real;

> 'Everybody wants to create something so intense it would make you lose your balance. 'What everybody' wants is an illusion so perfect is will fool us.'
>
> (Slouka, 1995, p.100)

Virtual reality could play a fundamental new role in the industry. It could mean the elimination of catwalks and shopping trips when the whole event can be programmed into a computer and sent out to clients to use on the virtual reality head and body sets (Fig.38). Virtual reality is becoming fully sensory, tapping into our brainwaves so the trying on of garments would even be possible.

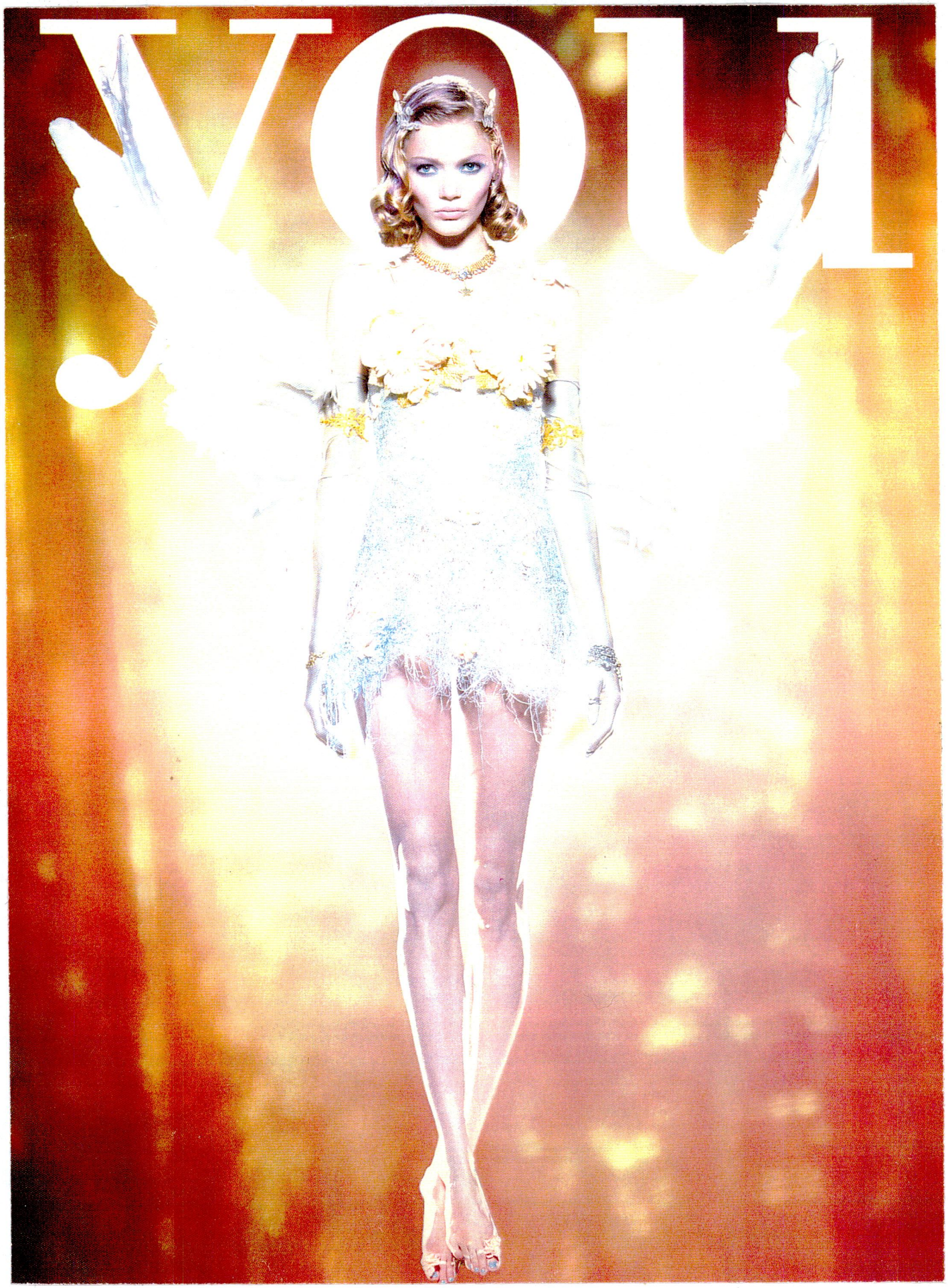

Fig. 37 **You Magazine advertisement Vogue, 1996**
Is this really You ? What is this ad saying ?

Fig.38 **Virtual Reality Headset, Leonardo, 1997**

Kersuka Oki, in an article entitled 'Brain Wave Rider' describes how a virtual reality computer game works. This process could be applied to a shopper who could try on the garments and see and feel them on without leaving his or her sitting room.

> 'A headband equipped with brainwave detection sensors and --- helmet and goggles. Their brainwave data are analysed by two computers. A third computer reads the analysed data and controls the devices for the sound and images.'
>
> (Oki, Leonardo, Vol.28, 1995, p.307)

As modern surreal fashion ideals become more achievable through interface, they appear less surreal (Fig.39). Is our future as Stelarc suggested one of 'self-evolution'?

> 'Virtuality is logical in the context of a virtual age.'
>
> (Slouka, 1995, p.100)

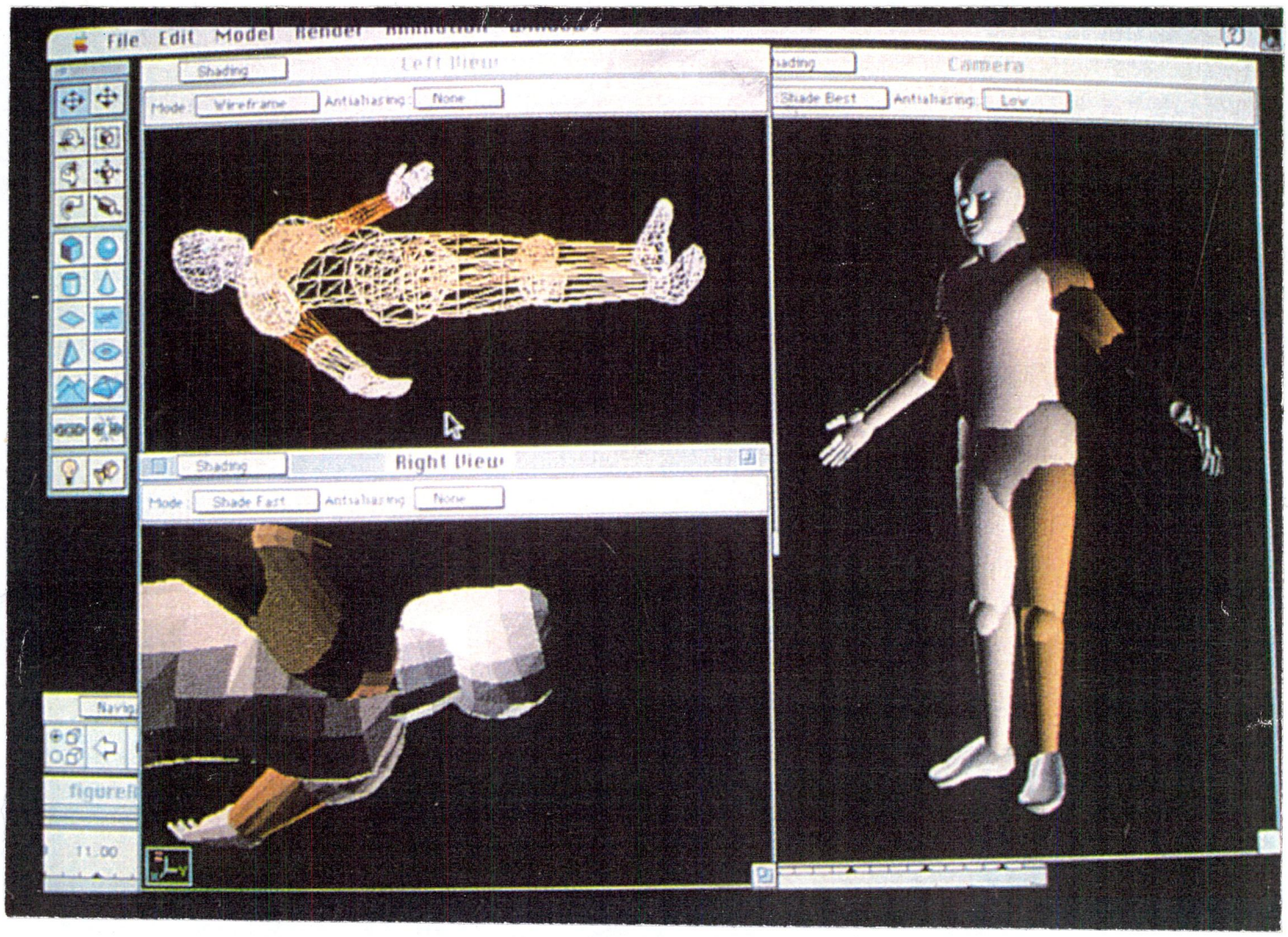

Fig.39 Computer Wire-Frame of Body

CONCLUSION

Man has never been satisfied with the natural body bestowed on him or her. Humanity, influenced by culture and race has altered, mutated, and remoulded the body.

The fashionable body has seldom been the natural body. But new technology is altering the fashionable body in a new way. Computerisation has created a global culture, mainstreaming and eliminating varieties of culture. Now we are influenced by a computerised society that sets the ideals.

In the 21st century the fashionable world will combine with areas with which it would have been impossible in the past. Fashion is meeting medicine and computer technology and the three are reshaping our idea of 'self'. As the fashion ideal becomes more and more synthesised by medical technology and is digitally altered, airbrushed and glamourised, people take it for reality.

This questions the notion of fashion. If clothes become unimportant in shape, if they are not used to reshape and enhance, then what is the future of fashion ? Fashion is not just about clothes, it is a way of living. Consumer society needs fashion to sell product. The modern computerised world has made it possible for almost everyone to be influenced by fashion.

Fashionable clothing will be more about accentuating the perfect, technically enhanced body. Most people today still see clothing and fashion acting as a means of masking, altering and decorating the natural body. People find it difficult to relate to modern fashion ideals that seem to be for an exclusive sector of perfection. But now, more and more people are finding modern fashion, based on a perfect body, accessible and achievable through 'interface'.

In the next century, interface design will be playing a much more important and invasive role in our lives. The new face of fashion will comfortably incorporate human-machine interface, synthetic body parts and even bodies. In this new concept of fashion, fabrics will not just clothe the body, but interact with it, and enhance its physical properties.

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