On the Cutting Edge: Cosmetic Surgery and the Technological Production of the Gendered Body
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The Biotechnological Reproduction of Gender

Among the most intriguing new body technologies developed during the decade of the 1980s are techniques of visualization that redefine the range of human perception. New medical imaging technologies such as laparoscopy and computer tomography (CT) make the body visible in such a way that its internal status can be accessed before it is laid bare or opened up surgically. Like the techniques that enable scientists to encode and read genetic structures, these new visualization technologies transform the material body into a visual medium. In the process the body is fractured and fragmented so that isolated parts can be visually examined: the parts can be isolated by function, as in organs or neuron receptors, or by medium, as in fluids, genes, or heat. At the same time, the material body comes to embody the characteristics of technological images.

When the human body is fractured into organs, fluids, and genetic codes, what happens to gender identity? In a technologically deconstructed body, where is gender located? Gender, like the body, is a boundary concept; it is at once related to the physiological sexual characteristics of the human body (the natural order of the body) and to the cultural context within which that body "makes sense." The widespread technological refashioning of the "natural" human body suggests that gender too would be ripe for reconstruction. Advances in reproductive technology already decouple the act of procreation from the act of sexual intercourse. Laparoscopy has played a critical role in the assessment of fetal development, with the attendant consequence that the fetal body has been metaphorically (and sometimes literally) severed from its natural association with the female body and is now proclaimed to be the new, and most important obstetric patient. What effects do these biotechnological advances have on cultural definitions of the female body? As is often the case when seemingly stable boundaries (human/artificial, life/death, nature/culture) are dis-
placed by technological innovation, other boundaries are more vigilantly guarded. Indeed, the gendered boundary between male and female is one border that remains heavily guarded despite new technological ways to rewrite the physical body in the flesh. So that it appears that while the body has been reencoded within discourses of biotechnology and medicine as belonging to an order of culture rather than of nature, gender remains a naturalized point of human identity. As Judy Wajcman reminds us: "technology is more than a set of physical objects or artefacts. It also fundamentally embodies a culture or set of social relations made up of certain sorts of knowledge, beliefs, desires, and practices." My concern here is to describe the way in which certain biotechnologies are ideologically "shaped by the operation of gender interests" (23) and, consequently, how these serve to reinforce traditional gendered patterns of power and authority. Judith Butler describes the gendered body as "a set of repeated acts within a highly rigid regulatory frame that congeal over time to produce the appearance of substance," she identifies the mechanism whereby "naturalized" gender identities are socially and culturally reproduced.

Carole Spitzack suggests that cosmetic surgery actually deploys three overlapping mechanisms of cultural control: inscription, surveillance, and confession. According to Spitzack, the physician's clinical gaze functions like Foucault's medical gaze; it is a disciplinary gaze, situated within apparatuses of power and knowledge, that constructs the female figure as pathological, excessive, unruly, and potentially threatening. This gaze disciplines the unruly female body by first fragmenting it into isolated parts—face, hair, legs, breasts—and then redefining those parts as inherently flawed and pathological. When women internalize a fragmented body image and accept its "flawed" identity, each part of the body then becomes a site for the "fixing" of her physical abnormality. Spitzack characterizes this acceptance as a form of confession.

In the scenario of the cosmetic surgeon's office, the transformation from illness to health is inscribed on the body of the patient. . . . The female patient is promised beauty and re-form in exchange for confession, which is predicated on an admission of a diseased appearance that points to a diseased (powerless) character. A failure to confess, in the clinical setting, is equated with a refusal of health; a preference for disease.

But the cosmetic surgeon's gaze does not simply medicalize the female body, it actually redefines it as object for technological reconstruction. In her reading of the women's films of the 1940s, Mary Ann Doane employs the concept of the "clinical eye" to describe how the technolog-
transforms the material body into a sign of culture. The discourse of cosmetic surgery offers provocative material for a discussion of the cultural construction of the gendered body because, on the one hand, women are often the intended and preferred subjects of such discourse, and on the other, men are often the bodies doing the surgery. Cosmetic surgery is not then simply a discursive site for the "construction of images of women," but in actuality, a material site at which the physical female body is surgically dissected, stretched, carved, and reconstructed according to cultural and eminently ideological standards of physical appearance.

There are two main fields of plastic surgery. Whereas reconstructive surgery works on catastrophic, congenital or cancer-damage deformities, cosmetic or aesthetic surgery is often an entirely elective endeavor. And whereas reconstructive surgery is associated with the restoration of health, normalcy, and physical function, cosmetic surgery is said to improve self-esteem, social status, and sometimes even professional standing.

All cosmetic surgery implicitly involves aesthetic judgments of facial proportion, harmony, and symmetry. In fact, one medical textbook strongly encourages plastic surgeons to acquire some familiarity with classical art theory so that they are better prepared to "judge human form in three dimensions, evaluate all aspects of the deformity, visualize the finished product, and plan the approach that will produce an optimal result." CODifying the aspects of such an "aesthetic sense" seems counter-intuitive, but in fact, there is a voluminous literature that reports the scientific measurement of facial proportions in an attempt to accomplish the scientific determination of aesthetic perfection. According to one plastic surgeon, most cosmetic surgeons have some familiarity with the anthropological fields of anthropometry and human osteology. "Anthropometry," which is defined in one source as "a technique for the measurement of men, whether living or dead," is actually a critically important science used by a variety of professional engineers and designers. One example of practical anthropometry is the collection of measurements of infant's and children's bodies for use in the design of automobile seat restraints. Of course it makes a great deal of sense that measurement standards and scales of human proportions are a necessary resource for the design of products for human use; in order to achieve a "fit" with the range of human bodies that will eventually use and inhabit a range of products from office chairs to office buildings, designers must have access to a reliable and standardized set of body measurements. But when the measurement project identifies the "object" being measured as the "American negro" or the "ideal female face," it is less clear what practical use these measurements serve.

If "anthropometry is a technique for the measurement of men," the fascination of plastic surgeons is the measurement of the ideal. One well-cited volume in a series published by The American Academy of Facial Plastic and Reconstructive Surgery, titled Proportions of the Aesthetic Face (by Nelson Powell and Brian Humphreys) proclaims that it is a "complete sourcebook of information on facial proportion and analysis." In the "Preface" the authors state:

The face, by its nature, presents itself often for review. We unconsciously evaluate the overall effect each time an acquaintance is made . . . This [impression] is generally related to some scale of beauty or balance . . . .

The harmony and symmetry are compared to a mental, almost magical, ideal subject, which is our basic concept of beauty. Such a concept or complex we shall term the "ideal face." According to the authors, the purpose of this text is quite simple: to document, objectively, the guidelines for facial symmetry and proportion. Not inconsequentially, the "Ideal Face" depicted in this book—both in the form of line drawings and in photographs—is of a white woman whose face is perfectly symmetrical in line and profile (Figure 1). The authors claim that although the "male's bone structure is sterner, bolder, and more prominent . . . the ideals of facial proportion and unified interplay apply to either gender" (2). And as if to prove the point, they provide an illustration of the ideal male face in the glossary (Figure 2). As I discuss later, this focus on the female body is
prevalent in all areas of cosmetic surgery—from the determination of ideal proportions to the marketing of specific cosmetic procedures. The source or history of these idealized drawings is never discussed. But once the facial proportions of these images are codified and measured they are reproduced by surgeons as they make modifications to their patients’ faces. Even though they work with faces that are individually distinct, surgeons use the codified measurements as a guideline for the determination of treatment goals in the attempt to bring the distinctive face in alignment with artistic ideals of symmetry and proportion.

The treatment of race in this book on “ideal proportions of the aesthetic face” reveals a preference for white, symmetrical faces that heal (apparently) without scarring. On the one hand the authors acknowledge that “bone structure is different in all racial identities” and that “surgeons must acknowledge that racial qualities are appreciated differently in various ethnic groups.” Yet, “the facial form [should be] able to confer harmony and aesthetic appeal regardless of race.” It appears that this appreciation for the aesthetic judgement “regardless of race” is not a widely shared assumption among cosmetic surgeons. Napoleon N. Vaughn reports that many cosmetic surgeons “mindful of keloid formation and hyperpigmented scarring, routinely reject black patients.” But the issue of scar issue formation is entirely ignored in the discussion of the “proportions of the aesthetic face.” Postell and Humphreys simply argue that black faces can be evaluated in terms of ideal proportions determined by the measurement of Caucasian faces, but fail to address the issue of post surgical risks that differentiate black patients from Caucasian ones. Although it is true that black patients and patients with dark ruddy complexions have a greater propensity to form keloid or hypertrophic scars than do Caucasian patients, many physicians argue that black patients who are shown to be prone to keloid formation in the lower body are not necessarily prone to such formations in the facial area and upper body; therefore a racial propensity for keloid formation should not be a reason to reject a black patient’s request for facial cosmetic surgery. And according to Arthur Sumrall, even though “postoperative dyschromic changes and surgical incision lines are much more visible in many black patients and races of color than their Caucasian counterpart,” these changes and incision lines greatly improve with time and corrective cosmetics. As an abstraction the “aesthetic face” is designed to assist surgeons in planning surgical goals; but as a cultural artifact, the “aesthetic face” symbolizes a desire for standardized ideals of Caucasian beauty.

It is clear that any plastic surgery invokes standards of physical appearance and functional definitions of the “normal” or “healthy” body. Upon closer investigation we can see how these standards and definitions are culturally determined. In the 1940s and 50s, women reportedly wanted “pert, upturned noses,” but according to one recent survey this shape has gone out of style. “The classic, more natural shape is the ultimate one with which to sniff these days.” 8 The obvious question becomes, what condition does the adjective “natural” describe? In this case we can see how requests for cosmetic reconstructions show the waning and waxing of fashionable desires; in this sense, “fashion surgery” might be a more fitting label for the kind of surgery performed for nonfunctional reasons. But even as high fashion moves toward a multiculturalism in the employ of nontraditionally beautiful models, it is striking to learn how great is the demand for cosmetic alterations that are based on western markers of ideal beauty. In a New York Times Magazine feature, Ann Louise Bardach reports that many women often desire surgery to effect a more “western” eye shape. Indeed, in several medical articles this surgery is actually referred to as “upper lid westernization,” and is reported to be “the most frequently performed cosmetic procedure in the Orient.” The surgeons explain:

An upper lid fold is considered a sign of sophistication and refinement to many Orientals across all social strata. It is not quite accurate to say that Orientals undergoing this surgery desire to look Western or American; rather, they desire a more refined Oriental eye . . . . 7 An upper lid westernization blepharoplasty frequently is given to a young Korean woman on the occasion of her betrothal [210].

Although other surgeons warn that it is “wise to discuss the Oriental and Occidental eye anatomy in terms of differences not defects,” at least one of the other medical articles on this type of surgery was titled “Correction of the Oriental Eyelid.” In terms of eyelid shape and design, the authors do not comment on how the “natural” Oriental eye came to be described as having a “poorly defined orbital and periorbital appearance;” thus, when their Oriental patients request “larger, wider, less flat, more defined, more wake-appearing eyes and orbital surroundings,” these surgeons offer an operative plan for the surgical achievement of what is commonly understood to be a more westernized appearance. In discussing the reasons for the increased demand for this form of blepharoplasty “among the Oriental,” Marwali Harahap notes that this technique became popular after World War II; this leads some surgeons to speculate that such a desire for westernized eyes “stem[s] from the influence of motion pictures.
and the increasing intermarriage of Asian women and Caucasian men.\textsuperscript{31}

The Marketing of Youthfulness

When a young girl born with "hidden eyes" was scheduled to have massive face reconstruction surgery, surgeons hoped to construct eyelids for her where there were none.\textsuperscript{32} Her surgical plan included the procedures of eyelid operations called "blepharoplasty." The key objectives for her eye surgery were "normaity" and "functionality." A review of medical literature on reconstructive surgery reveals that blepharoplasty (eyelid operations) is a common technique of "youth surgery."\textsuperscript{33} Because body tissue loses its elasticity in the process of aging, eyelids often begin to sag when a person reaches the early fifties. Bagginess is caused by fat deposits that build up around the eye and stretch the skin, producing wrinkling and sagging, and is most likely the result of a hernia—the weakening of the tissue around the eye—in which the fat deposits push outward and downward. Although eye strain and fatigue can result from overworking the muscles around the eyes in an effort to keep eyes looking alert and open, eyelid surgery very rarely involves a "catastrophic" or "cure-based" medical rationale. Yet it is quite common in both the popular and professional literature for a plastic surgeon to refer to eye bags as a "defomity." This is a simple example of the way in which "natural" characteristics of the aging body are redefined as "symptoms" with the consequence that cosmetic surgery is rhetorically constructed as a medical procedure with the power to "cure" or "correct" such physical deformities.\textsuperscript{34}

Several types of aesthetic surgery have been explicitly marketed for an aging babyboomer population with the promise that external symptoms of aging can be put off, taken off, or virtually eliminated. By the end of the 1980s, the most requested techniques of cosmetic surgery included face lifts, nose reconstructions, tummy tucks, liposuction, skin peels, and hair transplants—surgical techniques that are specifically designed to counteract the effects of gravity and natural body deterioration.\textsuperscript{35} More than a few articles have reported that babyboomers are the preferred market for these new medical procedures; as a demographic group they (1) have more money than time to spend on body maintenance, and (2) are just beginning to experience the effects of aging en masse.\textsuperscript{36} Given the size of the babyboomer population, it is no surprise then that as the first wave of babyboomers reach their late forties we should see an increase in advertisements for services such as dental bonding and implants, requests for "revolutionary" new drugs such as Retin-A, and articles about rejuvenation drugs manufactured in Europe from dried fetal extracts.\textsuperscript{37} Even though the size of the target market for these products is going to continue to increase during the next decade, the competition among plastic surgeons has intensified such that many of them are using image consultants to design advertising campaigns to attract clients. One campaign that drew a round of criticism from other surgeons displayed a surgically sculpted shapely female body draped over an expensive car. While this is hardly a new combination for U.S. beer advertisers, many cosmetic surgeons claimed that such advertising tarnishes the dignified image of their medical profession.\textsuperscript{38}

Plastic surgeons are instructed to warn preoperative patients that "this is medicine and not the beauty parlor," but in the same breath, they are also taught that "in our society many cosmetic surgical procedures are not a luxury but are considered necessary."\textsuperscript{39} Apparently this creates a bit of a tension for cosmetic surgeons who, on the one hand, are keenly aware of the fact that the service they provide is often an entirely elective endeavor, but on the other also realize the potentially serious physical consequences of their medical service. This tension is managed discursively when both physicians and patients construct "curative" justifications for the voluntary submission to surgical treatment.\textsuperscript{40} G. Richard Holt and Jean Edwards Holt obliquely refer to the fact that most eyelid operations (blepharoplasty) are done for purely cosmetic reasons and not to increase physical functioning:

Although there are obvious cosmetic advantages to nearly every blepharoplasty, it must be remembered that functional indications are of primary importance. There are several alterations in function that can be improved by a blepharoplasty, and these should be identified preoperatively. They also serve as important diagnoses that are accepted by many third-party insurance carriers as sufficient to warrant payment for the procedure. However, they should be reported as such only if they actually exist.\textsuperscript{41} (emphasis added)

Apparently, the use of "curative" justifications in a diagnosis does not only function discursively to manage an anxious patient, it also legitimates and authorizes the "elective" surgery for insurance coverage. In the climate of a recession, insurance reimbursement is vital to the continuing health of a medical specialty.\textsuperscript{42} Although a more detailed discussion of the economics of medical diagnoses is beyond the scope of this paper, it is likely that an investigation into the determining factors of medical reporting would find that economic forces influence the distinction between what can be identified as a "necessary" recon-
constructive procedure and the procedures that are considered purely “elective.”

Through the advertising channels of consumer culture, the practices of cosmetic surgery have been transformed into commodities themselves. In one medical report, the surgeon-physicians blatantly claim that “society’s emphasis on a youthful appearance has created a demand for cosmetic plastic surgery.”44 Mary Ruth Wright, a clinical professor of psychology at Baylor University, explains:

Today medicine encompasses far more than healing, saving, and serving. It has become a commodity, and consumer demands beyond reasonable expectations have emerged. Furthermore, today’s concept of medical care goes beyond a physician-patient relationship; it involves society and the community as a whole. Perhaps medicine has overshot its marks; however, little is to be gained by looking back. We are here, practicing medicine in an age where the wonders of technology have put in the hands of physicians what used to be in the hands of fate. The elective surgeon, freed by an exemption from acute medical treatment, is especially affected by the changes that are occurring in the spectrum of modern medicine.45

Even though Wright raises the question of whether or not plastic surgeons are operating beyond the acceptable confines of a medical profession—by performing entirely elective procedures—she dismisses such concerns by refocusing on the biotechnological marvels that “the elective surgeon” can effect. Although her rhetoric sidesteps the question of agency when she states that “elective surgeons are freed from acute medical treatment,” her statements implicitly argue that it is the mechanism of the marketplace that “freezes” cosmetic surgeons from their duties to provide “acute medical treatment.”

One of the consequences of the commodification, and correspondingly, the normalization of cosmetic surgery is that electing not to have cosmetic surgery is sometimes interpreted as a failure to deploy all available resources to maintain a youthful, and therefore socially acceptable and attractive, body appearance. Kathryn Pauly Morgan, in an essay in a special issue of Hypatia on “Feminism and the Body,” argues that the normalization of cosmetic surgery—“the inversion of the domains of the deviant and the pathological”—are “catalyzed by the technologizing of women’s bodies.”46 From this point, Morgan goes on to discuss the more philosophical question of why “patients and cosmetic surgeons participate in communities of the deepest of original philosophical sins, the choice of the apparent over the real.”

The issue I would like to consider, drawing on Morgan’s analysis of the increasing “naturalization” of cosmetic alteration, is to elaborate the mechanism whereby the apparent is transformed into the real. How are women’s bodies technologized? What is the role of cosmetic surgery in the technological reproduction of gendered bodies?

Cosmetic Surgery as a Technology of the Gendered Body

In recent years, more men are electing cosmetic surgery than in the past, but often in secret.47 As one article reports: “previously reluctant males are among the booming number of men surreptitiously doing what women have been doing for years: having their eyelids lifted, jaws removed, ears clipped, noses reduced, and chins tightened.” One cosmetic surgeon elaborates the reasons that men are beginning to seek elective cosmetic surgery:

A middle-aged male patient—we’ll call him Mr. Drop-out—thinks he has a problem. He doesn’t think he’s too old for the lovely virgins he meets, but he wants to improve things ... When a man consults for aging, generally he is not compulsive about looking younger but he seeks relief from one or more specific defects incidental to aging: male pattern baldness ... forehead wrinkling ... turkey-gobbler neck. There are many things that can be done to help the aging man look younger or more virile.48

According to yet another cosmetic surgeon, the reason for some men’s new concern about appearance is “linked to the increasing competition for top jobs they face at the peak of their careers from women and Baby Boomers.”49 Here the increase in male cosmetic surgery is explained as a shrewd business tactic: “looking good” connotes greater intelligence, competence, and desirability as a colleague. Charges of narcissism, vanity, and self-indulgence are put aside; a man’s choice to have cosmetic surgery is explained by appeal to a rhetoric of career enhancement: a better looking body is better able to be promoted. In this case, cosmetic surgery is redefined as a body management technique designed to reduce the stress of having to cope with a changing work environment, one that is being threatened by the presence of women and younger people.50 While all of these explanations may be true in the sense that this is how men justify their choice to elect cosmetic surgery, it is clear that other explanations are not even entertained: for example, what about the possibility that men and women are becoming more alike with respect to “the body beautiful,” that men are engaging more frequently in female body activities, or even simply that a concern with appearance is not solely a characteristic of women? What about the possibility that the boundary between genders is eroding? How is it that men avoid the pejorative labels attached to female cosmetic surgery clients?51
In their ethnomethodological study of cosmetic surgery, Diana Dull and Candace West examine how surgeons and patients “account” for their decisions to elect cosmetic surgery. They argue that when surgeons divide the patient’s body into component parts and pieces it enables both “surgeons and patients together [to] establish the problematic status of the part in question and its ‘objective’ need of ‘repair’ ”

natural” and “normal” and as a consequence of their (natural) preoccupation with appearance. Because their “essential” natures are defined very differently, men, on the other hand, must construct elaborate justifications for their decision to seek cosmetic alterations. This analysis illuminates one of the possible reasons why men and women construe different accounts of their decision to elect cosmetic surgery: the cultural meaning of their gendered bodies already determines the discursive rationale they can invoke to explain bodily practices. Where the bodies and faces of male farmers and construction workers, for example, are excessively “tanned” due to their constant exposure to the sun as part of their work conditions, their reddish, leathery skin is not considered a liability or deformity of their male bodies. In contrast, white women who display wrinkled skin due to excessive tanning are sometimes diagnosed with “The Miami Beach Syndrome,” and as one surgeon claims: “we find this type of overly tanned, wrinkled skin in women who not only go to Miami every year for three or four months, but lie on the beach with a sun reflector drawing additional rays to their faces.” It is not surprise then, that although any body can exhibit the “flaws” that supposedly justify cosmetic surgery, discussion and marketing of such procedures usually constructs the female body as the typical patient. Such differential treatment of gendered bodies illustrates a by-now familiar assertion of feminist studies of the body and appearance: the meaning of the presence or absence of any physical quality varies according to the gender of the body upon which it appears. Clearly an apparatus of gender organizes our seemingly most basic, natural, interpretation of human bodies, even when those bodies are technologically reshaped. Thus it appears that although technologies such as those used in cosmetic surgery can reconstruct the “natural” identity of the material body, they do little to disrupt natuaralization of essentialized gender identity.

Wendy Chaplis amplifies this point when she writes: “however much the particulars of the beauty package may change from decade to decade—curves in or out, skin delicate or ruddy, figures fragile or fit—the basic principles remain the same. The body beautiful is woman’s responsibility and authority. She will be valued and rewarded on the basis of how close she comes to embodying the ideal.” In the popular media, advertisements for surgical services are rarely, if ever, addressed specifically to men. In a 1988 advertising campaign for The Lipoaction Institute in Chicago, every advertisement featured an illustration of a woman’s (saddlebag) thighs as the “before” image of liposuction procedures. And of course, many cosmetic alterations are designed especially for women: tattooed eyeliner marketed as “the ultimate cosmetic”; electrolysis removal of superfluous hair; and face


(67). But Dull and West go on to argue that this process of fragmentation occurs in “tandem with the accomplishment of gender” which, in relying upon an essentialist view of the female body as always “needing repair,” understands women’s choice for cosmetic surgery as
An advertising representative for DuraSoft explains that the company has begun marketing their colored contact lenses specifically to black women ostensibly because DuraSoft believes that "black women have fewer cosmetic alternatives," but a more likely reason is for surgical fixes. Women in their late thirties and forties are the most likely candidates for repeat plastic surgery. According to Psychology Today the typical "plastic surgery junkie" is a woman who uses cosmetic surgery as an opportunity to "indulge in unconscious wishes." Newsweek diagnoses the image problems "scalpel slaves" have:

Women in their 40's seem particularly vulnerable to the face-saving appeal of plastic surgery. Many scalpel slaves are older women who are recently divorced or widowed and forced to find jobs or date again. Others are suffering from the empty-seat syndrome. "They're re-entry women," says Dr. Susan Chobanian, a Beverly Hills cosmetic surgeon. "They get insecure about their appearance and show up every six months to get nips and tucks... Plastic-surgery junkies are in many ways akin to the anorexic or bulimic," according to doctors. "It's a body-image disorder," says one physician. "Junkies don't know what they really look like." Some surgery junkies have a history of anorexia in the late teens, and now, in their late 30's and 40's, they're trying to alter their body image again.

The naturalized identity of the female body as pathological and diseased is culturally reproduced in media discussions and representations of cosmetic surgery services. Moreover, the narrative obsessively recounted is that the female body is flawed in its distinctions and perfect when differences are transformed into sameness. But in the case of cosmetic surgery the nature of the "sameness" is deceptive because the promise is not total identity reconstruction—such that a patient could choose to look like the media star of her choice—but rather the more eloquent pledge of "beauty enhancement." When cosmetic surgeons argue that the technological elimination of facial "deformities" will enhance a woman's "natural" beauty, we encounter one of the most persistent contradictions within the discourse of cosmetic surgery: namely the use of technology to augment "nature.

Morphing and the TechnoBody

Surgeons are taught that the consultation process is actually an incredibly complex social exchange during which patients and surgeons must negotiate highly abstract goals. The accomplishment of goals is said to be directly related to patient satisfaction:

[Defining aesthetic goals with patients obviously involves the hazards of perception... Any practitioner who has recommended and performed orthognathic surgery has most likely encountered patients with unrealistic aesthetic expectations. The surgical team most often accomplishes their

functional and aesthetic goals, but, in this situation, the patient is disappointed... Function, aesthetics, and shaping the patient's expectations into reality must all be addressed while keeping in mind the patient's best interests and desires.41

The most commonly used methods of patient facial analysis are radiographic and photographic analysis where the facial profile is rendered in a two-dimensional medium.42 The use of photographs and grease pencils is perhaps the simplest method of the surgeon-patient consultation where the task at hand is to suggest the possible benefits of cosmetic surgery at the same time that the patient must be made aware of the surgical plan. Using a polaroid camera to produce an instantaneous photograph, surgeons often draw lines with markers to indicate the locations of incisions or stretch lines. "Photograph surgery" is a communication method to negotiate between a patient's expectations and likely surgical outcomes where the reality of those black grease pencil lines invoke the use of surgical procedures that literally cut into the face and reconstruct it, rendering whatever features nature created obsolete and irrecoverable.43

The various 2-D consultation methods were developed to effect an "objective method of facial analysis" which is understood to be a necessary part of adequate preoperative planning and postoperative evaluation.44 But since 1989, some cosmetic surgeons have been employing new visualization techniques that render the patient's face in three dimensions. The use of video imaging replaces the use of grease pencil lines and photographic surgery that some surgeons thought were an inadequate system of consultation because "even when adjustments have been 'drawn on' by the surgeon, it is difficult for most patients to imagine what they might look like postoperatively."45

With 3-D imaging, the surgeon can manipulate an actual image of the client's face. Although the cost and skill requirements of these computerized imaging systems represents a sizable investment, using this method of consultation is promoted as a way to manage patient expectations because it provides more information about the results that surgery can accomplish. More information, in this case, is said to lead to greater patient reassurance. Indeed, one recent study reports that the use of video imaging is well accepted by patients and that most felt that "video imaging improved communication between patient and surgeon, increased confidence in surgery and surgeon, and enhanced the patient-physician relationship."46

The video imaging consultation begins with a series of video shots that must be taken with great precision in terms of camera angle, lighting, face position, makeup and hair display.47 Preoperative photographt precision is necessary to ensure that postoperative photographt will objectively record surgical results and not camera special effects. The preoperative video shots are digitally scanned into a computer and then manipulated with the use of an imaging processing system. To begin the consultation, the cosmetic surgeon displays two images of the patient's face on the computer screen. The left-hand image will remain untouched and unmarked. It serves as the prototypi-
cal "before picture" of the prospective cosmetic surgery client. The right-hand image will be manipulated by the cosmetic surgeon using a stylus and pressure-sensitive sketch pad. Using what is really a modified computer "painting" program, the surgeon can manipulate the image in several ways: (1) by picking up a line (a jaw line, for example) and moving it, (2) by reducing a part of the image with an eraser tool, thus eliminating a double chin for example, or (3) by stretching a part of the face to show what heightened cheekbones might look like. Throughout the various manipulations, the right-hand image of the patient retains its visual integrity in that it continues to resemble the original, left-hand image save for the artistic manipulations performed by the surgeon. The surgeon can either display multiple procedures on one image or reproduce additional images that illustrate the effects of only one procedure at a time. With the use of a range of rendering tools, which are basically a set of artist's tools (spray can, pencil, eraser), the surgeon can redesign a client's face in the space of a thirty minute consultation.

In an interview with one surgeon who uses this method of patient consultation, he explained that when prospective patients seek surgery they only have a layerperson's understanding of facial anatomy. For example, they might believe that in order to get rid of deep lines around the nose the surgeon need only stretch the cheeks and tuck the extra skin behind the ear. But what they really need, he clarified, is to have the surgeon heighten the cheekbones with an implant and bob the nose which will pull the skin taut over the new cheeks; consequently the lines and folds on either side of the nose will be eliminated and the size of the nose will stay proportionate to cheek width. In this example, the imaging device would enable the surgeon to educate the patient about the different methods for accomplishing surgical goals. In fact, this surgeon emphasized that the imaging device allows him to visually demonstrate the transformation of the patient's face that he can easily accomplish in surgery, something very difficult to demonstrate in a two-dimensional rendering format. For him, the imaging system is a mechanism whereby his artistic skill can be previewed by prospective patients.

The imaging program can also be used as a surgical planning device.
The program can calculate the distance, angle, or surface of the part of the right-hand image that has been modified. In this sense, a manipulated video image is more useful than a photograph in designing the actual surgery because the comparison between the video image and the cephalometric radiograph "allows for computerized quantification of treatment goals."48 So, if a nose profile line has been redrawn the imaging program can measure the difference between the redrawn line of the right-hand image and the original line on the left-hand image to determine the degree to which the nose needs to be modified during surgery; the surgeon can then use that measurement to plan the surgical procedure.49

Some physicians believe that the only way to manage patient expectation is to assure them of the competency of the physician's skill. Traditionally they have done this by showing a prospective patient photographs of previous patients' surgical results. But more recently, the use of new "high-tech" imaging devices have been employed as a symbol of the quality of the physician's service.

A computer imaging system is a wonderful educational tool in terms of marketing to patients who may not be familiar with the treatments and materials available today... Marketing the benefits of the system to patients is easy, according to [another physician], because the 'high-tech' equipment lets patients know that they can receive 'high-tech' treatment. It gives you the image and identity of being on the cutting edge of dentistry when you can offer the newest and best materials and techniques available.50

So in addition to using it as a counseling and planning device, the video imaging system can also be employed as a marketing tool. In this case, the expert manipulation of a video file using a computer painting program is translated into a marker of technological expertise in the operating room. But this use of the imaging system as a marketing tool is denounced by some surgeons who believe that its use borders on the unethical because it makes it easier to manipulate patients into having procedures that they do not need or want.

During interviews with surgeons who use or have used a video imaging system, I specifically asked about the controversy surrounding the new technology. The strongest claim for the use of video imaging is that it "provide[s] a realistic image of the aesthetic treatment objective that the patient can visualize." So while some surgeons dismiss it as a possibly unethical marketing device, other physicians argue that this device produces "realistic images," "realistic expectations," and a better representation of reality itself. More telling is the fact that several cosmetic surgeons in the Atlanta metro area have stopped using it as a consultation method because they found that video imaging encouraged patients to form unrealistic expectations about the kind of transformations that can be accomplished through surgical procedures. They report that patients seemed to believe that if a modification could be demonstrated on the video screen, then it could be accomplished in the operating room—that the video transformation guaranteed the physical transformation. Apparently the digital transformation of one's own face produces a magical liquid simulation that is difficult to reject. What they failed to understand is that one of the significant difficulties with any kind of cosmetic surgery is that soft tissue changes are impossible to predict accurately. A surgical incision or implantation always disrupts layers of skin, fat, and muscle. How those incised tissues heal is a very idiosyncratic matter—a matter of the irreducible distinctiveness of the material body. After hearing from a number of disappointed patients, members of the American Society of Plastic and Reconstructive Surgeons designed an official "Electronic Imaging Disclaimer" to be used by physicians who employ computerized images in preoperative consultations. Among the release statements that the patient must sign is one that reads: "I understand that because of the significant differences in how living tissue heals, there may be no relationship between the electronic images and my final surgical result."51 Where advertising executives play with the possibilities of morphing political candidates,52 cosmetic surgeons offer patients the promise of permanently "morphed" features. One of the key consequences that some surgeons have discovered is that witnessing video morphing dramatically undermines a patient's ability to distinguish between the real, the possible, and the likely in terms of surgery outcomes.

Conclusion

Through the application of techniques of inscription, surveillance, and confession, cosmetic surgery serves as an ideological site for the examination of the technological reproduction of the gendered body. A primary effect of these techniques is to produce a gendered identity for the body at hand, techniques that work in different ways for male bodies than for female bodies. In its encounters with the cosmetic surgeon and the discourse of cosmetic surgery, the female body becomes an object of heightened personal surveillance; this scrutiny results in an internalized image of a fractured, fragmented body. The body becomes the vehicle of confession; it is the site at which women, consciously or not, accept the meanings that circulate in popular
culture about ideal beauty and, in comparison, devalue the material body. The female body comes to serve, in other words, as a site of inscription, a billboard for the dominant cultural meanings that the female body is to have in postmodernity. 73

For some women, and for some feminist scholars, cosmetic surgery illustrates a technological colonization of women's bodies; for others, a technology women can use for their own ends. Certainly, as I have shown here, in spite of the promise cosmetic surgery offers women for the technological reconstruction of their bodies, such technologies in actual application produce bodies that are very traditionally gendered. Yet I am reluctant to accept as a simple and obvious conclusion that cosmetic surgery is simply one more site where women are passively victimized. Whether as a form of oppression or a resource of empowerment, it is clear to me that cosmetic surgery is a practice whereby women consciously act to make their bodies mean something to themselves and to others. A different way of looking at this technology might be to take seriously the notion I suggested earlier: to think of cosmetic surgery as "fashion surgery." Like women who get pierced-nose earrings, tattoos, and hair sculptures, women who elect cosmetic surgery could be seen to be using their bodies as a vehicle for staging cultural identities. Even though I have argued that cosmetic surgeons demonstrate an unshakable belief in a westernized notion of "natural" beauty, and that the discourse of cosmetic surgery is implicated in reproducing such idealization and manipulation of "the natural," other domains of contemporary fashion cannot be so idealized. The anti-aesthetics of cyberpunk and slacker fashion, for example, suggest that feminists, too, might wish to abandon our romantic conceptions of the "natural" body—conceptions that lead us to claim that a surgically refashioned face inevitably marks an oppressed subjectivity. As body piercing and other forms of prosthesis become more common—here I am thinking of Molly Millton's implanted mirrorshades and Jael's nailadaggers—we may need to adopt a perspective on the bodily performance of gender identity that is not so dogged by neoromantic wistfulness about the natural, unmarked body.

NOTES

1. The technical literature on biomedical imaging discusses everything from the architecture of computer systems for the creation and analysis of biological images, to the medical models that underlie such imaging systems. With respect to this last point, a 1989 editorial in the journal Computerized Medical Imaging and Graphics pointed out that "one factor that is often overlooked" in the discussions of computer imaging "is the quality of the physiological model underlying the creation of the image itself. If the physiological model is seriously in error, then the best computerized image analysis conceivable will simply perpetuate misconceptions" (2). Donald L. McEachron, "Editorial," Computerized Medical Imaging and Graphics (Jan.–Feb., 1989) 13:1:1–2.

2. Medical imaging programs are also being used in nonmedical cases. For example, a new computer program developed by two medical illustrators at the University of Illinois at Chicago produces age-progressed illustrations of missing children. A 1985 broadcast of the computer-aged pictures of two young girls abducted by their father eight years previously resulted in their return to their mother. Richard Brunelli, "Picture Age: A computer breakthrough can help find long-lost kids," Chicago Tribune (17 Nov. 1985), sec. 3:1, 9.


4. Although some scholars believe that biotechnology is actually an ancient practice, others identify it as emerging during the past half century, dating it from 1953 and the discovery of the DNA structure. Robert Bud, "Biotechnology in the Twentieth Century," Social Studies of Science 21 (1991): 415–57. What is less contestable is the fact that by the end of the 1980s the idea of the merger of the "biological" with the "technological" has infiltrated the imagination of Western culture where the "technological-human" has become a familiar figuration of the subject of postmodernity. For whatever else it might imply, this merger relies on a reconceptualization of the human body as a boundary figure belonging simultaneously to at least two previously incompatible systems of meaning—"the organic/natural" and "the technological/cultural." The construction of a boundary between nature and culture serves several ideological purposes; most notably, it guarantees a "proper" order of things that usually implies a hierarchy of culture over nature. At a very basic level, this socially constructed hierarchy functions to reassure a technologically overstimulated imagination that culture man will prevail in its encounters with nature. The role of the body in this boundary setting

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process is significant because it becomes the place where anxieties about the "proper order of things" erupt and are eventually ideologically managed.


11. I discuss other examples of the deployment of a technological gaze in female body building, the video art of Robert Heinecken, and new virtual reality applications in a book manuscript titled *Technologies of the Gendered Body*.


13. Anthropometry can be further divided into [rubrics]: somatology—measurement of the body of the living and of cadavers; cephalometry—measurement of the head and face; osteometry—measurement of the skeleton and its parts; and craniometry—measurement of the skull." William M. Bass, *Human Osteology* (Columbia: Missouri Archaeological Society, 1971). One of the well cited texts on anthropometry is M.F. Ashley Montagu, *A Handbook of Anthropometry* (Springfield, IL: Charles C. Thomas, 1960).


18. Powell and Humphreys go on to claim that "beauty itself is then a relative measure of balance and harmony, but most find it difficult to quantitate; however, lines, angles, and contours may be measured and gauged. Standards then can be established to evaluate the elusive goal of beauty" (ix). Thus the rest of their volume reports the geometrical constitution of the "Ideal Face." According to Powell and Humphreys, the ideal face is divided into five "major aesthetic masses" each of which is described in mathematical and geometrical detail in terms of anatomical distances, contour lines, and facial angles. The authors outline a method of analysis where an "aesthetic triangle relates the major aesthetic masses of the face, forehead, nose, lips, chin and neck to each other"; this method then can be used as a diagnostic tool whereby dentofacial deformities are defined as deviation from the ideal proportions. Powell and Humphreys 51.


21. In fact, one of the most central issues discussed in the book *Cosmetic Plastic Surgery in Nonwhite Patients* is that black patients, oriental patients, and patients with dark ruddy complexion have a greater propensity to form keloids or hypertrophic scars than do Caucasian patients. Macy G. Hall, Jr., MD. "Keloid-Scar Revision," ed. Pierce 203-208.


25. The U.S. edition of Elle magazine offers several examples of a refashioned primitivism as high fashion statement where both fashion and fashion


31. Marwah Harahap, MD, "Oriental Cosmetic Blepharoplasty," in Pierce, ed. 27–97. Quotation is from page 78.

32. The six year old girl was born with cryptophthalmos ("hidden eyes")—without normal eyelids or eye openings. She was treated by an University of Illinois surgeon who developed a technique for reconstructing normal openings. An ultrasound examination revealed that the girl had one eye, so the surgeon created a cavity around the eye and refashioned a "normal-appearing" set of upper and lower eyelids. Hopefully some vision will be effected. "Surgery will give girl a chance for sight," Chicago Tribune (17 January 1986), sec. 2: 1.


37. An article by Peter Jaret in SELF magazine describes the new tooth technology in a cavity-free era. Tooth cosmetics are a growing business and include such techniques as bonded porcelain veneers, dental implants to replace missing or decayed teeth, and ceramic braces that replace the metal ones of old. Peter Jaret, "Future Smiles," SELF (April 1989): 186–189. Although this fear of aging might appear to be a new phenomenon brought on by the aging babyboomers’ confrontation with body deterioration, it is actually the case that from the early 1900s on, crows feet, the tiny wrinkles formed at the corner of the eyes, have been defined as an aging “condition” treatable through surgical methods. Sylvia Rosenthal, Cosmetic Surgery: A Consumer’s Guide (Philadelphia: J.B. Lippincott Co, 1977). A cream used for almost twenty years as an acne treatment has been recently launched as a new “youth cream.” Retin-A not only treats acne but also is effective in removing wrinkles and liver spots. John Voorhees, the scientist who first confirmed the ability of Retin-A to reverse skin damage is quoted as saying: "I don’t want to say that this is the fountain of youth, but it’s the closest thing we have today." An editorial in the Journal of the American Medical Association referred to the significance of Voorhees study: "A new age has dawned." The day after the editorial appeared the stock value of Johnson & Johnson (the parent firm of Ortho Pharmaceutical) rose three points. Tim Friend, "Youth Cream: 'A new age has dawned,'” USA Today (22 January 1988), sec. 1: 1. Other rejuvenation drugs tested in Europe but not available in the U.S. include: Genovital, a mixture of prostate and stabilizers that seems to improve memory, muscular strength, and skin texture; Centrophenoixine, a compound that slows the skin aging process; DHEA (dehydroepiandrosterone), a naturally occurring hormone found in young adults that has been found to increase survival and improve immune
function in animals; Piracetam, a nootropic which shows some signs of improving memory function; and cerebral vasodilators, a category of drug that improves blood circulation to the brain which in turn is supposed to improve mental ability. Lynn Payer, "Rejuvenation Drugs," *Longevity* (June 1989): 25.

38. The news item read: "Dr. Charles D. Smithdeal's ad in *Los Angeles* magazine is a definite eye-catcher. In full color, on a full page, model Rebecca Ferrari lends her nearly bare body on a red Ferrari. Her flawless proportions are credited to Smithdeal, a Los Angeles cosmetic surgeon." Donna Kato, "A Shot of Glitz for Medical Marketing," *Chicago Tribune* (30 January 1989), sec 2: 1, 3.

39. Farrior and Jarchow 298.

40. Several papers in the Ward and Berman collection emphasize the point that prospective patients should be made to understand the serious nature of surgical procedures. But they also acknowledge that a patient's desire to remain attractive and to improve themselves is understandable and a paramount consideration that has bearing on their business, social and emotional areas." Farrior and Jarchow 297.


44. The authors of this report encourage other physicians to take advantage of the new market/demand for cosmetic procedures. Mary Wright, "The Elective Surgeon's Reaction to Change and Conflict," in Ward and Berman, ed. 523-529. Quotation is from page 525. But this type of opportunism on the part of certain kinds of surgeons has been denounced by other types of surgeons. For example, one licensed cosmetic surgeon reports that the "American Academy of Facial Plastic and Reconstructive Surgery" was only recently formed by physicians who had previously specialized in head and neck surgery and who now wanted to take advantage of the burgeoning demand for facial (cosmetic) surgery. He doubted that these surgeons were fully licensed Cosmetic Surgeons (of which there are only 3000 in the U.S.) and went on to suggest that problems with AMA (American Medical Association) board certification and inadequate training severely undermine the professional service that certain other surgeons can deliver. (Atlanta cosmetic surgeon, personal communication.)


48. Suzanne Dolezal, "More men are seeing their future in plastic—the surgical kind," *Chicago Tribune* (4 December 1988), sec 5: 13. A 1989 Ann Landers column reported that Texas prisons often provide free cosmetic surgery as therapy for convicts. She wrote that "a convicted rapist serving time in Louisiana received an implanted testicle at Charity Hospital in New Orleans that cost the state an estimated $5000. The implanted testicle replaced one that was diseased and had been surgically removed in 1987. The rationale offered by the Texas prison system suggests that cosmetic surgical procedures performed on inmates provides practice for plastic surgeons and that cosmetic surgery makes a person feel better about himself. Studies were cited to prove that inmates were less likely to return to prison if they had a higher level of self-esteem" (Ann Landers' column, 13 July 1989).

49. Numerous articles on "the cost of beauty" suggest that as women earn more money they will demand better cosmetic services and conveniences. Vogue reports that many companies are responding by offering convenient maintenance programs that for "the new breed of executive woman" can become a substantial investment and part of her business style; "for some executives, in fact, an important perk is a contract that covers the cost of image upkeep and exercise. This would suggest that the differences between men's and women's rationalizations for cosmetic surgery are eroding: women, too, are beginning to justify cosmetic alterations within a logic of the workplace." Dorothy Scheller, "The Real Cost of Looking Good," *Vogue* (Nov. 1988): 157-168.

50. Nevertheless, the horror stories of women who justify cosmetic surgery for business-related reasons are often reported with an exceedingly critical edge. A female real estate agent in Beverly Hills felt pretty enough in her own way, but totally inadequate when compared to the glamorous female clients she worked with. After three years of silicone treatments to produce artificial "high cheek bones," her face began changing grotesquely; relentless calls to her plastic surgeons went unanswered, and two years later he committed suicide. She is still plagued by shifting silicone lumps under her face skin, and though she has undergone surgery several times to repair the damage, she will never regain her previous unconstructed features. She is described as a woman who just wanted to get "an edge" on the competition, but ended getting more than she bargained for. Ann
51. Dull and West offer an interesting analysis of the social process whereby gender is constructed. They label this process "the accomplishment of gender" which they describe as "an ethnomethodological view of gender as an accomplishment, that is, an achieved property of situated social action" (64). Building on their work, my essay is concerned with the elaboration of how gender is also a fully cultural accomplishment. Diana Dull and Candace West, "Accounting for Cosmetic Surgery: The Accomplishment of Gender," _Social Problems_ 38.1 (Feb. 1991): 54-70.

52. The quotation is from Blair O. Rogers, M.D., author of the chapter "Management after Surgery in Facial and Eyelid Patients," in Linden, 53-61.


54. Several advertisements in the _Chicago Tribune_ (circa 1988) for liposuction procedures use illustrations of the female body—waist to mid-calf—to demonstrate the difference that liposuction can accomplish. An advertisement for The Liposuction Institute (Chicago-Water Tower Place, Arlington Heights, Oakbrook) shows a "before" illustration of a female rear-end that bulges with "saddle-bag thighs." An "after" shot illustration shows smooth slender thighs. The ad claims that "liposuction, or fat suction-extraction, is a remarkable in-office surgical procedure that reshapes and streamlines your body through the permanent removal of fat that does not respond to dieting or exercise, especially: Pot-bellies, Love handles, Saddle bags, Hips, Double chins, Calves, Thighs, buttocks, and large male breasts." The identification of breasts as male here suggests that the :assumed reader/client of liposuction would be a woman in search of a technological fix for undesirable body fat. A different advertisement for the Vein Specialists (also located in Water Tower Place, Arlington Heights, and Oakbrook) announces that "gentlemen prefer LEGS . . . not veins." Again, women are the intended readers/clients for their varicose vein removal service. _Chicago Tribune Sunday Magazine_ (26 June 1988): 24.

55. Eye surgeon Giora Angres of Las Vegas implants a permanent eyeliner just under the skin, so that it is always there. The most popular colors are earth tone shades of gray and brown. Implanted pigments look very natural and last about ten years. It takes twenty minutes to complete the tattooing effect, and costs from $800 to $1000. "It's probably one of the most effective tattooing methods yet developed," says a spokesman for the American Academy of Ophthalmology, _American Health_ (Dec. 1984): 33. But removing tattooed eyeliner is a another project altogether. Two Chicago surgeons report in the _Archives of Ophthalmology_ how they performed the delicate surgery on a woman unhappy with the appearance of her eyelids after the eyeliner was applied. _Chicago Tribune_ (21 August 1988), sec. 2: 5.

56. In a 1990 survey, DuraSoft found that 43% of black women were interested in hazel lenses, 26% in blue, and 14% in green. Leslie Savon, "Green looks very natural on Black women; but in blue, they look possessed," _Village Voice_ (2 May 1988): 52.


58. In the medical literature, patients who show an insatiable desire or addiction to surgery are said to display a "Polygraphic Syndrome." In her article, "How to Recognize and Control the Problem Patient," Mary Ruth Wright argues that "surgical addiction reflects deep psychological conflicts" (532). Wright goes on to report that her research on the psychological profile of the cosmetic surgery patient supports the argument that "all cosmetic surgery patients are psychiatric patients" and that all are "potential problem patients" (530). According to Wright, paranoid schizophrenics are the most dangerous. She notes that "homosexuals involving elective surgeons are increasing as elective surgery increases" (532). She refers to the case of Dr. Vasquez Anon who was assassinated after he refused to see a patient who wanted more surgery. Wright, "How to Recognize and Control the Problem Patient," in Ward and Brenton, ed., 530-33. For more information on Dr. Anon, see U.T. Hinderer, "Dr. Vasquez Anon's last lesson," _Aesthetic Plastic Surgery_ 2 (1978): 375.


61. The authors point out that mismatched goals are a common occurrence: "what surgeons or orthodontists consider ideal may not be the same as the patient's desires," Sarver, Johnston, and Matukas 939.


63. Kathryn Pauly Morgan does an excellent job of uncovering the "idea of pain" associated with the surgical instruments used by cosmetic surgeons. "Now look at the needles and at the knives. Look at them carefully. Look at them for a long time. Imagine them cutting into your skin. Imagine that you have been given this surgery as a gift from your loved one," Morgan 26.

64. Larrabee, Sidles, and Sutton 1274.

66. Thomas, Freeman, Remmler, and Ehler 793–796.

67. One Atlanta cosmetic surgeon uses a proprietary image processing system designed by Truevision, Inc. (Indianapolis) that includes an IBM computer (with peripherals), mouse and tablet, analog RGB monitor and video camera, and Truevisions’ TARGA II board and Imager-1 software (by Cosmetic Imaging Systems, Inc., Santa Monica).


69. The use of new medical imaging devices is well documented through the 1980s. A. Favre, H. Keller, A. Corazza, “Construction of VAP: A video array processor guided by some applications of biomedical image analysis,” Proceedings v. 375. First International Symposium on Medical Imaging and Image Interpretation, (Berlin, F.R. Germany, October 26–28, 1982). Computer imaging is also being tested in instructional uses where, in one report, resident plastic surgeons are taught how to conduct a patient planning session—normally a skill that is considerable difficult to teach. Ira D. Papel, MD and Robert I. Park, MD, “Computer Imaging for Instruction in Facial Plastic Surgery in a Residency Program,” Archives of Otolaryngol Head and Neck Surgery 114 (Dec. 1988): 1454–1460. In another article, the use of video imaging as a "means of predicting results of orthognathic surgery" is said to increase a surgeon's treatment planning skills. Sarver, Johnston, and Matukas 939–945.


71. The release form includes five statements that must be signed by the patient, the physician and a witness. A copy of the disclaimer is included on page 149 in the article by William B. Webber, MD, "A More cost-effective method of preoperative computerized imaging," Plastic and Reconstructive Surgery 84.1 (July 1989): 143–57.

72. In a recent newspaper article one New York ad man claimed that he showed "a client how to use such in-motion retouching techniques in political advertising [by showing] how we could take Michael Dukakis and make him as tall as Bill Bradley . . . . We also made Bush look drunk. That's possible." "Image 'morphing' changes what we see—and believe," Atlanta Journal-constitution (29 June 1992).

73. According to Frigga Haug and The Frauenformen Collective the process of subjectification requires an active participant. In their investigation of the process of female sexualization, the Frauenformen Collective were explicitly looking for the ways in which girls and women "construct themselves into existing structures and are thereby themselves formed" (42). The question for the Collective was not how are women passively