FACE VALUE, SKIN COLOUR AND INTELLIGENT TECHNOLOGIES






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Face Value, Skin Colour and Intelligent Technologies

MTNL • VAN GENNEP AMSTERDAM

3e Gerard Reteiglezing

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Witte Nederlanders plaatsen zich vanzelfsprekend in het centrum van de Nederlandse wereld. Wij wonen hier toch het langst? En wij zijn toch wit? En natuurlijk zijn anders gekleurde nieuwe Nederlanders welkom, want we kennen onze manieren. In Nederland weten de witte Nederlanders het zeker: wij discrimineren NIET. Ben je mal!?

De Canadese socioloog Lorna Roth vertelt op uitnodiging van MTNL een *eyeopening* verhaal over de effecten van de zogenaamde *white norm* in de witte wereld van televisie maken en fotografie. Tot in 2010 zijn digitale consumentencamera's niet in staat om de huidskleur van zwarte mensen correct weer te geven. Overal ter wereld lossen belichters en de dames en heren van de make-up het probleem op. Pas heel recent ondernamen grote Amerikaanse producenten van consumentencamera's pogingen om de camera's zodanig te verbeteren dat ze de huidskleur van mensen met een donkere huid juist weergeven.

Deze derde Gerard Reteiglezing wijst op de onbewuste dictatuur van de huidskleur wit in de digitale cameratechniek. Niet typisch Nederlands. Wel typisch MTNL, die in haar televisieprogramma's al 25 jaar een vanzelfsprekend divers Nederland laat zien.

Geeske Hendriksen
MTNL





'American television is discriminatory, because it is biased against Japanese skin tones'.

(Personal interview between author and Toru Hasegawa, May 27th, 1996)

Colour-balancing a television camera involves several stages. First, two bar-line cards (one in black and white showing the gray scale, the other in colour) are placed before the cameras to measure the accuracy and saturation of the colour portrayal. According to Jan Kasoff, an NBC colour television camera operator for Saturday Night Live*, it is at this point that 'a good VCR person will have a colour girl stand in front of the cameras and stay there while the technicians focus on her flesh tones to do their fine adjustments to balance the cameras. This colour girl is always white'.*

(Telephone interview between author and Jan Kasoff, November 20th, 1994)

'Imagine no black images on television or in greeting cards. I didn't see a black commercial on television until 1965 and, ironically, it was for Aurtra [sic] Skintone Cream (a bleaching agent). Pink Band-aids were called "flesh tone." Prosthetic limbs were white. There were no black mannequins in stores. No black Barbies or G.I. Joes. The heroes were white; the villains were white. The cowboys were white. The Indians were white, with red make-up. Every image, every statue, every symbol of beauty was white, European-based. Dislike ourselves? Brothers and sisters, it is a wonder that we didn't despise ourselves. Many of us did; some of us still do'.

(Kenyada. Circling the Wagon, May 23rd, 2001.)

These comments present anecdotal evidence that responds to the central questions guiding my research: How much does skin colour affect the ease with which image technologies can be used to portray the range of human skin tones, especially if there are subjects on the same screen who represent highly contrasting shades from light to dark? Is a whiteness bias embedded in the actual design of technologies of visual reproduction, such as film emulsion, crayons and art products, digital cameras and screens, as well as in the ensemble of practices and products relating to their use? Is whiteness also the default skin colour for such common products as store mannequin skins, doll skins, prosthetics, make-up, bandages, nylon stockings, flesh-toned underwear, sun tanning and skin bleaching products?

If this is so (and my evidence suggests that it has been so historically and that it remains so, in many cases), how might this hidden value affect our attempts to establish societies in which we hope to sustain multicultural and multiracial policy frameworks and practices? What kind of deeply-rooted cognitive impact might this phenomenon have on our attitudinal development and behaviours and, in particular, how might this affect our children's views on race?

The term *colour balance* is derived from still-photography printing, where it refers to a process in which a norm-reference card showing a Caucasian woman wearing a high-contrast, colourful dress is used as a basis for measuring and calibrating the skin tones on the photograph being printed. Given a common name, Shirley, by industry users (99.8% of whom are male), these women's light skin tones have been the recognized ideal skin standard for most North American and international labs since the early 20th century.

The historical examples of colour adjustments that I shall be explaining to you today are mainly from Kodak. In my research area, however, it is important to make comparisons across cultures, as it is in this process that we can see what happens differently in other cultures. We therefore cannot take for granted that what we do in the West is what everyone else does around the world. For example, do the Japanese calibrate for flesh tones using different skin-colour standards? How have colour-balancing procedures evolved over time – in photography as well as in the social practices of the professional field in North America and Japan?

SEVERAL OF KODAK'S COLOUR ADJUSTMENTS

It is interesting to note the driving forces that led Kodak in particular to make modifications to both its Shirley cards and its film emulsions. Here is a summary of my findings about these decisions:

Five key issues were responsible for raising the level of awareness among Kodak research scientists and image-technology developers with regard to skin-colour reproduction in North America and elsewhere. The first involved the identification of problems in the 1950s, when their film was being used for school graduation and class photos.

The challenge became apparent only when students with contrasting skin colours were to be photographed in the same image frame. When each student was photographed alone, differences in skin tones were easily accommodated through compensatory lighting and a range of technical adjustments learned through experience. When a group portrait was set up, however, and children of all races and ethnicities were photographed together, these techniques

could not resolve the film's inherent bias in favour of 'Caucasian' skin. The picture results consequently showed details on the faces of white children, but erased the contours and particularities of the faces of children with darker skin, except for the whites of their eyes and teeth. Parents complained about this situation and demanded a wider continuum of darker skin tones.

Kodak's drive to increase the dynamic range (the difference between the lightest and the darkest of colours) of its film products was motivated by two other (seemingly irrelevant) issues. These had to do with the photography of brown objects. Here is Kathy Connor's description of the experience of Earl Kage, former head of the Color Photo Studio at Kodak Park in the 1960s and 1970s, and former Manager of Kodak Research studios.

'Well, he said that it was interesting, that in the mid-sixties and seventies there was a coincidental problem that the company was facing. Two of their biggest professional accounts were, he didn't name the company, but somebody said that they made chocolate candies. (…) Apparently, in reproducing chocolate candies, Kodak was receiving complaints that they weren't getting the right brown tones on the chocolates.

Also, furniture manufacturers were complaining that stains and wood grains in their advertisement photos were not true to life, and that they weren't appropriate, so the chemists did some work on that. Earl also said to a certain extent, that research to improve those professional markets and addressing their questions helped them to do a little bit better with ethnic skin colours. I was amazed.'

(Kathy Connor, Executive, Kodak, Rochester, NY, personal communication, August 16th, 1995)

In his own words, Earl Kage remarked to me: 'it is fascinating that this has never been said before, because it was never black flesh that was addressed as a serious problem that I knew of at the time' (Earl Kage, former Manager, Kodak Research Studios, Rochester, NY, personal communication, August 21st, 1995). Other than parents complaining about graduation photos, Kage did not recall pressures from the black community to improve the image quality of Kodak's product. This is surprising in many ways. One would have thought that, during the height of the civil rights movement in the 1960s and 1970s, attention might have been turned to Kodak to demand better recognition of the communities. Although there were some economic conflicts in the 1960s between Kodak and its employees, many of whom were African-Americans, the quality of the photo product was not contested by the black communities in any organized manner, as far as I could discover. The fourth and fifth factors motivating Kodak were the obvious desires to have some impact on the Japanese film stock market, which was strongly linked to Fuji films, and to extend its market to the global community.

KODAK'S ADVANCES IN THE 1980S AND 1990S

Skin-tone rendition was further clarified with Kodak's VeriColor portrait film series, which has continued to expand its range of brown and black tones. VeriColor III, a professional portrait and wedding film developed in the early 1980s by Richard Wien and his team at Kodak Park was particularly notable for its flexible accommodation of a range of skin colours. *Gold Max*, a very popular consumer film, also surpassed most previous films on the market in this regard. At Kodak, *Gold Max* was initially touted as being able 'to photo-

graph the details of a dark horse in low light' (Richard Wien, Executive, Kodak, Rochester, NY, personal communication, August 18th, 1995). With my interest in the filming techniques as applied to darker skin colours, I take this to be a coded message, informing the public that this was 'the *right* film for photographing "people of colour"'.

Finally, a number of cultural changes have been made over time to the Shirley norm-reference cards to make them more inclusive. From the single Caucasian woman surrounded by the necessary colour balancing information codes, Kodak's Shirley has evolved into an image of three women with different skin colours, dressed fashionably in brightly contrasting clothing. The women are visibly of Caucasian, Asian, and African descent, although each has a fairly light complexion. That having been said, the use of this multiracial norm-reference card by some of the major photo-chemical labs is concrete recognition that they have invested financially and intellectually to address a multiracial clientele and are no longer willing to use trial-and-error techniques on a case-by-case basis to find the appropriate colour-balancing methods for processing images of non-Caucasians.

Some resistance to changing over to the multiracial reference is evident in the fact that, even though they were designed in 1995, the cards continue to be rather expensive, and it was several years before they were available through major photo lab suppliers. Consequently, many laboratories have still not switched cards, and the new cards have not yet penetrated the global market. Ironically, at about the same time that the multinational film stock companies began to recognize the diversity of skin tones within their Shirley imagery, it became considerably easier for individuals to design their own norm-reference images digitally. The cards are therefore no longer as invaluable a product as they once were.

There are a lot of Shirley cards circulating in the digital media sphere of the Internet. The lightness of the complexion of many of these Shirley's attests to the reappearance and re-privileging of the 'look' of whiteness as a beauty norm in this 'internationally ideal' photo. The subtle message is therefore that it is acceptable to be ethnic, but that a lighter skin colour is still the pervasive aesthetic prototype.

In the last three years, more complex cards have begun to circulate in the digital sector. These cards expand upon the Kodak multiracial card, and they offer concrete recognition of some of the critical issues with which those who photograph people of colour have struggled. They also offer a solution for some of the obstacles that these photographers have met in the past. They present a wide range of skin colours, brightly coloured objects and colour palettes. All of these elements are technical improvements over the existing single or three-person norm reference cards, as they represent a wider range of colour subtleties to which technicians can refer. Two distinctive features of the Getty Images Collection reference image are its socio-cultural inclusivity and its vast skin-colour range. This image has by far the best technical dynamic range of all the colour-balance photos in circulation that I have researched to date. Furthermore, the Getty reference image is distributed freely over the Web, requiring only an informal user agreement with the copyright owner.

Despite the industry's formal recognition of ethnic subjects, lighter skins are likely to prevail on most of the reference cards for social and normative reasons. This is because our preferences go beyond the technical to the cognitive imprint of the light-skinned aesthetic. It is therefore within these difficult-to-access domains that we should focus our atten-

tion, in order to gain a more effective understanding of the relationship between social cognition and the technologies we use, and of the practices that emerge from this linkage.

Why do I conclude this? First, the corpus of international skin-colour preference tests undertaken by film manufacturers attests to the partiality to lighter skin tones. This 'colour complex' is well documented in the psycho-social literature, and it plays a central role in the research of the influential sociologist Ron Hall (1994), who coined the term 'the bleaching syndrome'. In its original usage, the term referred to the psychological internalizing of light skin as a dominant cultural criterion for beauty. Hall's empirical results concur with those found by film manufacturers, as well as with the famous doll study by Kenneth Clark (1955), which was undertaken in the 1940s to assess the psychological effects of segregation on black children. In Clark's study, black children were asked to identify the preferred skin colour for their favourite dolls. Almost all of the children chose the lighter-skinned dolls, stating that they were prettier and better, while the black-skinned dolls were considered bad and ugly.

ABC (American Broadcasting Corporation) conducted a similar study several years ago, with slightly more positive results in favour of black-skinned dolls.

Neither Clark's nor Hall's work specifically addresses issues of image technologies in relation to light skin tones. Although it was never their primary consideration, a distant look at the social field and period (from the mid–twentieth century into the twenty-first century) in which they were conducting their research, I find that there is a strong correlation between the attitudinal spirit of the times and the development of film emulsions that favoured white skin tones, light-skinned Shirley-card content and race relations/

aesthetics, as embedded within the images of these anonymous working women, commonly known as Shirley.

SKIN ON TELEVISION

'Skin-tone reproduction is not just science. It has to deal with the psychology of how people WANT to look'.

(Jan Van Rooy, Senior video camera designer, Philips Electronics (now Thomson), and holder of patent number US 5,428,402 as inventor of automatic skin-tone detection; personal communication, September 10th, 1997)

The colour-television industry in North America also had its version of Shirley in the form of a white porcelain 'China Girl' in use until the 1950s, at which time it was replaced by BBC cardboard flesh-tone cards. The BBC cards were designed especially for compatibility with the broadcast technologies of the National Television System Committee (NTSC) and Phase Alternating Line (PAL). The BBC Test Card F is used in over 30 nations around the globe. It pictures the daughter of its designer, George Hersee of the BBC. This girl-image differs little from the other Shirley cards in circulation with regard to lightness of complexion or ethnic appearance.

The interrelation of lighting, make-up and video colour balance are three critical knowledge factors in television broadcasting. When an African, an Asian and a Caucasian person are shot together in one image – especially if they are wearing contrasting white and/or black clothing – the challenge is to create realistic and pleasing images that are appropriately colour balanced. As television content has become more racially integrated over the years, questions about technical procedures

and methods have emerged. The BBC's Flesh-tone Reference Chart, developed in England as a way of representing good light reflectance for Caucasian skin, is no longer acceptable as the *only* tool for colour balancing at such networks as Black Entertainment Television or Univision (Hispanic television network in the US) with regard to calibration measurements for African-Americans, Hispanics, Asians, indigenous peoples and those with darker skin colours. Nonetheless, the chart continues to be utilized in North America and Europe, as it is considered a technical baseline marker for reflective skin tones and because it has some comparative pertinence to other coloured skins, due to the extreme contrast between the woman's black hair and her white skin.

When I spoke with video engineers at CBS and NBC in New York, I was told that the issues around colour balance are purely technical, based on physics, and that they involve the exact colour matching of reflective skins among several studio cameras.

My questions about the Caucasian woman as the international standard reference for colour balance were taken seriously, although the responses I received reflected a concern that I might be leading them into the delicate territory of political correctness, where the video engineers did not want to go. To them, 'physics is physics', and they have learned to manoeuvre the supplementary tools of colour balancing to meet their needs. If the details of a black person's skin do not show adequately, special make-up or lighting techniques are used to highlight their faces until their images are technically pleasing to the eye. This is not always an easy task.

What follows is a short anecdote relayed to me by one of the top camera designers Philips/Thomson, illustrating that reliance on these auxiliary methods of colour balancing is nót always the best route:

'Without telling stories out of school, I know that when Whoopi Goldberg had her talk show, they had Sony BVP-90s, and the camera that was on her had a completely different adjustment from the camera that was used for the guest. Because of the darkness of her skin, it was very difficult for the camera to see her correctly. They had to do all kinds of things to tweak it around to make her image look right, but when they put that camera on the other person, it looked horrible. I think she is almost at the extreme level of darkness for black people'.

(Greg Pine, Camera Designer and Company Philosopher, Philips Electronics, Breda, the Netherlands; personal communication, September 10th, 1997)

Perhaps because they were situated at the margins of North American interests, or perhaps because of their smaller institutional investment in traditional methods, designers at Philips/Thomson (headquartered in Breda, the Netherlands) could more easily respond to the evident challenges that the range of skin tones was raising for American television practitioners. In this company, cutting-edge video electronics specialists were receiving the financial and technical resources necessary to create technologies that would solve problems related to trans-racial marketing.

Jan Van Rooy and Greg Pine had been very conscious of skin-colour factors over the years. These two video/television camera designers began working at Philips Electronics in the late 1980s and were important pioneers in thinking about and responding to the challenging issues about which I am writing. Their response to these issues involved re-designing a set of studio cameras (the LDK series), thereby enabling more sensitive consideration of skin-colour variations.

After becoming familiar with the Clark (1955) research on the preference of African-American girls for dolls with

lighter skin tones, Van Rooy and Pine began to recognize the inherent bias in the tools that they were using to represent flesh colours on television. Pine suggested that it might be interesting to develop two skin-tone contour controls on a single camera, given the fact that many news shows have two anchors with different racial backgrounds. He and Van Rooy set out to consider how they could address these challenges both conceptually and practically. In the early 1990s, Van Rooy, who was Senior Video Designer at the time, developed a prototype camera with two separate memory settings and storage areas for skin-tones.

International minority communities expressed great interest in Philips' cameras as soon as they hit the market, and they have been using them whenever it is financially possible. Black Entertainment Television and other networks around the world in which producers, talent and audiences are of mixed races are particularly appreciative of the advantages offered by this innovative camera with dual contours. In addition to allowing the user to perform two colour-balance calibration processes within the same frame, the camera also has electronic make-up tools for the two skin tones. Van Rooy holds the patent for the integration of automatic skin-tone-detection technology. Together with Ikegami, who had shared in the development process during the early 1990s, Van Rooy received an Emmy for the technology. He looks forward to the refinement and expansion of these two separate memory settings in the future.

My interview with Toru Hasegawa of the NHK (Japanese Television Network) was enlightening as well. From this interview, I learned of the yellow skin-colour bias in Japanese television, both in its balancing calibration preferences and in its pre-set colour temperatures. Televisions that are made for export are pre-set to the preferred colour temperature

biases of North America and Europe. Televisions that are manufactured for Japanese consumption are pre-set to the researched skin-colour tastes of the average Japanese viewer. These are important and fascinating ways in which cultural decisions have become embedded in technologies that are presented to the public as 'neutral'.

The findings of my television research led me to delve more deeply into other important questions driving my project about image-technology design: is physics just physics, after all? What is the role of cultural perspective in decisions concerning the design of image technologies and the ensemble of procedures used in the production process?

THE LOSS OF TECHNOLOGICAL INNOCENCE

In the past decade, it has become clear to those who seek this information that the chemistry for stock colour film for still cameras was originally designed with a positive bias toward Caucasians by Kodak, the main film manufacturer in North America. This did not *have* to be the case. Had NASA, the US intelligence service or meteorological scientists already completed their research on photography of low-light areas at the time of the popular development of still photography, the evolution of film chemistry might have unfolded quite differently, as observed by Brian Harris, who is a lighting technician at the Black Entertainment Television (BET) network (Brian Harris, Lighting Engineer, Black Entertainment Television, Washington, DC, personal communication, July 3rd, 1997).

Film emulsions *could* have been designed initially with more sensitivity to the continuum of yellow, brown and reddish skin tones, although it would have been necessary

for the design process to be motivated by the need for an extended dynamic range. At the time that film emulsions were developing, the target consumer market would have been Caucasians within a segregated political scene; their skin tones would have been less likely to form the basis for thinking about dynamic range, as most subjects in a photograph would have been either all light-skinned or all darker-skinned. This was therefore not an element of social consideration for film chemists. The common belief at that time was that physics was physics and chemistry was chemistry, and that science was based on reasoned decisions without consideration of cultural or racial subtleties. It is now becoming more widely acknowledged within the industry that refinements to the chemistry of film emulsions have never been based exclusively on issues of physics or chemistry. They have also been the result of cultural choices.

As is apparent from these examples, my empirical case-study research provides strong confirmation that a white, female reference point has been central to the thinking and decision-making about film design and practice within photographic industries of visual representation. The evidence I have accumulated indicates that *how* our everyday technologies and products function – as well as what they favour and ignore –has been coloured by the reference points, assumptions and invisible norms of the cultural intermediaries involved in their design and marketing, most of whom have been Caucasian men. This 'flesh-tone imperialism' (Thierry Le Brun, Independent Cinematographer and Sociologist, Montreal, November 27th, 2006) typifies an aspect of the technological unconscious. It reflects an apparent lack of awareness of the dominance of whiteness in the cognitive patterns of the key people who frame the tools of visual reproduction by decision and design. It in-

forms us significantly of the need to recognize how deeply embedded in our cognitive processes the naturalization of whiteness and sexism remains.

INTELLIGENT/INCLUSIVE DESIGN: A KEY TO THE DEVELOPMENT OF COGNITIVE EQUITY

It is clear that skin colour continues to matter universally. It matters in identity formation; it matters in politics and power relations; it matters in the everyday negotiations of institutional and social life. It is my contention that simply acknowledging racial minorities through multicultural legislation, policies and practices is not enough to instigate shifts in the socio-cultural perceptions of the majority of people. I am referring to a way of beginning to undo the psychological damage of exclusion (Fanon, 1967) at a very fundamental level and constructing a new or alternative set of skin-colour norms to represent images of success, belonging and inclusivity. Multicultural norms of beauty matter if children with darker skins are to grow up without a colour complex, longing for a lighter complexion.

On a conceptual level, I would like to introduce the notion of 'cognitive equity'. This notion refers to a new way of understanding racial equity issues that does not rest *solely* on statistics, legislation or access to institutions, but rather inscribes a vision of *multicultural and multiracial* equity directly *into* technologies, products and emergent practices in their usage. This is a concept in progress; I am exploring it more deeply by examining the decision discourses surrounding organizational skin-colour adjustments, industry policies and visual decolonization processes initiated by members of racial minorities. I am interested in learning

whether a drive toward cognitive equity has been a factor in the colour-adjustment process or whether corporations are engaging in the exercise for the sake of appearing to be 'politically correct', as the focus of so much of the media coverage on these issues seems to suggest.

Unlike affirmative action and legislative tools, cognitive equity cannot be measured and circumscribed in social scientific or statistical terms, as it cannot yet make comparable claims for social justice. Instead, it is an enabling socialization process that aims to open current and previous narrow, distorted cognitive foundations to close scrutiny, replacing them with more appropriate normative ranges that can subsequently establish facilitative conditions for developing a more democratically and chromatically pluralistic society. The target of cognitive equity goes beyond the repair mode of design, which encompasses 'fitting or camouflaging' minorities into already existing values of whiteness, such as painting mannequins with Caucasian features black or yellow in a symbolic attempt to appear 'ethnic'.

I believe that the potential new building blocks of cognitive equity will be located in small and subtle changes in perceptions and behaviours that we take for granted, resulting from an active demand for a wider range of socially imagined opportunities for inclusiveness. The dual-skin-contour camera feature, which can colour balance two skin tones within the same image, comes closer to a technology that would enable cognitive equity than any other that I have seen to date. This is more than an incremental step in opening representational practices to a form of inclusiveness that is designed into the technology itself; it is a leap forward, initiated quietly from outside the mainstream geographies of the visual industries.

Beyond the image industries, opportunities exist in the

multi-racialization of other flesh-tone objects. Examples include the Crayola crayons' multicultural collection, the ethnicization of the common store mannequin and children's dolls, bandages to cover wounds, the skin-colour ranges now available in hearing aids and other prosthetics, a black-skinned Santa Claus in an all-white neighbourhood, black mannequin skins in the East Leigh neighbourhood in Nairobi, in which the entire population – with very few exceptions – is black, and the darkening of tonal ranges available in the make-up industries. Each of these examples could contribute in its own small way to the social and cultural possibility of achieving cognitive equity sometime in the future. These technical shifts – in combination with diversity studies and anti-racist education, public institutional changes based on equality rights legislation, cultural and racial inclusiveness within the industries of visual representation and journalism, as well as the very recent (2008) sea change in American presidential politics – could encourage the development of an unspoken but embedded anti-racist commonsense and consciousness. Although there are no guarantees, I would like to suggest that the more open we become to new opportunities for racial inclusiveness in commonplace objects and technologies, the closer we will come to building a next generation whose social and cultural cognitive processes are multiracial in both scope and practice.

Acknowledgment of and explicit discussion about the ethno-cultural and racial choices we embed within our technologies, products and practices will, I hope, serve the purpose of raising our consciousness about the importance of transforming the way we think about, engage with and act upon the 'historical fixtures of our existence' (Walter Benjamin, as cited in Kearney, 1994, p. 153).

Lorna Roth (1947, Montreal) is hoogleraar aan de Faculteit Communicatie van de Concordia University (Montreal, Canada).

Ze komt uit een Joodse familie. Haar moeder is Canadees, haar vader Hongaar en ze woont als engelsprekende in het Franse deel van Quebec. Het is dus niet verwonderlijk dat ze geïnteresseerd is geraakt in etniciteit, huidskleur, multiculturalisme en interculturalisme. In 1975 deed ze met Inuit filmstudenten onderzoek naar de effecten van de Aniksatelliet op de kleine Inuitgemeenschap. Sindsdien houdt ze zich ook bezig met minderhedenmedia en minderhedenrecht. Sinds 1994 geeft ze les aan de Concordia University.

Eerder publiceerde ze *Something New in the Air. The Story of First Peoples Television in Canada*. McGill-Queens University Press, Montreal, 2005.

Binnenkort verschijnt *Colour Balance: Race, Technologies, and Intelligent Design*.