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What Race Do They Represent and Does Mine Have Anything to Do with It? Perceived Racial Categories of Anime Characters

Amy Shirong Lu

Abstract Is the intended race of anime characters distinguishable because of their facial features or are they too 'international' to tell? This study addressed this question empirically by comparing the intended racial categories of static frontal portraits of 341 anime characters randomly selected from anime produced between 1958 and 2005 with the perceptions of 1,046 raters. Results showed that, although the race of more than half of the anime characters was originally designed to be Asian and only a small fraction were intended to be Caucasian, many were perceived as Caucasian by the largely Caucasian raters. Response patterns also indicated 'Own Race Projection (ORP)', i.e. perceivers frequently perceived anime characters to be of their own racial group. Implications for anime's international dissemination are discussed.

Keywords anime, cognitive studies, empirical studies, facial perception, internationalization, Own Race Projection, racial categorization

Anime, an abbreviation of 'Japanese animation', usually refers to animation originating in Japan. Although the first anime was produced in

1917 (Anime News Network, 2005), the genre did not start to take a distinctive form until the 1960s after the production of the first color feature *Legend of the White Serpent* (Shirô Toyoda) in 1958 (Mangels and Hamill, 2003) and the huge international success of the TV series *Astro Boy* (Osamu Tezuka, 1963–6) (Patten, 2004). In the late 1960s, when several anime series were released in North America and Europe (Patten, 2004), audiences enjoyed series such as *Speed Racer* (Tatsuo Yoshida, 1967) without realizing their Japanese origin (Napier, 2000). Today, anime and its related products account for about one-third of revenue in the world media market (Nakamura, 2003), anime is translated into more than 30 languages (Anime News Network, 2005), there are anime clubs in every inhabited continent (Ahn, 2002), and the market continues to grow (Japan Consumer Marketing Research Institute, 2005).

How has anime been so successful in the international media market? Some scholars attribute its success to the characters' 'mixed look'. It is common for many anime characters to have large deep-set eyes and a nose with a high bridge, all of which imply a certain exotic quality, or international look. Indeed, Osamu Tezuka (1928–89), one of the founding fathers of Japanese anime and manga (comics), who was much impressed by Disney animation's success, borrowed many visual elements from American animation studios and set up the 'big-eye' style of anime characters (Wikipedia, 2007) in his early works such as *Astro Boy* (1963–6) and *Princess Knight* (1967). Such Western influence may have been ingrained in the visual style of subsequent anime characters. Some scholars have even called this phenomenon 'ethnic bleaching' (Sato, 1997), which removes cultural barriers by making anime's characters more accessible to Western audiences. In other words, when anime is turned into 'culturally odorless commodities' in which 'bodily, racial, and ethnic characteristic(s) have been erased or softened' (Iwabuchi, 2002: 58), non-Japanese consumers may be able to enjoy it more readily.

Several Taiwanese scholars even called the international look a Japanese 'cultural conspiracy' (Chiou, 2002; Lee, 2002; Xu, 2001). Lu (2008), however, suggested that at least three kinds of cultural politics could explain anime characters' international look, and that only one might be considered a kind of conspiracy intended to spread Japanese cultural values in the world.

Some scholars (Arnold, 2004; Hairston, 1999) have questioned Sato's (1997) idea of ethnic cleansing because many anime characters are depicted with dark brown or black eyes, straight hair, and light skin color with a yellowish tint, all of which indicate Asian physiological characteristics. Yoshimi's (2000, 2003) insight into the process and meaning of the Americanization of cultural symbols in contemporary Japanese popular culture adds further complexity to the debate. He suggests that Japanese adoption of Western cultural symbols such as Disneyland and other cartoon characters has been underway for a long

time, and that the process has allowed Japan to reconstruct its own cultural identity under Western 'covers'.

A Google search in June 2008 found much debate on the appearance of anime characters in more than 7,500 internet anime forums; threads had hundreds of follow-ups with supporters from many sides. None of the commentary or discussion about the racial characteristics of anime characters, however, is based on empirical work with actual anime characters or potential audiences to answer the basic questions: What race do anime characters represent? How do international viewers actually perceive these graphically created races? One way to resolve the debate would be to investigate the graphic depiction of anime characters' intended race and then ask audiences about their perceptions of these characters.

While acknowledging the difficulty of distinguishing between the often contested categories of race, ethnicity, and nation (see Collins, 2006), Marable's (2000) definitions of race and ethnicity are used in this study. According to Marable, race is more related to identification of physiological differences while ethnicity reflects pre-existing social and cultural heritage not necessarily based on biological factors. Given this distinction, this study focuses on international audiences' perception of the graphic representation of the race of anime characters, not their ethnicities.

In this study, nationality is used to infer the race represented by an anime character. Such an inference does not equal unreflective adoption of national or ethnic identity or reproduction of nationalist essentialism,¹ but sometimes is important in providing crucial, and very often the only, information indicative of the intended race of anime characters.

Racial categorization of animated characters

Although there are many studies on representation of different races in media (e.g. [Greenberg et al., 2002](#); [Li-Vollmer, 2002](#); [Mastro and Stern, 2003](#); [Rhodes et al., 2005](#); [Stevenson, 2007](#)), most focus on living persons rather than animated characters, who are not alive and whose race often has been taken for granted ([Bouldin, 2001](#); [Li-Vollmer, 2002](#); [Smith, 2004](#)).

A few studies, however, have attempted to categorize animated characters by phenotypic features. Most of these studies, though, have conceptually confounded race and ethnicity. For example, Faherty (2001) analyzed characters appearing in 19 Disney animated movies. Race and ethnicity were 'measured by a close analysis of each character's body features, clothing, name, and any vocal accent, if present' (see the Results section, para 2). Meagher and Neal (2005) analyzed the facial features of heroes and villains in 44 animated movies. Although they identified some race-related facial features (e.g. heroes tend to

have blue eyes), they did not categorize characters into the different racial groups they represent. Li-Vollmer's research (2002: 212) on child-targeted television commercials also did not measure audiences' perception of the race represented by the characters. Instead, the racial categorization standard was mentioned in a footnote: 'race was determined primarily by visual signifiers, such as skin color, hair color, and costuming associated with particular ethnic groups, and by the presence of an accented speaking voice.'

Klein and Shiffman (2006) conducted a content analysis of a random sample of animated cel cartoons of race-related content produced between the 1930s and mid-1990s by major animation studios. They did not indicate, however, whether any anime was included in their sample. In these studies, the represented race of anime characters was determined by a very limited number (between two and five) of perceivers who were undergraduate and graduate students. None controlled for external cues such as background setting and costumes, which may bias the judgement of characters' originally intended race. It also was not clear which criteria were used to make the determination and whether the perception of the coders was shared by the audience.

From real faces and caricatures to animated characters

Photographs of living persons, caricatures, and animated characters' head portraits are visual portrayals of the same object: human faces. Although caricatures and portraits of animated characters do not contain as much information as real photos as they are graphic representations and not indexical images, they can still capture some of the most important characteristics of a face. [Gooch et al. \(2004\)](#) have shown that caricatures can be created by removing extraneous information from real photographs of human head portraits. [Perkins \(1975\)](#) suggested that caricature comes from exaggeration through individuation by studying the subject's physiognomy. Experimental work has shown that caricatures are more useful in facial recognition than unexaggerated line drawing ([Bruce, 1988](#)). Caricatures, in this sense, are exaggerations of the distinctive features that individuate a particular face ([Byatt and Rhodes, 1998](#)).

Although portraits of animated characters' faces are not necessarily derived from real human beings, or created through a caricature generator ([Brennan, 1985](#)), or semi-automated caricature generator ([Akleman et al., 2000](#); [Gooch et al., 2004](#)), they share many similarities with caricatures: an exaggeration of differences, distinctiveness, simplification of lines and borders, and abbreviation. A few animated characters are even based on living persons.² Work conducted by cognitive psychologists on the living human faces and caricatures, therefore, provides some clues about what might be important in perception of

anime characters (Bruce and Burton, 1992; [Byatt and Rhodes, 1998](#); Frowd et al., 2007).

Facial perception and racial categorization

In spite of the fact that debate continues over the political correctness of categorizing humans according to their phenotypic (observable physical) characteristics (Barnshad and Olson, 2003; The Smithsonian Institution Human Origins Program, 2004), cognitive scientists have shown that people spontaneously stereotype others based on race whether they intend to or not (Cosmides et al., 2003). Social psychologists have also discovered that race, along with sex and age, is encoded automatically ([Fiske and Neuberg, 1990](#); [Hewstone et al., 1991](#)). Perception is considered a process of categorization at its most basic level ([Bruner, 1957](#)). Apparently phenotypic characteristics that vary by race are used as a primary conceptual structure (Cosmides et al., 2003; [Medin, 1989](#)) for racial distinction of different kinds of people ([Atran, 1990](#)). Cognitive psychologists argue that the encoding of race is a byproduct of the automatic encoding of perceptual attributes such as color and shape, which operates equally on people or objects ([Taylor et al., 1978](#)).

Hair color, face size, and skin color are all salient features of faces that can serve as a basis for people's racial encoding of living human faces ([Levin, 1996](#)). Research has found that hair is the most mentioned single feature for facial recognition and distinction ([Bruce, 1988](#); [Ellis et al., 1980](#)). Eyes, nose, mouth, and brow are also considered important ([Ellis et al., 1980](#); [Shepherd et al., 1981](#)). Studies indicate that the nose tends to play a less significant role in frontal portraits than in profiles ([Bruce, 1988](#)), and that the upper part of the face is more useful for face recognition than the lower part ([Goldstein and Mackenberg, 1966](#); [Shepherd et al., 1981](#)). Face shape has also been consistently recognized as an important feature ([Shepherd et al., 1981](#)). A few studies have found that different races mention different facial features in recognition and categorization ([Shepherd, 1981](#)).

Own Race Projection (ORP)

Anime audiences, like any visual entertainment audiences, perceive the characters and categorize them into a number of categories such as their represented race. This process can also be considered a rudimentary form of social perception, the process of forming an impression of others ([Shrum, 2006](#)). Social perception is mediated by construct accessibility so that the accessibility of certain traits will influence how an object is perceived ([Bruner, 1957](#); [Higgins, 1996](#); [Srull and Wyer, 1979](#)). Construct accessibility refers to 'the readiness with which a stored construct is utilized in information processing' ([Higgins and](#)

King, 1981: 71). The accessibility can be due to external factors (Higgins et al., 1977) or internal factors (Bargh et al., 1986). In anime character perception, such a framework also applies. Audiences' perception of the races represented by characters is mediated by the accessibility of racially related constructs, which can be induced by the characters and/or by the audiences themselves.

Although anime characters share many similarities with living human portraits and caricatures, they are also unique in several ways. To maintain stability of the graphic quality, characters' facial features must be able to be animated by different animators without losing their original shape or becoming badly distorted over the production period. Because of a consistent lack of production funding, Japanese anime's production costs for artists have been much lower than Disney's (Napier, 2000), which limited the possibility of adding in more facial features indicative of the races the anime characters represent. Therefore, anime characters' faces typically contain less detail than real portraits or caricatures. Coupled with unique (and sometimes unrealistic) visual characteristics such as big eyes and vibrant hair color, the lack of salient racial details in anime characters may create confusion among audiences. If the characters are presented in static portraits, the availability of dynamic cues such as movement, gesture, and action may also reduce the ability to assign a racial category.

In such a condition, audiences may fall back on more intrinsic constructs that have chronological stability and immediate accessibility. It is highly likely that their own race is one of those constructs: in other words, they may 'project' themselves onto the anime characters if the intended race of the characters seems unclear. I term this phenomenon 'Own Race Projection' (ORP).

McLoud (1993) suggested similar, yet untested mechanisms behind comics' psychological appeal, arguing that comic characters are created as a vacuum into which a reader's identity and awareness are pulled. With many concrete visual aspects deliberately or unintentionally left out of anime characters, audiences may 'fill up' those ambiguous figures with their own identities.

In summary, the graphic representation of anime characters, given their unique differences from real human faces and caricatures, may have racially ambiguous faces that lead audiences to project their own races onto them. This psychological mechanism may also play a role in anime's burgeoning status in the global media market by allowing a wider variety of audiences to relate to them. This empirical study was designed to test this proposition by examining the extent to which international viewers 'correctly' perceive the racial status of a large number of anime characters.³

Method

Sampling frame of anime characters

The online *Anime Encyclopedia* of the Anime News Network (2005) was used as the sampling frame for character selection.⁴ This source was chosen because until 28 December 2005, only one published anime encyclopedia, *The Anime Encyclopedia: A Guide to Japanese Animation since 1917* (Clements and McCarthy, 2001) was available but it was not comprehensive and did not include productions after 2001. The *Anime Encyclopedia* has unprecedented advantages in both quantity and quality compared with print sources because it is an open source resource, allowing users to add entries, update the information, and correct inaccuracies. When I accessed it on 28 December 2005, I identified 3,135 anime works (1,538 TV series, 915 OVAs,⁵ and 682 movies) produced between 1917 and 2005. ONAs,⁶ TV specials, and other types of anime were not included in the count since TV, OVA, and movies are still the major anime carriers. This study included characters featured only in anime works produced after *Legend of the White Serpent* (Shirô Toyoda, 1958), widely acknowledged as the film that laid the foundation for future anime production and artistic style (Mangels and Hamill, 2003). A further selection criterion for this time period is that many of the earlier materials were in black and white so audiences would not be able to use color cues for racial identification. After eliminating 37 anime works produced between 1917 and *The White Serpent*, 3,098 were included in the population from which the random sample of anime analyzed in this study was drawn.

A total of 341 anime works stratified by year was selected to represent the whole anime works population. The sample size for each year represented that year's anime production's proportion of the entire population. After the sample was chosen, the entire period (1958 to 2005) was divided into eight equal periods. Only human and distinctly human-looking characters were included; non-human characters such as animals, aliens, and robots not bearing human physical characteristics were excluded. If an anime that featured a non-human character was selected, another anime with another character produced during the same year was randomly selected. Given that most anime characters are human or human-looking characters, this was done only twice. The *Anime Encyclopedia* lists three kinds of characters in its 'Cast' section: main characters, secondary characters, and small roles (supporting characters). Main characters, or primary characters, are those 'who the story is about'; secondary characters are those who 'the story doesn't hinge around but are still very important to the storyline' (Anime News Network, 2005); small roles are those of lesser importance. Only characters designated as main characters were included in this research.

Preparation of the anime characters' portraits and initial coding

A frontal head portrait of each character was collected. Portraits that showed a frontal view of the character's head with a natural expression⁷ under normal lighting conditions were preferred to reduce external visual cues (such as clothes, hats, glasses, etc.) that might suggest a character's ethnic background, which may unintentionally influence the audience's judgement. Photoshop was used to remove clothing parts, and characters were shown only from the shoulders up. To reduce background-setting cues that might suggest a character's nationality, all portraits with backgrounds that were indicative of any geographic or ethnic regions were not included. The final portraits depicted each character's head from the shoulders up on a common white background (see Figure 1 for an illustration of how a portrait was adjusted).

Before asking the viewers for their perceptions of the 341 anime characters' race, the intended nationality and race of each character was ascertained. Official websites of the anime, the original video, and scenarios on official anime DVD and VHS release covers provided sufficient information for identifying each character's original nationality and his/her racial category.⁸ The country of origin was explicitly mentioned for 205 of the 341 characters. For characters who came either from fantasy ($n = 11$) or of some unknown origin ($n = 125$), their nationality was coded as 'other', after an anime featuring the character was watched but nationality could still not be ascertained. The character's gender and the anime's production year were also recorded.

Perceiver recruitment

After the initial coding, the 341 portraits were uploaded to a web server and the mass email system of a large public university in south-eastern USA was used to recruit perceivers.⁹ Some of the people

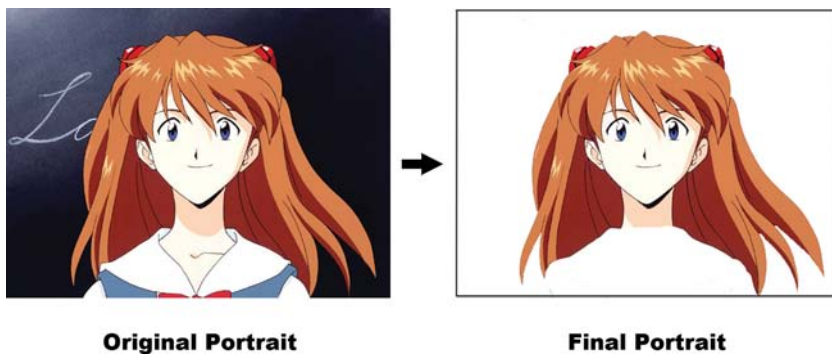


Figure 1 An illustration of the anime character's front portrait preparation: Asuka Langley Soryu, a female character of Japanese and German descent, from *Neon Genesis Evangelion* (Hideaki Anno, 1995–1996). Neon Genesis Evangelion © GAINAX/Project Eva. *TV Tokyo.

initially contacted offered to forward the questionnaire to their friends, family members, and colleagues who were interested in anime, resulting in a small number of additional participants. From 23 March to 3 April 2006, 1,046 people were asked for their perceptions of the anime characters' portraits.

The majority of the participants were from the USA and most were Caucasian. Each perceiver was asked to identify the race (Asian or Pacific Islander, White or Caucasian, Black or African American, Hispanic or Latino, Unknown, Other/Please specify) represented by 90 characters randomly selected from the 341 characters. The portrait order was randomized to prevent an ordering effect. Perceivers were also asked to provide their own demographic information (gender, age, and race), exposure, and knowledge of anime, and the top three facial features they relied on in judging the races that characters represent from the list: Eye shape, Eye color, Skin color, Hair color, Hair shape, Nose shape, Mouth size, Brow, Face shape, and Other/Please specify.¹⁰

The demographics of the perceivers and their anime experience are shown in Table 1. From this table, it can be seen that this group of perceivers were relatively young, mostly Caucasian, and more than 90 percent of them knew something about anime.

Table 1 Perceivers' demographics and anime experience ($N = 1,046$)

<i>Variables</i>		<i>Percentage (%)</i>
Sex	Male	41.6
	Female	58.4
Age	Mean = 30.3 years (Range = 7–80; $SD = 11.8$)	
Race	Asian	11.0
	Caucasian	76.5
	Black	6.7
	Latino	2.2
	Other	3.6
Years of knowing about anime	Less than one year	6.5
	One to three years	8.9
	Four to six years	24.8
	Seven to nine years	22.8
	More than ten years	37.0
Years of watching anime	Less than one year	39.2
	One to three years	12.6
	Four to six years	13.6
	Seven to nine years	12.3
	More than ten years	22.3
Anime familiarity	Never heard of it	4.6
	Know of people watching it but never watch themselves	17.1
	Watch some but not a lot	47.3
	Watch quite a few	25.9
	Experts	5.1

Results

The originally intended race of anime characters

Of the 341 anime characters included in the study sample, 175 (51.3%) were female and 166 (48.7%) were male. A majority (181: 53.1%) were Japanese; 136 (39.9%) came from some supernatural or surreal region and were coded as 'other' race.¹¹ The rest of the characters originated in seven countries, including 8 from the US, 8 from France, 3 from China, 2 from the UK, 1 from Canada, 1 from Germany, and 1 from Norway. One Japanese character and one American character were designed to be of mixed race of Asian and Caucasian parents and were therefore put into the 'other/unknown/mixed' category. Thus, 183 of the original 341 characters were Asian according to the original design of the anime;¹² 20 were Caucasian; and 138 were of other/unknown/mixed race (referred to henceforth as 'Others').

Figure 2 shows the original race of the characters arranged by timeline (1958–2005). Across time, the largest proportion of anime characters has been designed to be Asian. In the earliest period (1958 to 1963), all of the characters were intended as Asian. Since 1964, characters from some 'other' racial group were next most frequent. Very few characters were intended to be Caucasian in the early anime works; even though their numbers grew between 1964 and 1981, they were still the least prevalent demographic group.

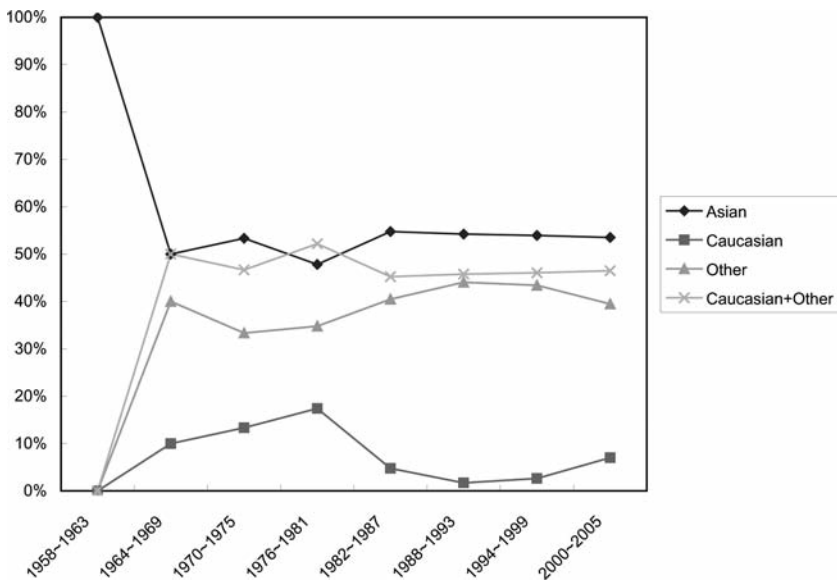


Figure 2 Anime characters' intended race by time period. © 2009 Amy Shirong Lu.

Perceived racial categories represented by characters

Figure 3 shows how perceivers judged the race represented by the anime characters across the years. The perception of the characters in the early years (1958 to 1963) was consistent with the original design of the anime; most perceivers identified the Asian characters as Asian. Characters in anime created since 1964, however, were more likely to be perceived as Caucasian rather than Asian.

One possibility for the pervasive Caucasian perception is that some Other characters can be considered Caucasian because more than 40 percent of the portraits were of 'other' race. Therefore, the 'Caucasian' and 'Other' categories were combined in Figure 2. Asian characters were still more frequent than the other demographic groups across six of the eight periods. The only two exceptions were the 1964-1969 and the 1976-1981 period, when Asian characters were equal to or slightly fewer than another demographic group.

When Figures 2 and 3 are compared, some interesting patterns emerge. The 1964-1969 period has the same number of Asian characters as the number of non-Asian characters (Caucasian plus Other) (Figure 2). Figure 3, however, shows that audiences still perceived slightly more Caucasian characters (Caucasian only) than Asian characters in that period. The audiences continued to perceive more Caucasian than Asian despite the predominance of Asian characters in almost all periods after 1964. In summary, since the late 1950s, more primary characters in anime have been intended to represent

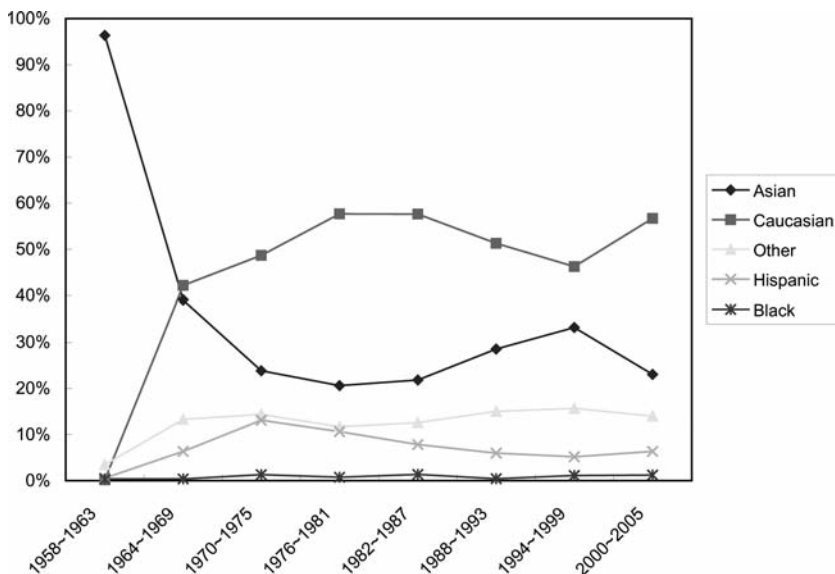


Figure 3 Respondents' perception of anime characters' race by time period.
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Asian than any other race. Characters appearing since 1964, however, are more likely to be perceived as Caucasian than any other race.

Perceived vs intended racial categories of characters

Since each of the 1,046 perceivers perceived 90 randomly selected anime characters, the total number of racial identification answers was 94,140. In Table 2, these responses are arranged by the character's intended race (The shadowed cells with dark gray shades along the diagonal are considered 'correct' answers as the perception of the represented race of the characters matches their intended race.) Characters who were intended to represent Caucasian were correctly perceived most frequently (82.1%); only about one-third (32.7%) of the Asian characters were correctly perceived; and fewer than one fifth (16.7%) of the 'Other' characters were perceived as not Caucasian or Asian. Most of the 'mistakes' were due to audiences perceiving the characters as Caucasian (the light gray cells in Table 2).

Eye shape (66.4%), skin color (63.1%), and hair color (58.8%) were the top three facial features perceivers relied on to decide the race of the characters.

Despite the dominant Caucasian perception of the characters (49,009 out of 94,140, or 52.1%), responses to each character were still

Table 2 Accuracy of perceptions of characters' race

<i>Perceived race</i>	<i>Intended race</i>	<i>Asian (183)</i>	<i>Caucasian (20)</i>	<i>Other (138)</i>	<i>Total</i>
Asian		32.7%	8.7%	20.5%	24,790 (26.3%)
Caucasian		45.5%	82.1%	56.1%	49,009 (52.1%)
Other		12.9%	6.1%	16.7%	13,136 (14.0%)
Latino		7.8%	2.7%	5.7%	6,257 (6.7%)
Black		1.1%	0.4%	1.0%	948 (1.0%)
Total		50,754 (100%)	5,944 (100%)	37,442 (100%)	94,140 (100%)

Note: The percentages in each cell indicate percentage of perceptions of Asian/Caucasian/Other characters in each of the five racial categories.

fairly diversified. An average of 276 perceivers perceived each of the 341 portraits. The percentage of perceivers who put the character in each racial category was calculated. If more than 75 percent of the perceivers perceived a character as any one race, this character was considered a 'consensus character'. Of all the characters coded, only 91 (26.7%) could be classified as consensus characters: 82 of the consensus characters were perceived as Caucasian and 9 were perceived as Asian. There was no consensus character in any other racial category. A Fisher's Exact Probability Test showed that the association between time period and the type of consensus character was statistically significant ($p < .01$). The proportion of Asian consensus characters declined as Caucasian consensus characters increased over time.

Perceived race by perceiver's race: Own Race Projection (ORP)

An interesting pattern emerged when data were arranged by the perceiver's race. Table 3 shows a trend toward characters being perceived as from the perceiver's own racial group. A cell with 'Correct' means that people perceived the characters to be of the race intended by the anime producers (i.e. it matches the character information in the original scenario, see notes 3 and 14). 'Correct' cells for Asian and Other characters indicate ORP, i.e. Asian and Other perceivers have a higher correct rate when the perceived characters are of their own racial groups ($p < .01$ for both). The only exception is perception of the Caucasian characters, because Caucasian perceivers did not have a statistically higher correct rate than the other two groups ($p > .4$).

ORP was evident in the 'wrong' answers as well. For example, in response to Asian characters, Caucasian and Other perceivers were more likely to perceive the characters to represent their own race rather than Asian. Independent sample *t*-tests indicated that all of the differences by perceiver's race are statistically significant ($p < .01$). When responses to all three kinds of characters were combined (see notes to Table 3), the ORP pattern remained ($p < .01$ for all). Asian perceivers saw more characters as Asian (38.3%); Caucasian perceivers saw more characters as Caucasian (53.7%); Other perceivers saw more characters as Other races (20.8%).¹³

In sum, initial coding of the sample of 341 anime characters produced since 1958 found that most characters were intended to be Asian. Yet, perceivers saw more characters as Caucasian than Asian in every period since 1964. Perceivers often projected their own race onto the characters.

Table 3 Racial identification of anime characters by perceiver's race

183 Asian characters						
	<i>Asian (correct*)</i>	<i>Caucasian</i>	<i>Black</i>	<i>Hispanic</i>	<i>Other</i>	<i>Total</i>
Asian	(ORP**) 47.2%	32.8%	1.3%	6.8%	11.9%	(5,563) 100%
Caucasian	30.7%	(ORP) 47.3%	1.1%	8.0%	12.8%	(38,792) 100%
Other	37.1%	37.2%	8.0%	5.2%	(ORP) 19.7%	(1,832) 100%
20 Caucasian characters						
	<i>Asian</i>	<i>Caucasian (correct*)</i>	<i>Black</i>	<i>Hispanic</i>	<i>Other</i>	<i>Total</i>
Asian	(ORP) 14.1%	77.3%	0.9%	2.4%	5.3%	(660) 100%
Caucasian	8.0%	(N.S.) 82.9%	0.4%	2.7%	6.0%	(4,552) 100%
Other	9.2%	77.5%	0.5%	0.5%	(ORP) 12.4%	(218) 100%
138 Other characters						
	<i>Asian</i>	<i>Caucasian</i>	<i>Black</i>	<i>Hispanic</i>	<i>Other (correct*)</i>	<i>Total</i>
Asian	(ORP) 30.1%	44.6%	0.9%	5.8%	18.5%	(4,127) 100%
Caucasian	19.2%	(ORP) 57.7%	1.0%	5.8%	16.2%	(28,656) 100%
Other	25.3%	47.4%	0.4%	3.3%	(ORP) 23.6%	(1,370) 100%
All 341 characters						
	<i>Asian</i>	<i>Caucasian</i>	<i>Black</i>	<i>Hispanic</i>	<i>Other</i>	<i>Total</i>
Asian	(ORP) 38.3%	40.3%	1.1%	6.1%	14.1%	(10,350) 100%
Caucasian	24.7%	(ORP) 53.7%	1.1%	6.8%	13.7%	(72,000) 100%
Other	30.6%	43.9%	0.6%	4.1%	(ORP) 20.8%	(3,420) 100%

Notes: The percentage numbers are the ratio between the number of answers in a perceived racial category divided by the total number of answers from the respondent's own race (e.g, Asian respondents were randomly asked 5,563 times to perceive Asian characters and they answered 'Asian' for 2,627 times. Therefore, the correct rate for Asian audience for Asian characters is 47.2%.

*: Correct = means that the columns headed by the cells with: 'Correct' are the percentage of correct answers from three audiences. Three cells were highlighted with meshed pattern when the race of characters and that of perceivers are the same.

** : ORP = Own Race Projection cells.

***: All cells with ORP indicate Own Race Projection when compared with other cells in the same column (p < .05 for all except for Caucasian perceivers of Caucasian characters where Caucasian perceivers did not perform statistically better than Asian and Other perceivers).

Discussion

Globalization is a comprehensive process, and its components increasingly touch on many aspects of daily life. As more and more anime is exported into the international media market, anime is no longer a novel word or genre. For example, although almost 40 percent of the respondents in this study reported that they had watched anime for less than one year, 85 percent had heard of anime for more than four years and almost 80 percent had watched at least some anime in the past.

Anime has been influenced by Western animation since its inception. Characters with big eyes, originally inspired by early Disney studio designs (Patten, 2004), have become one of the genre's distinctive features. As a Japanese cultural product, though, over the years more than 50 percent of anime productions are still intended to feature Asian main characters. Yet this study finds that, despite the small proportion (20 out of 341) of intended Caucasian characters, more than half were perceived as Caucasian.

This finding calls for more reflexive discussions about Japanese pop culture since more than 98 percent of the characters intended to be Asian (180 out of 183) used in this study were drawn as Japanese. 'Ethnic bleaching' (Sato, 1997), 'cultural odor' (Iwabuchi, 2002), and Yoshimi's dialectic perspective (2003) may provide an explanation. In a globalized world, depriving Japanese characters of the original 'cultural odor' or 'ethnically bleaching' them to gain wider audience reception could serve as a good strategy to promote anime to the international market. As is shown in this study, Asian characters and characters intended to be of other race are perceived as Caucasian by more than half of the perceivers while Caucasian characters are perceived as Asian or Other by fewer than 9 percent of the perceivers. Is this a pure marketing strategy or there is any unspoken cultural desire? Further interviews with anime directors and designers about their intentions could shed some light on this question. On the other hand, since the perceivers were only instructed to watch still images of those animation characters' portraits, which have no dynamic elements or external visual cues indicative of their racial and ethnic background, this study's findings and implications should be carefully limited to the visual perception level. In line with Yoshimi's (2000) discussion of Japanese active adoption and incorporation of Disneyland imagery, the trading of images between cultures does not necessarily suggest passive acceptance.

Before 1964, all anime characters were intended to be Asian and most perceivers saw them as Asian. Since 1964, the perceptual ambiguity of anime characters' race emerged, as 40 percent of the characters' intended race was never explicitly indicated, and audiences persistently perceived characters as Caucasian. In Sato's (2003) terminology, this reflects the trend of incorporating 'Nihonjin-banare', or de-Japanized, elements into Japan's cultural life over the past decades,

which is entwined with the country's booming economic development and fast expansion into global capitalism. For Yoshimi (2000), though, this could also serve as an effective cultural strategy to actively maintain a globalized Japanese identity.

The Caucasian misperception of Asian characters is not the whole story. While the participation of these international audiences in anime consumption adds to the cultural complications, equally interesting is the apparent phenomenon of ORP. In the study, racial perceptions were quite diversified apparently as a result of perceivers projecting their own race onto the characters. The perceivers may be somewhat confused by the hybrid visual indicators and rely on the most available constructs, their own race, to make their judgement. Therefore, the active participation of the international audience offers another perspective on the discussion of race in anime.

The top three facial features perceivers relied on – skin color, hair color, and eye shape – may not be sufficient for accurate racial categorization of anime characters. Anime characters' facial coloring is usually white with a tint of yellow, pink, or brown. These colors may help distinguish a character's race when several characters of different skin colors are in the same picture. In this study, however, only one character was presented at a time, so contrasting skin tones could not be relied on as an accurate cue. A post hoc analysis of the 341 characters identified many different hair colors ranging from pink to teal. Many of these colors are not natural hair colors commonly seen in real life. Most (210 of the 341 characters) also had disproportionately large round eyes, a typical anime feature. Few of the rest (131 characters) had eye shapes that resembled real human eyes.

All of these typical facial cues, plus the lack of background and costume cues and the lack of movement, prevented perceivers from having access to commonly relied upon attributes for racial identification. Without such cues, it appears that the perceivers consciously or unconsciously resorted to the most accessible construct available: their own race. With their own race in mind, they may 'see' traces of their own racial characteristics in the simple and ambiguous facial features of the anime characters. These traces then reinforce their ORP.

Another question arises: is this ORP an unintended by-product of the globalization process or a powerful hidden commercial tactic to maintain non-Caucasian audiences while expanding in the Western media market? Perhaps audiences like characters of their own race better than characters of other races? Future research could answer these questions through systematic international audience reception studies.

This study also indicates that perception of races represented by static anime character portraits is different from that of living human faces or animated characters in motion. In research of living human face perception, other facial features, such as face size, are seen as important features. In this study, however, perceivers from all racial

backgrounds reported using eye shape, skin color, and hair color as their top choices. This pattern could be due to some intrinsic characteristics of animation images: they are stereotypic graphic representations that are much more varied in color than photographs of living humans. They use single colors, while the face of a person has more tonal and color variations. In this study, more Asians and Hispanics than Caucasians chose skin color as an important cue; eye shape was the cue most often cited by Caucasians and African-Americans ($p < .01$ for all). It would be interesting to know if differences in preference for eye shape or skin color as racial cues vary in different racial groups.

Due to its empirical nature and potential scope of anime materials for reflection, this study is not without limitations. The majority of the perceivers were Caucasian Americans. A more diverse sample of perceivers would have been representational of the international anime audience. The intended race of the characters was coded by only one person and should be validated by other coders in future.¹⁴

Only the main characters' head portraits were included in the study. Other aspects of the characters and supporting characters could be included with audiences in other countries and cultures. It is not clear whether ORP occurs only with anime characters or is generalizable to other kinds of illustration. At the end of their research on human face illustrations, Gooch et al. (2004: 39) suggested that research on animated illustrations would be a natural extension of their work. It would indeed be interesting to discover whether racial perceptions differ once these static images are animated.

In conclusion, the study provides support for the idea that some of anime's international success may be due to the perceived racial ambiguity of its characters. Such ambiguous features may have been internalized into anime character design over the years and these may contribute to the pervasive perception that characters are Caucasian rather than Asian. This study further demonstrates that empirical exploration of phenomenological aspects of cultural traits of popular media products is possible and can be fruitful.

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Notes

- 1 See Kang (2001, 2004) for an excellent discussion of the potential harm of the term 'Japanese-ness' in oppressing ethnic minorities in Japan, such as *Zainichi*, i.e. ethnic Korean residents.
- 2 For example, the Relena Peacecraft character from *Mobile Suit Gundam Wing* (Masashi Ikeda, 1995–6) is widely believed to be based on Audrey

Hepburn and her Princess Ann character from *Roman Holiday* (William Wyler, 1953).

- 3 I would like to thank a blind reviewer for pointing out that the word 'correctly' may also imply that perception different from the intended race are 'failures' due to the filmmakers' inability to more accurately represent racial and ethnic identities in anime characters. The use of such expressions, including the word 'mistake' in subsequent paragraphs, does not imply that there should be only one perception of the race anime characters represent. 'Correctness' and 'mistake' are just another way of expressing 'consistency' and 'inconsistency.'
- 4 According to Team Animefringe's 'Annual Top 25 Anime Sites' survey, Anime News Network has consistently been ranked as one of the best sites for its rich content and timely updates (ActiveAnime, 2008; Animefringe Team, 2004, 2005; Arnold, 2004).
- 5 OVA stands for Original Video Animation, or known in the US as OAV. OVAs are usually a series of anime episodes made exclusively for home video release.
- 6 ONA stands for Original Net Animation, which is created to be released directly onto the internet.
- 7 As a common technique in anime visual expression, when a character is shocked, irritated, or amused, his or her facial features can be distorted drastically, which increases difficulty for viewers in recognizing the character's race.
- 8 In coding characters' nationality and intended race, I only referred to information released and created by the anime production companies and their designated distributors rather than any official fan site or publication. In addition, a character's nationality was not coded as 'Japan' but 'Other/Unknown' if this character comes from 'Neo Japan' or 'New Japan' in some Sci-Fi stories because Neo/New Japan are fictional places and cannot be used to infer characters' race. The number of characters coded as Japanese and Asian may be underestimated.
- 9 They were emailed with an invitation to give their perceptions of 90 anime characters' head portraits and told that there is no right or wrong answer for each character.
- 10 This list of facial features was derived from cognitive psychological facial recognition studies and then modified for animated characters' facial features.
- 11 It is possible to artificially decide some of those 'Other' characters' nationality and race by the cultural inferences in the story background or narratives. For example, if a character was raised in a fictional space colony bearing many similarities to ancient China, this character could possibly be categorized as 'Asian'. To make sure that the categorization process strictly abides by the original scenario, this character would still be coded as 'Other' unless there is any direct and explicit reference or dialogue in the original anime works.
- 12 The rationale to code Japanese and Chinese characters as Asian is that, historically, over 98 percent of the population of these two countries is Asian.

- 13 I later produced a table including Black and Hispanic perceivers. A similar pattern of ORP was found with Hispanic perceivers but not Black perceivers, who perceive the characters as mostly Caucasian.
- 14 The coding of the characters' intended design is time-intensive and requires a coder to at least read English and Japanese, browse all official websites, read all video/disc covers, and watch all episodes of the 341 anime works when necessary. Due to time and financial constraints, no other coder was asked to validate the characters' nationality and race. I adopted a very conservative standard when coding the characters' origin. The default for a character was 'Other' unless there was any explicit statement, dialogue, or introduction about the character's nationality and/or race. No conflicting information about the characters' background across all official media was detected throughout the coding and I am confident about the reliability of character coding.

References

- ActiveAnime (2008) 'Active Anime Top 25 Result'. URL (consulted May 2008): <http://www.activeanime.com/html/content/view/2628/58/>
- Ahn, J. (2002) 'Animated Subjects: On the Circulation of Japanese Animation as Global Cultural Products', *Spectator* 22(1): 1-18.
- Akleman, E., Palmer, J. and Logan, R. (2000) 'Making Extreme Caricatures with a New Interactive 2d Deformation Technique with Simplicial Complexes', *Proceedings of Visual 2000*.
- Anime News Network (2005) 'Encyclopedia-Anime'. URL (consulted Dec. 2005): <http://www.animenewsnetwork.com/encyclopedia/anime.php>
- Animefringe Team (2004) 'Animefringe's 3rd Annual Top 25'. URL (consulted Oct. 2005): <http://www.animefringe.com/magazine/2004/01/feature/04.php>
- Animefringe Team (2005) 'Animefringe Top 25 Results 2005!'. URL (consulted Oct. 2005): <http://animefringe.com/magazine/2005/01/feature/05.php>
- Arnold, M. (2004) 'Japanese Anime and the Animated Cartoon'. URL (consulted Oct. 2005): http://www.midnighteye.com/features/animated_cartoon.shtml
- Atran, S. (1990) *Cognitive Foundations of Natural History: Towards an Anthropology of Science*. Cambridge: Cambridge University Press.
- Bargh, J.A. et al. (1986) 'The Additive Nature of Chronic and Temporary Sources of Construct Accessibility', *Journal of Personality and Social Psychology* 50(5): 869-78.
- Barnshad, M.J. and Olson, S.E. (2003) 'Does Race Exist?', *Scientific American* 289(6): 78-85.
- Bouldin, J. (2001) 'The Body, Animation and the Real: Race, Reality and the Rotoscope in Betty Boop'. URL (consulted Oct. 2005): <http://www.hum.utu.fi/mediatutkimus/affactive/bouldin.pdf>
- Brennan, S.E. (1985) 'Caricature Generator: The Dynamic Exaggeration of Faces by Computer', *Leonardo* 18(3): 170-8.
- Bruce, V. (1988) *Recognising Faces: Essays in Cognitive Psychology*. Hillsdale, NJ: Lawrence Erlbaum.
- Bruce, V. and Burton, M. (1992) *Processing Images of Faces*. Norwood, NJ: Ablex.
- Bruner, J.S. (1957) 'On Perceptual Readiness', *Psychological Review* 64(2): 123-52.
- Byatt, G. and Rhodes, G. (1998) 'Recognition of Own-Race and Other-Race

- Caricatures: Implications for Models of Face Recognition', *Vision Research* 38(15): 2455-68.
- Chiou, S. (2002) 'Cultural Imagination: Japanese Trendy Drama in Taiwan', in T. Lee (ed.), *Japanese Popular Culture in Taiwan and Asia*, Vol. I. Taipei: Yuanliu Publishing House.
- Clements, J. and McCarthy, H. (2001) *The Anime Encyclopedia: A Guide to Japanese Animation since 1917*. Berkeley, CA: Stone Bridge Press.
- Collins, P. (2006) 'An Entirely Different World? Challenges for the Sociology of Race and Ethnicity', in C.J. Calhoun, C. Rojek and B.S. Turner (eds) *The Sage Handbook of Sociology*, pp. 208-22. Thousand Oaks, CA: Sage.
- Cosmides, L., Tooby, J. and Kurzban, R. (2003) 'Perceptions of Race', *Trends in Cognitive Science* 7(4): 173-9.
- Ellis, H., Shepherd, J. and Davies, G. (1980) 'The Deterioration of Verbal Descriptions of Faces over Different Delay Intervals', *Journal of Police Science and Administration* 8(1): 101-6.
- Faherty, V.E. (2001) 'Is the Mouse Sensitive? A Study of Race, Gender, and Social Vulnerability in Disney Animated Films'. URL (consulted Oct. 2005): <http://www.utpjournals.com/jour.ihtml?lp=simile/issue3/fahertyfulltext.html>
- Fiske, S.T. and Neuberg, S.L. (1990) 'A Continuum of Impression Formation, from Category-Based to Individuating Processes: Influences of Information and Motivation on Attention and Interpretation', in M. Zanna (ed.), *Advances in Experimental Social Psychology*, Vol. 23, pp. 1-74. San Diego, CA: Academic Press.
- Frowd, C. et al. (2007) 'An Application of Caricature: How to Improve the Recognition of Facial Composites', *Visual Cognition* 15(8): 954-84.
- Goldstein, A.G. and Mackenberg, E.J. (1966) 'Recognition of Human Faces from Isolated Facial Features: A Developmental Study', *Psychonomic Science* 6(4): 149-50.
- Gooch, B., Reinhard, E. and Gooch, A. (2004) 'Human Facial Illustrations: Creation and Psychophysical Evaluation', *ACM Transactions on Graphics* 23(1): 27-44.
- Greenberg, B.S., Mastro, D.E. and Brand, J.E. (2002) 'Minorities and the Mass Media: Television into the 21st Century', in J. Bryant and D. Zillmann (eds) *Media Effects: Advances in Theory and Research*, pp. 333-51. Mahwah, NJ: Lawrence Erlbaum.
- Hairston, M.R. (1999) Manga, Anime, and Miyazaki: Page 2. URL (consulted Oct. 2005): http://utd500.utdallas.edu/~hairston/nausicaa_lecture_1_p2.html
- Hewstone, M., Hantzi, A. and Johnston, L. (1991) 'Social Categorization and Person Memory: The Pervasiveness of Race as an Organizing Principle', *European Journal of Social Psychology* 21(6): 517-28.
- Higgins, E.T. (1996) 'Knowledge Activation: Accessibility, Applicability, and Salience', in E.T. Higgins and A.W. Kruglanski (eds) *Social Psychology: Handbook of Basic Principles*, pp. 133-68. New York: Guilford Press.
- Higgins, E.T. and King, G. (1981) 'Accessibility and Social Constructs: Information Processing Consequences of Individual and Contextual Variability', in N. Cantor and J.F. Kihlstrom (eds) *Personality, Cognition and Social Interaction*, pp. 69-122. Hillsdale, NJ: Lawrence Erlbaum.
- Higgins, E.T., Rholes, W.S. and Jones, C.R. (1977) 'Category Accessibility and Impression Formation', *Journal of Experimental Social Psychology* 13(2): 141-54.
- Iwabuchi, K. (2002) *Recentering Globalization: Popular Culture and Japanese Transnationalism*, Durham, NC: Duke University Press.
- Japan Consumer Marketing Research Institute (2005) 'Scanning the Media'. URL

- (consulted Nov. 2005): <http://www.jmrlsi.co.jp/english/inthemedial/scan/2005/01.html>
- Kang, S. (2001) *Nationalism*. Tokyo: Iwanami.
- Kang, S. (2004) 'Memories of a Zainichi Korean Childhood', *Zainichi*, trans. R. Fletcher. URL (consulted Jan. 2009): <http://japanfocus.org/products/details/2343>
- Klein, H. and Shiffman, K.S. (2006) 'Race-Related Content of Animated Cartoons', *Howard Journal of Communication* 17(3): 163–82.
- Lee, T. (2002) 'Beyond Tokyo Rainbow Bridge: The Imaginary Appropriation of Japanese Trendy Drama in Taiwan', in T. Lee (ed.) *Japanese Popular Culture in Taiwan and Asia*, Vol. I. Taipei: Yuanliu Publishing House.
- Levin, D.T. (1996) 'Classifying Faces by Race: The Structure of Face Categories', *Journal of Experimental Psychology: Learning, Memory, & Cognition* 22(6): 1364–82.
- Li-Vollmer, M. (2002) 'Race Representation in Child-Targeted Television Commercials', *Mass Communication & Society* 5(2): 207–28.
- Lu, A.S. (2008) 'The Many Faces of Internationalization in Japanese Anime', *animation: an interdisciplinary journal* 3(2): 169–87.
- Mangels, A. and Hamill, M. (2003) *Animation on DVD: The Ultimate Guide*, Berkeley, CA: Stone Bridge Press.
- Marable, M. (2000) 'The Problematic of Ethnic Studies', in M. Marable (ed.) *Dispatches from the Ebony Tower: Intellectuals Confront the African American Experience*, pp. 243–64, New York: Columbia University Press.
- Mastro, D.E. and Stern, S.R. (2003) 'Representations of Race in Television Commercials: A Content Analysis of Prime-Time Advertising', *Journal of Broadcasting & Electronic Media* 47(4): 638–47.
- McCloud, S. (1993) *Understanding Comics: The Invisible Art*. New York: Harper-Perennial.
- Meagher, K. and Neal, M. (2005) 'The Influence of Disney: The Effects of Animated Facial Features on Children's Perceptions'. URL (consulted Oct. 2005): <http://psych.hanover.edu/research/Thesis05/MeagherNeal.pdf>
- Medin, D. (1989) 'Concepts and Conceptual Structure', *American Psychologist* 44(12): 1469–81.
- Nakamura, I. (2003) 'Japanese Pop Industry'. URL (consulted Nov. 2006): http://www.stanford-jc.or.jp/research/publication/DP/pdf/DP2003_002_E.pdf
- Napier, S.J. (2000) *Anime from Akira to Princess Mononoke: Experiencing Contemporary Japanese Animation*. New York: Palgrave.
- Patten, F. (2004) *Watching Anime, Reading Manga: 25 Years of Essays and Reviews*. Berkeley, CA: Stone Bridge Press.
- Rhodes, G. et al. (2005) 'Attractiveness of Own-Race, Other-Race, and Mixed-Race Faces', *Perception* 34(3): 319–40.
- Sato, K. (1997) 'More Animated than Life: A Critical Overview of Japanese Animated Films', *Japan Echo* 24(5): 50–3.
- Sato, K. (2003) 'More Animated than Life'. URL (consulted Nov. 2003): <http://www.kampo.co.jp/kyoto-journal/media/animated.html>
- Shepherd, J. (1981) 'Social Factors in Face Recognition', in G. Davies, H. Ellis and J. Shepherd (eds) *Perceiving and Remembering Faces*, pp. 55–79. London: Academic Press.
- Shepherd, J., Davies, G. and Ellis, H. (1981) 'Studies of Cue Saliency', in G. Davies, H. Ellis and J. Shepherd (eds) *Perceiving and Remembering Faces*, pp. 105–32. London: Academic Press.

- Shrum, L.J. (2006) 'Perception', in J. Bryant and P. Vorderer (eds) *Psychology of Entertainment*, pp. 55-70. Mahwah, NJ: Lawrence Erlbaum.
- Smith, S.E. (2004) 'The Portrayals of Minority Characters in Entertaining Animated Children's Programs', unpublished master's thesis, Louisiana State University.
- Smithsonian Institution Human Origins Program (2004) 'In Search of What Makes Us Human: What Are the Differences between Races and How Long Ago Did These Differences Evolve?'. URL (consulted Nov. 2005): <http://www.mnh.si.edu/anthro/humanorigins/faq/race.htm>
- Strull, T.K. and Wyer, R.S. (1979) 'The Role of Category Accessibility in the Interpretation of Information about Persons: Some Determinants and Implications', *Journal of Personality and Social Psychology* 37(10): 1660-72.
- Stevenson, T.H. (2007) 'A Six-Decade Study of the Portrayal of African Americans in Business Print Media: Trailing, Mirroring, or Shaping Social Change?', *Journal of Current Issues & Research in Advertising* 29(1): 1-14.
- Taylor, S.E. et al. (1978) 'Categorical Bases of Person Memory and Stereotyping', *Journal of Personality and Social Psychology* 36(7): 778-93.
- Wikipedia (2007) 'Osamu Tezuka'. URL (consulted June 2008): http://en.wikipedia.org/wiki/Osamu_Tezuka
- Yoshimi, S. (2000) 'Consuming "America": From Symbol to System', in B. Chua (ed.) *Consumption in Asia: Life Styles and Identities*, pp. 202-24. London: Routledge.
- Yoshimi, S. (2003) '"America" as Desire and Violence: Americanization in Postwar Japan and Asia during the Cold War', trans. D. Buist, *Inter-Asia Cultural Studies* 4(3): 433-50.
- Xu, J. (2001) 'Strolling in Manga World: A Cultural Discourse in Japanese Comics', unpublished master's thesis, Fu Jen Catholic University, Taiwan.

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