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## **Variability in Written Japanese: Towards a Sociolinguistics of Script Choice**

Literate Japanese today use a writing system comprising four script types, a plurality which affords a rich flexibility of orthographic choice. Japanese have come to stereotype script types and proportions with extralinguistic features of texts and their inscribers. Hence, women and men, the young and old, and the parochial and the sophisticated are understood distinctly to signal self-identity, audience identity and genre features through script choice. In this study, widely-held associations between script types, genres, writers and target readers are tested via statistical analyses of script use in popular Japanese fiction. Texts are also subjected to lexical analysis to see whether choice of vocabulary alone can account for variability in script selection. Results indicate that, at least in the domain of modern, public texts, Japanese writers fashion their script type choices to specific contexts, as the writing system allows, for sociolinguistic and stylistic ends. By utilizing a micro-level, correlational approach, this project is intended to expand our understanding of writing systems and practices as independent channels for expressions of creativity, social self-identity and cultural forms.

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Literate Japanese today use a writing system of four script types: Sino-Japanese characters (*kanji*), two syllabaries (*hiragana*, *katakana*), and alphanumeric characters (*rômajî*) (figure 1). The first of these, *kanji*, is the script borrowed from China around the fifth century. The process of its adaptation to the writing of Japanese,<sup>1</sup> the development of the two syllabaries to facilitate the inscription of Japanese as Japanese (Komatsu, 1968), and the introduction of Arabic numerals and alphabetic elements to Japanese texts are well documented (Kabashima, 1979; Miller 1967; Seeley 1991). So also is the claim that the Japanese writing system is unique —whether it be uniquely difficult (Sansom, 1928; Miller, 1967, 1982; Sampson, 1985; Coulmas, 1989; DeFrancis, 1989) or uniquely easy to read (Suzuki, 1975, 1977). What remains largely unanalyzed is the flexibility inherent to written Japanese, which, while normally combining the three basic scripts (*kanji* and the two syllabaries) plus, often, a sprinkling of the fourth, *rômajî*, can theoretically be written purely in *kana* or as *rômajî*, but not exclusively in *kanji*. We do not wish to suggest that script choice is free of lexical constraints; any knowledgeable reader of Japanese will be aware of the very powerful lexical constraints that obtain: recent loanwords (*gairaigo*) are written in *katakana* and have no *kanji* counterparts; verbs, which can be written with a *kanji* stem plus *hiragana* inflectional markers, are often written entirely in *hiragana*. We do suggest, however, that while the association of script type with lexical choice has been relatively well-studied (Kokuritsu Kokugo Kenkûjo, 1983), the sociolinguistic and/or stylistic implications of the remaining flexibility have been virtually ignored. It has been observed, for example, that different classes of writers use more of one script than another, and that script flexibility is exploited in various degrees in different written genres (Backhouse, 1984:220). As anthropologists of literacy, we are particularly interested in the implications for Japanese script use suggested by these observations.

1

Here we refer not to the practice of writing Chinese text in *kanji* and Japanese text in a *kana* syllabary, as was the Heian (794-1185) practice (detailed in Seeley 1991:96-98), but to the later practice of mixing the scripts in a single Japanese text.

Figure 1

Publisher's advertisement illustrating six script types:

1) *kanji*, 2) *hiragana*, 3) *katakana*, 4) *rōmaji*, 5) *eimoji*, 6) *kigō*

1

2

3

4

5

6

※読者部からのお知らせ※  
あけましておめでとうございます♡  
今年も、青磁ビブロスをよろしく!!

…と、いう訳で、ちょっと遅めの新年のあいさつで  
したがいかがお過ごしでしょーか？ 私達はあいも  
変わらずみなさんにお届する本を作っていること  
でしょー。 去年から新シリーズが2冊も発刊し、な  
かなか大変なんですががんばっていかうと思っ  
ます。 やっぱり読書のみなさんのおたよりが一番  
元気がついてうれしい訳で…。感想・イラ  
スト等まってまあーす♡ あとご意見  
んかもお願ひしますね！「おいつビブロス  
っ!!〇×の特集やってくれっ!!」たの  
「もっと豪華なプレコン」まこせよっ!!」  
など何でもかまいませんのでじゃん  
じやん送って下さいね♡ ともかく今  
は色んな企画にトライしたり本誌も、  
今まで以上に充実させてがんばって  
こうと思ってますんで、今年1年（こ  
の先もたけど…）よろしく願ひし  
ますね!! …でわっ、2月期でまたお  
会いしましょうね♡

PLACE

4

4

**SAMUKUNAI!**

青磁ビブロス  
編集部一休

In this paper, we first investigate script choice variability by testing particular associations between writer, target audience and genre features, and *kanji*, *katakana* and *hiragana* proportions through quantitative analysis. We calculate the distribution of the three scripts across a variety of texts, explore plausible sociolinguistic and stylistic factors influencing script use in each, and suggest potential areas for future research. A full-fledged investigation of all aspects of script variation lies beyond the scope of this preliminary study. Here we attempt to enhance the understanding of how Japanese writers, unwittingly or not, link social and stylistic meanings with the scripts available to them. In doing so, we are responding to Basso's call for a revitalization of writing system scholarship by focusing on the extralinguistic factors influencing vernacular writing practices, and by placing his "ethnography of writing" within the methodological context of quantitative sociolinguistics (Basso, 1974). Our research is also intended to complement recent historical and ethnographic trends in literacy studies (for example Boyarin, 1993; Street, 1993) as well as formal linguistic approaches to written language (Tannen, 1984; Chafe, 1986).

3

## From Identity and Style to Script

Although extensive work on the function of script types in the Japanese system has been reported (Kokuritsu Kokugo Kenkyūjo, 1983; Miyajima, 1977; see Backhouse 1984 for a summary of this work in English), the functions studied have generally been narrowly linguistic — for example, what type of words or parts of speech tend to be encoded in one script or another. Much of this work has been aimed at restricting or providing guidelines for the number of *kanji* used and their readings and at regularizing spelling in the syllabaries to produce a writing system suited to the needs of universal education and mass literacy. Little work has been done on how the writing system, when acquired by writers, indexes reader and/or writer identity features or operates as a “paragraphemic” component of textual style.<sup>2</sup>

In this study, we set out to test a series of common, stereotypical assumptions, made by Japanese, about the scripts (*table 1*).<sup>3</sup> For example, *kanji* is associated with erudition, *hiragana* with softness, and *katakana* with modernity, while, historically, *hiragana* is associated with women; today, *kanji* is associated with older writers, *katakana* with young male readers (Satake, 1989), *rōmaji* with young female readers (Nakamura, 1983), etc. We assume that, while links between script type and lexicon or grammatical function are generally predictable, associations between script type proportions and texts/writers/audiences are not, but that they can be tested through correlational analysis. By testing whether these associations are reflected in script proportions in real-life texts, our intention is to provide 1) data on Japanese script variability beyond that which can be accounted for by considerations of lexical choice and 2) an empirical foundation for studies of how a writing system may act as a sub-textual channel for social and stylistic meaning.

2

Analogous to paralinguistic components of speech (e.g., sarcastic intonation in English) (Hamp, 1959).

3

Although we review the stereotypical associations of extralinguistic factors and *rōmaji*, this script was not present in sufficient numbers for statistical analysis.

**TABLE 1. SCRIPT STEREOTYPES**

	Writer/Reader Features	Stylistic Features
<b><i>Kanji</i></b>	male, middle-aged and older	erudition
<b><i>Hiragana</i></b>	female, young	softness or femininity
<b><i>Katakana</i></b>	young, especially male	modernity; pop culture
<b><i>Rōmaji</i></b>	young, especially female	commerciality

We began with a number of stereotypes. First was the historical association of women writers (and readers) with *hiragana*, standing in opposition to the association of male writing with *kanji*. This historical association is, in the present day, mediated by two “socio-lexical” considerations: one is an avoidance of *kango* ‘Sino-Japanese words’, which is characteristic of women’s speech (Mashimo, 1969; Nomoto, 1978); this avoidance arguably carries over into “women’s” writing. There is also a documented trend away from encoding *wago* “‘native” Japanese words’ in *kanji* and toward encoding them in *kana* (Nomura, 1988).

Our second stereotype is the association of *kanji* with older writers/readers, in contrast to the association of a younger readership<sup>4</sup> with the *kana* scripts, especially *katakana*, and *rōmaji*. There are some intriguing suggestions as well that gender associations exist among young readers/writers: high *katakana* use is linked to young men (Satake, 1982, 1989), while *rōmaji* (and *kigō* ‘non-script signs’ such as ♥ and ☺) are linked to young women (Nakamura, 1983).<sup>5</sup>

Turning to the associations of particular script types to stylistic features, the first and most frequently attested is the association of *kanji* with erudition. This association is one of long standing; in the Tokugawa Period, “[i]t was a favorite ploy of scholars wishing to display their erudition to pad out the text of their discourse with unnecessarily complex characters in order to impart a more educated appearance and tone to their prose” (Twine, 1984:230). Today, “mastery of *kanji* provides an inescapable measure of intellectual capacity” (Crump, 1986:65). Crump also notes the existence of the *Nihon Kanji Nōryoku Kentai Kyōkai* (Japan Kanji Competence Certification Association), an institution which certifies individuals at twelve levels of *kanji* mastery; certificates are used to demonstrate particular levels of literacy in job applications, etc. “Without *kanji*, most Japanese feel they have no way to show others that they are educated and possess the knowledge which entitles them to social acceptance” (Unger, 1984:249). Brown (1985) questioned eighty lay writers/readers, who overwhelmingly reported strong associations of *kanji* with erudition:

4

Teens and young adults, into the early thirties.

5

As one reviewer notes, the use of Japanese word-processors is tending to increase *kanji* use by all writers, which may ultimately alter the long-standing association of *kanji* with older writer/readers.

*Takusan tsukawarete iru baai chishiki no yutakasa ga kanjirareru.*

[When many *kanji* are used, it produces the feeling of great learning.]

*Kyôyô o shômei dekiru kara.*

[Because it can attest to cultivation (education, refinement).]

Brown (1985:65).

The association of *hiragana* and softness (femininity?) is perhaps best exemplified by an extract from a junior high school student essay, reported in Nagano (1976). The student writes about the poem *Iki o Korose* by Yagi Jûkichi (figure 2).

*Iki o Korose*

*Iki o korose*

*Iki o korose*

*Akanbo ga sora o miru*

*Aa sora o miru*

息を殺せ

息をころせ  
いきをころせ

あかんぼが 空を みる  
ああ 空を みる

*Hold Your Breath*

*Hold your breath!*

*Hold your breath!*

*The baby looks [up at] the sky.*

*Ah, it looks at the sky.*

Figure 1

Poem 'Hold Your Breath' by Yagi Jûkichi.

After discussing her interpretation of the poem and its impact on the reader, the student writes:

*I have one question about this poem. That is: why is korose written in kanji in the title, but in hiragana in the poem itself? I thought this over. Couldn't it be that [the poet] emphasized the words iki o korose in the title by writing [them in] kanji, [assuming that] if [the reader] goes on to read the poem the feeling of the poem is unexpectedly soft, as if it were being adapted to conform to the [softness of] the "baby" — yes that's it, surely that's it. It's shaped to the "baby." As evidence, the only kanji in the body of the poem are [those for] iki and sora. [The poet] used the soft-*

ness of hiragana, and kanji were used to emphasize only the important things (daiji na mono) in the poem (N. Kawasaki, quoted in Nagano 1976:142; translation the authors).

The third stylistic association is that of modernity (including western “foreignness”) and pop culture with *katakana*. In part, this is due to the international qualities of urban pop culture, leading to a (dis)proportionately large number of *gairaigo* ‘western loanwords’ in popular writings; these are typically written in *katakana*. However, pop culture writing has played a particularly important role in the “*Shin-geibun itchi-tai*” ‘New Correspondence-of-Speech-and-Writing’ style (Satake, 1980), and here *katakana* plays a large role in making written text “sound” (look) colloquial. Japanese words expressing feelings and subjective opinions are rife in pop culture texts. These are often written, not in the *kanji* or *hiragana* that would normally be expected on lexical grounds, but in *katakana* (Satake, 1989, 1991, 1992).

Finally, there is an association of *rōmaji* with commerciality. The use of roman letters both for Japanese and non-Japanese words is particularly striking in advertising (Haarmann, 1989; Saint-Jacques, 1987). Sometimes the appearance of *rōmaji* is related to the novelty of the product being advertised, sometimes it seems merely to be another way of emphasizing a product name, of catching the viewer’s/reader’s attention. Outside the field of advertising per se, businesses also make heavy use of names written alphabetically, whether those names be Japanese (*rōmaji*) or made up of foreign words. This is held to provide businesses with “a new corporate identity” (Saint-Jacques, 1987: 97). The use of the alphabet in writing foreign names and acronyms, for long a minor theme in Japanese texts, is also increasing.

## Data Collection

The corpus of texts used in the analysis was drawn from publicly available published works. Forty-two popular texts were selected for script proportion analysis (SPA; to be described below). The category “popular texts” is defined here as published works generally associated with casual or light reading, e.g. comic books, mysteries, etc., as opposed to literary, scientific, or official texts. Most previous script studies have focused on magazines and newspapers (Kokuritsu Kokugo Kenkyūjo, 1962-1964, 1970-1973, 1976, 1987) or major literary works (Miyajima, 1988; Yasumoto, 1963),<sup>6</sup> but we believed — somewhat along the lines

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There are, however, a few works on the script choices of young people; see Nakamura (1983), Satake (1982, 1989).

of the Vernacular Principle as articulated in Labov (1972) — that popular texts, where the reader is more likely to focus his/her attention on the “escape” or relaxation functions of the text and therefore more likely to be attending to an engrossing plot or story line, to engaging (or repellent) characters, to action, adventure or romance than to the expression of an individual authorial voice, would provide the clearest publicly available demonstration of vernacular writing practices. Although a direct approach to truly vernacular writing practices must await the study of privately produced texts (journals, letters, study notes and lists, etc.), popular texts nonetheless afford a preliminary look at the code-style-identity conventions that constitute the sociolinguistics of Japanese script use.

Five genre/text types were collected and analyzed: mystery novels, science fiction novels, romance novels, business novels and comic books (*table 2*). Texts in each genre were selected with an eye to their being good, that is, relatively central or prototypical, exemplars of their genre (to minimize the possibility that results would be *unduly* muddled by problems of complex genres<sup>7</sup>), but otherwise were drawn from materials the authors had on hand or could readily acquire from a local bookstore simply by asking for a book of genre “X.”<sup>8</sup> The five genres analyzed in this study are defined as follows.

**TABLE 2. SAMPLE TEXTS BY GENRE AND SEX OF AUTHOR**

<i>Genre</i>	<i>Sex of Author</i>		
	<b>M</b>	<b>F</b>	<b>Total</b>
Mystery	5	4	9
Comic	4	5	9
Business	5	3	8
Science fiction	4	4	8
Romances	3	5	8
<b>TOTAL SAMPLE</b>	<b>42</b>		

### *Mystery novels*

Mystery novels (*suiri shōsetsu*) in Japan are roughly divided into two categories: *honkaku* ‘standard, orthodox’ and *benkaku* ‘irregular.’ *Honkaku suiri shōsetsu* involve the presentation of a puzzle or mystery, solution of the mystery using logic, and a surprise resolution. They contrast with *haado-boirudo* ‘hard-

7

In Briggs and Bauman’s critical examination of the concept of genre, they note the futility of views of genre as categories with “immanent, invariant feature” and argue that “generic framings of texts are...often mixed, blurred, ambiguous, contradictory” (1992:163). Authors can — and do — construct intertextual relations and intertextual gaps as they create a text, and the creation of a text sometimes aligns it with a single genre, sometimes with a number of genres. In this study, we have tried to select texts that are aligned with a single genre. Genre here is not meant to be interpreted as a set of rules to be followed, but as a “framework” that is “always there to some degree,” aiding the reader in approaching a text with some norms or expectations to help assign functions to the various elements of the work (Carr, 1989).

8

Choosing the samples from each genre more, rather than less, narrowly brings with it the attendant danger that, while we would be more likely to find significant differences in our corpus, these differences would be less likely to be meaningful; that is, that they would really apply only to prototypical texts, but wouldn’t necessarily apply to the genres in general.

▶

boiled' mystery novels, featuring tough, unemotional protagonists and action-oriented plots, as well as with police procedurals, spy novels and "violence" novels (*Gendai Yôgo no Kiso Chishiki*, 1982); these fall into the *henkaku* mystery category. All mysteries in the present sample center around logical puzzle-solving rather than action, violence or police procedure, placing them in the *honkaku suiri shôsetsu* category. In our sample, two texts (Kawakami, *Rokuninme no Onna*; Sôno, *Kakei no Onna*) target a male audience, one (Niki, *Akai Neko*) targets women readers and a third (Yamamura, *Murasaki Shikibu Satsujin Jiken*) a young, gender non-specific audience; but mysteries are written and read by both men and women of all ages.

We wish to emphasize that we were selective in choosing texts only to the extent that we tried to avoid gross generic mixtures—romance with business, history with action comic, pornography (yes, really) with science fiction or mystery, etc.

### Comic books

In 1980, twenty-seven percent of the "books" produced in Japan were comics (Schodt, 1983: 12). Despite a fair amount of cross-over in readership, comics are targeted primarily at young people — college students are perhaps the greatest readers of comic texts — and either at young men or at young women. Adults in Japan now have their own comics; comic magazines originally targeted at young men now have readership in their forties, and it would not do to ignore the "*sararii-man*" comic genre, which appeals to a more mature audience. Adult women were dependent on comics aimed at teen-age girls until the 1980s, but they, too, now have comics of their own. Even adult comics, however, tend to be packaged as if the target audience were young people, and appeal less to a truly mature audience than other genres.

As noted above, comics are targeted specifically at either a male or a female audience. Men's comics (written by men and targeted at a male audience) deal with many themes, including sexual ones, but avoid romance. Women's comics (written by women and targeted at a female audience) were developed with romance as central; only late in this century did some women's comics begin to treat other themes (competition in sports, crime, action/adventure). The comics in this sample deal with action, romance, life in the workplace, and — in one instance only — mid-life nostalgia for the lost time and place of childhood.

### Business novels

These are novels with themes centering on the people within corporations or organizations (*soshiki*) or on the organizations themselves (*Gendai Yôgo no Kiso Chishiki*, 1982: 658). The

Japanese business novel has a long pedigree; one can look back to feudal times at Saikaku's *Nippon Eitaigura* (The Japanese Storehouse, 1688) for an early example of this literary genre. The modern business novel traces its beginnings to Shiroyama Saburô's receipt of the Bungakkai New Writer Award for his story "Export" in 1957 (Mulhern, 1991). Many modern-day authors of business novels are from the generation born in the late 1920s and the 1930s, with interests both in literature and in political economy, who experienced Japan's war years and the postwar struggle toward reconstruction and economic recovery (Griswold, 1991). Authors of the business novels in this study were all born between in the 1920s or 30s, with one exception (Sugita Nozomu, b. 1943). Prindle (1991) states that business novels use more *kanji* than do the "genuine literature" group — and by extension we may speculate that they use more *kanji* than other genres of popular fiction as well; she further notes that the *kanji* used in these novels have a greater tendency to be *jôyô-kanji* than those in other genres of fiction. Most business novels are authored by men, and they attract a primarily male readership.

### Science fiction novels

The typical Japanese science fiction story "takes a traditionally understood (and emotionally charged) human situation and places it in a modern technology-based setting" (Matthew, 1989:17). The genre began to be widely read in Japan in the 1920s, published at first as *henkaku tantei shôsetsu* 'irregular/anomalous detective stories' (Matthew, 1989). Science fiction may be generally divided into three types: 1) hard science fiction, based on the physical sciences and advanced technology, 2) soft science fiction, centered more on the human responses to scientific and technological advances and 3) fantasy. The present sample includes two hard science fiction texts (by male authors), four soft science fiction texts (two by male and two by female authors) and two works of fantasy (by women). We do not, at this point, hold that these sub-generic distinctions are consequential for script use. Matthew's account of Japanese science fiction makes two points about the genre however, that are relevant to this study: first, science fiction is aimed primarily at young readers<sup>9</sup> and second, the writers of science fiction stories are mostly men.<sup>10</sup>

9

Readers belong "overwhelmingly" to the younger generation (Matthew, 1989: 67).

10

Only three of the numerous authors listed in Matthew's index, for example, are women.

## Romance novels

Romance novels comprise two sub-types: texts which are slightly humorous or ironic where the ending, if not always a happy one, is not tragic and texts which are (hyper-)serious where the romance ends in *hiren* 'blighted love.' Romances of the first type, of which all the texts in this study are examples, tend to be written by women (although some men write in this genre; the situation is roughly the reverse of science fiction). The target audience is female. Young and middle-aged women appreciate these romances, whereas many friends and relatives of the first author of this paper, who are in their fifties and sixties, express an emphatic preference for the more tear-jerking style of the second sub-type.

Texts written by men and texts written by women were selected in each category. Each author gender ~ target audience age/gender ~ genre complex was held to be associated with one or another of the stereotypical linkages to script choice discussed earlier. For example, the stylistic associations of erudition with *kanji*, softness (and possibly femininity) with *hiragana*, modernity and pop culture with *katakana* and commerciality with *rômaji* would suggest that business novels (and perhaps mysteries), with an older and primarily male authorship and audience, would exhibit high proportions of *kanji*. Romances and women's comics, associated with female authorship and an almost exclusively female audience, should exhibit lower proportions of *kanji* and correspondingly higher proportions of *hiragana*, with *hiragana* proportions even higher in the comics than in romance novels, by the association of kana generally with younger readers. Genres directed at a young audience — science fiction and comics — should exhibit low *kanji* and higher *kana*, in particular, higher *katakana* proportions. This would be especially likely in the comics for boys and men.

We hypothesize, then, that business, science fiction and possibly mystery novels would exhibit high proportions of *kanji*; that romance novels and romantic comics for women would exhibit high proportions of *hiragana*; and that science fiction and comics (especially boy's/men's comics) would exhibit high proportions of *katakana*. *Rômaji* use was not addressed statistically in this study; if anything could be hypothesized concerning *rômaji* in the popular genres analyzed here, it might be that the business novel genre would exhibit a slightly higher proportion of *rômaji* use than the other genres, at least on stylistic grounds.

Merging the social identity and stylistic characteristics to script associations, then, leads us to hypothesize that each genre will exhibit a characteristic script-mix pattern, essentially as follows: mystery novels would be closest to a “basic mix” of *kanji-hiragana* scripts — perhaps a bit high on the *kanji* proportion, with relatively little *katakana* or *rōmaji* script. Comics would be characterized by a very low *kanji*-high *kana* pattern, with particularly high *katakana* use, at least in the boy’s/men’s comics and particularly high *hiragana* use in the girl’s/women’s comics. Business novels should exhibit the highest proportions of *kanji*, and possibly some *katakana* (“foreignness”) and *rōmaji* (commerciality). Science fiction texts were expected to exhibit high proportions of *katakana*, romance novels high proportions of *hiragana*.

## Analysis

At the outset of this pilot study, we found that there were no standard methodologies available for analyzing script proportionality and related functional variation in Japanese. Thus, preliminary procedures for script proportion analysis (SPA) were developed for this project. Although refinement of these procedures will be necessary, in particular for the separate but parallel analysis of *furigana* (*kana* printed interlinearly beside or above certain *kanji* to aid reader recognition and/or to indicate a non-standard reading of a particular term) distribution and function, SPA is a first approximation to a workable method for analyzing the proportions of all the script types in a text at once. This results in a clearer picture of script use than analyses which privilege a single script type (in general, *kanji*) in proportion to the total text.

In SPA, for each line of text, script type totals are calculated; ratios of script type to cumulative counts are then tabulated for each text, yielding script proportions. These results are subjected to statistical analysis. A multivariate analysis of variance [MANOVA] ( $df = 12, 92$ ) tested whether script proportions were simultaneously the same for genre, sex of author or genre-sex combinations, a series of univariate analyses of variance [ANOVAS] analyzed each script type separately; finally, a cluster analysis looked for parallel script proportions among the genres to assess their correlation with extralinguistic factors (e.g., author sex/age).

A number of conventions for counting certain orthographic features of written Japanese were established. Japanese numeral signs are *kanji*; Arabic numeral signs were counted as *rōmaji*. *Kanji* with *furigana* were counted along with the *kana* script chosen for the furigana.<sup>11</sup> *Kana* indicating geminate consonants were not counted, since they are predictable from the surrounding script within the word. Marginalia, most often found in comic books and usually used as advertising copy for upcoming editions or consumer products, were not included as part of the selected texts. Comic book texts, in general, posed some special challenges for SPA procedures. Script on public signs (advertising, municipal) or depictions of printed material in the comic frame were not counted. Thus only the script of narration, dialogues and monologues was included in our analysis.

In our pilot study, the first page of each text and 1500 characters drawn from the middle of the text (the inner page sample) were subjected to SPA. Because the first page is likely to be a formulaic introduction — the script type for which is fully prescribed — it seemed likely that first pages might exhibit a script-mix unrepresentative of the balance of the text. Furthermore, we conjectured that writers may tend to favor one script over others in the first pages so as to entice potential readers/purchasers into the text.<sup>12</sup> Both sets of characteristics, the possible special restrictions or enticements of the first page and the overall texture of script mix in the central portions of text, were of interest to our study.

## Results

The results of the initial multivariate and univariate analyses of variances showed that when genre was treated as a nested factor within audience age, both audience age and genre had significant effects ( $p=.0024$  and  $.0023$ , respectively, for first page data and  $p=.0001$  and  $.0081$ , respectively, for the inner page data). These differences run in directions consistent with our hypothesis that younger readers will be associated with low percentages of *kanji* across genre, although there is also considerable variation within age groups. No author gender or audience gender effect was observed.

The genre effect was significant ( $p<.05$ ).<sup>13</sup> For *kanji*, not unexpectedly, comic books were significantly different than all other genres for the first page data and than all genres except science fiction on the inner pages. A distinct pattern of low *kanji*-high *kana* script use (16.0:73.9 for the first pages, 15.9:83.8 for the

11

This is not an ideal resolution to the complex issue of double encoding, and *kanji-furigana* associations will be examined in more detail in future work.

12

A rejoinder to this may be that authors may also mix scripts to appeal to a wider audience.

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The cluster analysis supported the findings of the multivariate analyses.

inner pages) is not unexpected; numerous scholars and popular social commentators have bemoaned the decline of *kanji* literacy in Japan. Usually, this is framed as a concern that young people are not acquiring full *kanji* literacy, and *manga* (comic books) along with television are frequently held responsible (Mizutani, 1979).<sup>14</sup> This would suggest that a low *kanji* - high *kana* ratio in comics could be attributed to the supposed youth of the target audience. However, our sample drew from comic books and magazines for adult audiences, and by no means necessarily audiences of young adults. Still, despite the wide age range of comic readers in reality, comics continue to have associations with a youthful readership, as do science fiction novels. In this regard, it is notable that — for the inner page data — comics and science fiction fall together as texts characterized by low *kanji* use.

Business novels also exhibit patterns of significant difference from the other genres. The first page data show significantly higher use of *kanji* in business novels than in comics and romances, but not more than in mysteries and science fiction novels; this is most likely due to the number of place and personal names introduced at the beginnings of these genres. Business novels are significantly different ( $p < .05$ ) from all other genres in the inner pages.

The results of the significant differences in *kanji* use by genre are summarized in table 3.

**TABLE 3. PERCENTAGE DIFFERENCES IN *KANJI* USE BY GENRE**

Sample	High <i>Kanji</i> Use	Mid <i>Kanji</i> Use	Low <i>Kanji</i> Use
<b>First Page</b>	business novels (38.2)	science fiction (28.6)	comics (16.0)
		mystery novels (28.5)	
		romance novels (26.8)	
		mystery novels (29.1)	
<b>Inner Page</b>	business novels (39.2)	romance novels (26.3)	comics (15.9)
		science fiction (24.9)	

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"The dedicated literacy of Japan is yet another cause for admiration, but the content of the reading matter — especially on the trains, where no one knows his neighbor and in principle everyone is unobserved — is not. Some of the men are reading books, but more are reading either 'sports papers' or thick volumes of comics the size of telephone books" (Fallows, 1986: 32).

Turning next to *kana* use, we see a repeat of the very divergent use of *hiragana* in comics and business novels for the first page data, and for comics and all other genres but romance novels for the inner page data. Romance novels exhibit a significantly higher proportion of *hiragana* than business novels for the inner page sample, and are the only texts not exhibiting significantly lower *hiragana* usage than comics in that same sample. A possible interpretation for the relatively high proportion of *hiragana* script elements in romance novels is that, since *kango* ‘Sino-Japanese compound words’ are associated with the public, official world and thus with masculinity, novels such as romances, which focus on the inner thoughts and emotions of women and on the relationships between men and women in their private worlds, would avoid the *kango* lexicon and hence use fewer *kanji* (see Nomura, 1988 for a review of the studies documenting a trend away from inscribing wago “‘native” Japanese words’ in *kanji*). This possibility will be addressed below. It is clear, however, that whether the high proportion of *hiragana*-encoding in romance novels is due to old associations of *hiragana* to femininity (Kabashima, 1979; Komatsu, 1968) or to the ongoing constraints on use of a “masculine” lexicon when one’s audience is women and one’s topic “feminine,” it is distinctively higher than other non-comic genres. One may speculate that this is not entirely at the expense of *kanji*, since romances fall into the mid range in *kanji* use in both first page and inner page samples. It appears to be, rather, that romances use slightly less *katakana* and *rōmaji* script than comics or science fiction and slightly less *kanji* script than business or mystery novels, thus resulting in texts using a simpler mix of *kanji* and *hiragana* — with *kanji* on the low side — than is the case for the more multiscriptal comics or science fiction. In the case of comics, of course, which also show high *hiragana* use, *kanji* use is lowest, and *katakana* use as well is significantly high for the first page sample. No other significant differences in *katakana* use emerged in this study, although some regularities in the inner page data suggest that a larger sample might produce a genre effect here as well.

*Hiragana* and *katakana* patterns are summarized in table 4.

**TABLE 4. PERCENTAGE DIFFERENCES IN HIRAGANA AND KATAKANA USE BY GENRE**

<i>Hiragana</i>	High <i>Hiragana</i> Use	Mid <i>Hiragana</i> Use	Low <i>Hiragana</i> Use
<b>First Page</b>	(69.7) comics	(66.0) romance novels (65.9) mystery novels (64.0) science fiction	(54.0) business novels
<b>Inner Page</b>	(76.4) comics	(67.5) science fiction (67.3) mystery novels (68.5) romance novels	(56.8) business novels
<i>Katakana</i>	High <i>Katakana</i> Use	Mid <i>Katakana</i> Use	Low <i>Katakana</i> Use
<b>First Page</b>	(14.2) comics	(7.8) business novels (7.2) science fiction (7.1) romance novels	(5.6) mystery novels
<b>Inner Page</b>	(7.4) comics* (7.3) science fiction	(5.2) romance novels	(3.9) business novels (3.6) mystery novels

\*The differences in *katakana* use on the inner pages were not significant at the  $p < .05$  level; the pattern of differences, however, is consistent with our hypotheses about genre and script use.

Script differences between first and inner page samples were significant ( $p < .05$ ). There was, however, no significant page-genre interaction; that is, the differences between the samples are similar for each genre. Primarily, this difference can be summarized as a higher percentage of *hiragana* script in the inner pages at the expense of all other scripts. *Katakana*, in particular, shows a significant drop from first to inner page samples. This is mostly due to the frequent use of *katakana*-encoded words, whether they be foreign place or personal names (*rondon* 'London', *kuiinzu-rôdo* 'Queen's Road', *renokkusu* 'Lenox'), foreign loan words in common use in Japan (*hoteru* 'hotel', *kauntaa* 'counter', *erebeeta-hôru* 'elevator hall'), or Japanese words (*keyaki* 'bastard sandalwood', *kashi* 'oak') in establishing setting. Business novels in this study, for example, quite frequently began at a *paatii* 'party' in a *hoteru* 'hotel'; getting there involves *takushii* 'taxi(s)' and crossing the *robii* 'lobby' to the *erebeetaa* 'elevator'.

In sum, then, popular fiction genres in Japanese do exhibit characteristic patterns of script use; those for the five genres examined in this study are displayed in table 5. Thus, the comic genre exhibits a high *kana* (both *hiragana* and *katakana*)-low *kanji* pattern, but with a higher *katakana* profile than *hiragana*. Romance novels show a slightly elevated *hiragana* use pattern

and mid-level *kanji* and *katakana* use. Mysteries are the first genre to show the higher *kanji*-low *kana* pattern that characterizes literary and non-fictional texts, and used the least *katakana*. Business novels most closely approximated (or exceeded; see, for example, Miyajima, 1988:54) serious literary texts in *kanji-kana* proportions. In fact, when the business novels were compared with four non-fiction texts, they were found to be even more markedly similar in *kanji-hiragana* proportions than they were to serious literary works.<sup>15</sup>

**TABLE 5. OVERALL SCRIPT USE PATTERNS BY GENRE<sup>16</sup>**

	High				Low
<i>Hiragana</i>	comic	romance	mystery	SF	business
<i>Kanji</i>	business	mystery	romance	SF	comic
<i>Katakana</i>	comic	SF	romance	business	mystery

Audience gender, however, is not reflected in *kana* percentages in comics as we had predicted: men's/boys' comics and women's/girls' comics did not differ in their *katakana* and *hiragana* proportions in any statistically meaningful way. Finally, our hypothesis that first page script proportions would reflect an 'enticement effect' was not supported. The greater use of *kanji* in the first page samples is readily explained by the need to introduce place and personal names — prescriptively written in *kanji* — while the greater use of *katakana* in first page samples for all genres is more likely the result of scene-setting, foreign loan word vocabulary rather than authors' attempts to render their works more orthographically attractive to potential buyers.

### Script variability and the lexicon

Having found significant correlation between script stereotypes and script proportions across age of target audience, age and genre, we are left to ask whether this correlation is due to sociolinguistic and/or stylistic differences or choice of vocabulary, itself not free of topical and other constraints. An initial survey of a central portion of the corpus may tell us whether all the variability in script can be more simply accounted for by lexical and semantic constraints.<sup>17</sup> For this, we extracted a central section of the inner page data and subjected it to lexical analysis. Each inner page sample was coded as follows: *kanji-kango* 'Sino-Japanese compound word'/mixed vs. *kanji-wago* 'Japanese words', *hiragana*-lexical item vs. *hiragana*-grammatical morpheme (always encoded in *hiragana*, hence not subject to

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As is evident from the following:

#### Business Novels

<i>Kanji</i>	39.2
<i>Hiragana</i>	56.8
<i>Katakana</i>	3.9
<i>Rōmaji</i>	0.1

#### Scientific

<i>Kanji</i>	40.4
<i>Hiragana</i>	45.5
<i>Katakana</i>	10.3
<i>Rōmaji</i>	3.8

#### Humanistic

<i>Kanji</i>	42.4
<i>Hiragana</i>	57.2
<i>Katakana</i>	0.8
<i>Rōmaji</i>	0.1

More *katakana* and *rōmaji* are used in scientific texts.

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A final note on *rōmaji*: although the numbers of *rōmaji* script elements in this corpus were insufficient for statistical analysis and the texts were not specifically selected to address the stereotypical link of this script type to commerciality, ▶

writer choice), *katakana-gairaigo* ‘foreign loan word’ (always encoded in *katakana*, hence, not subject to writer choice) vs. *katakana*-other words. (See table 6). All differences found between the various sets across categories of texts were tested for significance using the Wilcoxon-Mann-Whitney U-test.

**TABLE 6. LEXICAL CONSTRAINTS ON SCRIPT CHOICE**

obligatory	optional
<b><i>kanji-kango</i></b>	<b><i>kanji-wago</i></b>
Sino-Japanese words	‘Japanese words’
<b><i>hiragana</i></b>	<b><i>hiragana</i></b>
lexical item	grammatical morpheme
<b><i>katakana</i></b>	<b><i>katakana</i></b>
foreign loan word	other word

The first question we asked was whether the use of *kanji* in a text was simply linked to the presence of more or fewer *kango*. Nomura (1988) and others have detailed the trend for *wago* ‘Japanese words’ to be encoded in *hiragana* while *kango* continue to be written, to a greater degree, in *kanji*. Our texts are clearly affected by this trend. Table 7 shows the percentages of *kango* per total *kanji* in our sample. Significantly more *kanji* in business novels encode Sino-Japanese compound nouns than is the case in the other genres (68.0%,  $p < .01$ ); here, it seems to be the case that the lexicon “drives” the script, since it is less likely for *kango* to be encoded in *kana* script than in *kanji*. The picture is more complex, however, for the other genres. Recall that in terms of high, mid and low proportions of *kanji* in text samples, mysteries and romances fell into the mid-use category. One would expect, then, that they would also have higher proportions of *kango* per sample than science fiction and comics. Instead, the situation is reversed: mystery novels and romances in our samples had a significantly ( $p < .01$ ) higher proportion of *wago* “native” Japanese words’ written in *kanji* than did the other genres. The relationship of *kanji* per sample to the proportion of *kango* in the lexical script portion of each sample is given in table 8.

we did speculate that, if this link were to be instantiated in our texts, we would expect to find a relatively higher number of *rōmaji* script elements in the business novels in the corpus. This, however, was not the case. The two genres that exhibited the highest percentages of *rōmaji* were, comics (0.31%) and science fiction (0.32%) versus 0.02–0.09% for the other genres (inner page data). It would be rash to attempt an interpretation based on such small numbers; neither case, however, falls entirely outside what is known about the use of *rōmaji* in scientific formulae, etc., which are found in some science fiction novels, and the use of *rōmaji* as an “anti-standard” script (Nakamura, 1983, quoted in Satake, 1989: 67).

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Our null hypothesis, then, was that the lexicon can account for all variability in script proportion.

**TABLE 7. PERCENTAGES OF *KANGO* PER TOTAL *KANJI* AND PER TOTAL LEXICAL SCRIPT BY GENRE**

Genre	<i>Kango/Kanji</i>	<i>Kango/All Lexical Script</i>
Mystery novels	39.3	25.3
Comics	48.0	22.5
Business novels	68.0	46.7
Science fiction	47.4	24.8
Romance novels	32.4	20.6

**TABLE 8. PERCENTAGE OF *KANJI* TO TOTAL NUMBER SCRIPT ELEMENTS AND PERCENTAGE OF *KANGO* TO TOTAL NUMBER OF LEXICAL SCRIPT ELEMENTS BY GENRE**

Genre	<i>Kango</i>	<i>Kanji</i>
Mystery novels	25.3	28.3
Comics	22.5	16.3
Business novels	46.7	37.7
Science fiction	24.8	24.7
Romance novels	20.6	25.3

A second question was whether the use of *hiragana* in our texts was linked simply to differences in proportions of script elements encoding grammatical morphemes (which can only be encoded in *kana*, most normatively *hiragana*) in the texts or rather linked to more or less lexical material encoded in *hiragana* across texts. The latter case, of course, would suggest more authorial choice. We found that comics and science fiction novels displayed significantly more *hiragana* encoding lexical vs. grammatical items ( $p < .05$ ), whereas romances — which exhibited high proportions of *hiragana* — have the lowest proportion of *hiragana* script elements encoding lexical items of any genre in our corpus. (See table 9.) The structure of the lexical material

**TABLE 9. PERCENTAGES OF *HIRAGANA* ENCODING LEXICON AND OF *KATAKANA* ENCODING NON-*GAIRAIGO*, BY GENRE**

Genre	<i>Hiragana</i> LEXICAL	<i>Katakana</i> NON- <i>GAIRAIGO</i>
Mystery novels	29.2	26.7
Comics	39.8	45.4
Business novels	27.3	7.5
Science fiction	34.6	13.9
Romance novels	25.9	37.9

encoded in *hiragana* relative to the structure of the lexical material encoded in *kanji* and *katakana* must await further study; it is clear, however, that grammatical elements alone cannot account for the *hiragana* proportions.

Finally, we asked whether the use of *katakana* was accounted for by the lexically predictable presence or absence of *gairaigo* ‘foreign loan words’ in a particular kind of text. We found this not to be the case. Comic books and romances used *katakana* significantly less for *gairaigo* ( $p < .01$ ) and significantly more for encoding other features such as emotional or evaluative elements ( $p < .01$ ). In the first example (*figure 3*), drawn from a comic text, family members in a (cheap) Japanese inn are watching a coin-operated television. They decide to go swimming before their 100 time is up on the t.v. and, as they leave the room, the wife tells the husband to pull the plug on the television so that they will be able to continue watching upon their return and their money will not be wasted. In the final panel of the comic, the husband is looking at the frayed cord of the television, its condition attesting to the many other television viewers who preceded him in this small — and in today’s affluent Japan — somewhat sad, thrifty act. In sarcastic commentary on his own and his predecessors *mijimesa* ‘pitiableness, wretchedness’, the husband’s words “*naruhodo*” ‘I see’ and “*na*” ‘you know’, both Japanese forms and thus typically written in *hiragana*, or in the case of *naruhodo*, either *hiragana* or *kanji*, are rendered in

ナルホド みんな やってるらしいナ。

naruhodo minna yatte ru rashii na.

I see everyone do- PROG it seems you know

Well, I see everyone does it.

(T202:109)

読んで みたら ビックリする から....

yonde mi- tara bikkuri suru kara

read see if surprise do because

If you try reading it, you’ll be surprised, so...

(T514:142)

Figure 3

*katakana*, giving the sentence the summary evaluative overtone (by indicating that, if spoken, the utterance would have a marked sentence intonation pattern) that is the source of its rather dark humor. The second example is taken from a romance novel. A former lover of the narrator is trying to persuade her to read a manuscript he has written; she doesn't want to, but he persists. He assures her that, if she reads it she will be surprised (*bikkuri suru*). Again, *bikkuri* is a Japanese term generally rendered in *hiragana* or *kanji*; in this text, however, the former lover "speaks" of the narrator's projected emotional state (after reading the manuscript) in *katakana*. Both comic and romance novel texts exhibited relatively high frequencies of *katakana* used in this way. Again, for a summary of *katakana* use, refer to table 9.

## Conclusion

SPA confirmed that the majority of stereotypical associations made by Japanese between script type and features of social identity and style are rooted in observable patterns of script use in popular fiction genres.<sup>18</sup> Thus, as we originally hypothesized, comics and science fiction novels (young readership, linked to modernity and pop culture) exhibit high *katakana* proportions; both also exhibit low *kanji* proportions.<sup>19</sup> Business novels and *honkaku* mysteries (older male readership, associated with erudition and logic) exhibit mid to high *kanji* and mid to low *katakana* use; and romance novels (female readership, with connotations of 'softness' and femininity) exhibit high proportions of *hiragana*. Furthermore, our analysis of script variability demonstrated that these observed patterns cannot be explained on the basis of grammatical or lexical constraints alone.

What can we make of the results of this preliminary study? First, that the script variability observed in Japanese vernacular writing practices and stereotyped in popular discourse is motivated, in part, by extralinguistic factors; this study confirmed that genre, audience age and stylistic effect (e.g., erudition, emotion) are three important ones. Second, despite claims that paralinguistic information is restricted to the lexical level in written communication (Tannen, 1981), this study and others attest to the presence of such information at the sub-textual level of script (Bledsoe and Robey, 1993; Schmidt 1991). Our results, in particular, suggest that much sociolinguistic and stylistic<sup>20</sup> information can be conveyed via script-mix patterns. Whether these

18. Interestingly, the stereotypes derive from assumptions about lexical differences, with the resultant script mix held to constitute a simple artifact of those differences; in this study, however, these lexical differences could not fully account for the script differences observed.

19. We had originally hypothesized that science fiction, due to the links between scientific lexicon, high levels of education, and hence, erudition, would exhibit relatively high proportions of *kanji*; this did not, as we see, prove to be the case, providing yet another demonstration that lexical considerations fail fully to account for script use. Here, a sociolinguistic characteristic of the readership (young people) appears to be more influential in determining script-mix than the lexical characteristics of the text.

20. Including indications of marked intonation pattern.

patterns are intentionally embedded by authors in texts is a question for future research. Differential distributions of script types and orthographic practices in the Japanese case raise 'socioliterate' questions to which sociolinguistic concepts and methodologies (matched-guise tests, variable rules, etc.) could be applied. Our findings offer support for incorporating considerations of script choice into the analysis of style, and we concur with Satake's notion that there is still room for development (*kaitaku no yochi ga aroo*) of methods for the quantitative analysis of style from the perspective of script choice (Satake, 1991:14).

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