A LINGUISTIC STUDY
OF
THE ASSIMILATION OF ENGLISH LOANWORDS
INTO JAPANESE

by
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B.A., Tsuda College, 1962

A THESIS SUBMITTED IN PARTIAL FULFILMENT OF
THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF ARTS
in the Department
of
Classics,
Division of Linguistics
We accept this thesis as conforming to the
required standard

THE UNIVERSITY OF BRITISH COLUMBIA
April, 1965
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Department of Classics, Division of Linguistics

The University of British Columbia,
Vancouver 8, Canada

Date 22 April, 1965
ABSTRACT

When and where there is cultural borrowing there will always be the possibility of borrowing words which are associated with it.

Since 1868 English has had a remarkable influence on the Japanese language and especially after the Second World War through the wide-spread audio-visual media the number of English loanwords in Japanese, along with new objects or practices introduced, has been increasing.

This thesis attempts the overall description of the assimilation of English loanwords into the structure of Japanese so that they may fulfill their communicative function. Since loanwords alone constitute the corpus for the linguistic analysis the analyst is naturally required to adopt rigorously scientific procedures free from the domination of metaphysics and psychology but at the same time it should be borne in mind that we are dealing with the "whole man" expressing himself and his culture.

For the purpose of this study English loan-elements are established in the context of situation, i.e. in their socio-cultural context and are then examined at different levels of analysis—Lexical, Grammatical and Phonological, as to their degree of assimilation. The present writer admits mutual working of elements abstracted at different
levels of analysis. That is, units obtained at one level might serve to solve the problems left unsolved at the other levels either below or above.

In spite of the great number of English loanwords they have been well assimilated into the structure of Japanese. The factors at play in assimilation of loan-elements are:

(a) **Internal**

1. Sheer absence of equivalent exponents at various levels of the Japanese structure
2. pressure of the system
3. productivity of certain forms
4. popular patterns in coinage
5. underdifferentiation of equivalent exponents in Japanese

(b) **External**

1. different channels of borrowing—oral and written
2. the socio-cultural background at the time when the particular element was borrowed
3. the socio-cultural background of the original introducer and/or that of the later users
4. the writing system of Japanese

To some extent the future of the Japanese language in connection with cultural borrowing may be predicted. Although the phonological and grammatical systems of a
language are not easily affected by cultural borrowings, the gaps in the system may be gradually filled. Fluctuation is more prominent at the lexical level. The symmetry of the language structure at the lexical level requires the presence of terms both generic and specific, abstract and concrete. Some English elements may be added to satisfy these requirements. Some will be added to the set of vocabulary to bring about variety and subtlety in the way experience is articulated.

If English elements behave quite distinctively from the native and jiongo elements, it will be methodologically acceptable to admit the existence of different strata within Japanese.

Another important feature to be investigated is how far lexical patterning depends on grammar in the process of assimilation of loanwords.
ACKNOWLEDGMENTS

The present writer wishes to express her heartfelt gratitude to the following people for their help and contributions to her thesis:

Prof. R. J. Baker and Dr. G. L. Bursill-Hall for guidance and helpful suggestions in the initial stage of the research.

Dr. R. Gregg for his patience and diligence in going through the first draft of the thesis and above all, for stimulus to scholarship.

Dr. M. A. K. Halliday for his inspiring lectures and good counsel at The 1964 Linguistic Institute at Bloomington, Indiana.

Prof. Ogawa of Asian Studies Department for his careful reading of the first draft.

The present writer is also indebted to World University Service of Canada which made her two years' study at University of British Columbia possible.

There are many other people I cannot acknowledge personally but my debt is none the less heavy.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>CHAPTER</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. BACKGROUND TO THE STUDY</td>
<td>1</td>
</tr>
<tr>
<td>Position of English loanwords in the Japanese vocabulary</td>
<td></td>
</tr>
<tr>
<td>The term loanword and the materials used</td>
<td></td>
</tr>
<tr>
<td>Earlier studies concerning loanwords in Japanese</td>
<td></td>
</tr>
<tr>
<td>Scope and purpose of the study</td>
<td></td>
</tr>
<tr>
<td>II. THEORETICAL PROBLEMS</td>
<td>6</td>
</tr>
<tr>
<td>Methods of approach</td>
<td></td>
</tr>
<tr>
<td>Levels of analysis</td>
<td></td>
</tr>
<tr>
<td>III. SOCIO-CULTURAL LEVEL</td>
<td>12</td>
</tr>
<tr>
<td>IV. LEXICAL LEVEL</td>
<td>17</td>
</tr>
<tr>
<td>V. GRAMMATICAL LEVEL</td>
<td>34</td>
</tr>
<tr>
<td>VI. PHONOLOGICAL LEVEL</td>
<td>53</td>
</tr>
<tr>
<td>VII. SUMMARY AND CONCLUSIONS</td>
<td>98</td>
</tr>
<tr>
<td>Consolidation</td>
<td></td>
</tr>
<tr>
<td>Conclusions and problems to be solved in the future</td>
<td></td>
</tr>
<tr>
<td>FOOTNOTES</td>
<td>107</td>
</tr>
<tr>
<td>BIBLIOGRAPHY</td>
<td>110</td>
</tr>
<tr>
<td>INDEX</td>
<td>114</td>
</tr>
</tbody>
</table>
CHAPTER I

BACKGROUND TO THE STUDY

The Japanese vocabulary may be roughly divided into three groups: yamato-kotoba (original Japanese), jiongo, and the loanwords from European languages. Jiongo means words which are represented by Chinese characters whether they are of classical Chinese origin or homemade after the model of Chinese. They are now part and parcel of the Japanese vocabulary and hardly seem alien. Jiongo has great advantage in the coining of new words because of its structure, i.e. one character representing one syllable and one morpheme. With the introduction of Western civilization in the middle of the 16th century, words borrowed from Portuguese, Spanish and Dutch made their appearance in the Japanese vocabulary, and with 1868 as a turning point English took their place, and English loanwords have been increasing in number in spite of the interruption caused by the Second World War. Especially after the War the widespread audio-visual media of advertising and the increasing population with a considerable knowledge of English brought about the frequent borrowings from English in our daily conversation.

The following is a tabulation of what has been mentioned above:
The proportion of loanwords in the Japanese vocabulary recorded in two important dictionaries (Genkai, first edition published in 1889, and Reikaikokugo-jiten, first edition published in 1956) has been calculated by a Japanese scholar.¹

<table>
<thead>
<tr>
<th>Period</th>
<th>Cultural Contact (esp. language)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heian Era</td>
<td>9 - 13 cent.</td>
</tr>
<tr>
<td>Muromachi Era</td>
<td>14 - 16 cent.</td>
</tr>
<tr>
<td>Edo Era</td>
<td>17 - 18 cent.</td>
</tr>
<tr>
<td>Meiji Era</td>
<td>19th cent.</td>
</tr>
<tr>
<td>Taisho and Showa</td>
<td>early 20th cent.</td>
</tr>
<tr>
<td>Present Time</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Chinese</td>
</tr>
<tr>
<td></td>
<td>Portuguese</td>
</tr>
<tr>
<td></td>
<td>Dutch</td>
</tr>
<tr>
<td></td>
<td>English, German, French</td>
</tr>
<tr>
<td></td>
<td>English, French, Italian, etc.</td>
</tr>
</tbody>
</table>

![Table]

<table>
<thead>
<tr>
<th></th>
<th>GENKAI</th>
<th>REIKAIKOKUGOJITEN</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of Words</td>
<td>Per Cent</td>
</tr>
<tr>
<td>Yamatokotoba</td>
<td>21,817</td>
<td>55.8</td>
</tr>
<tr>
<td>Jiongo</td>
<td>13,546</td>
<td>34.7</td>
</tr>
<tr>
<td>Sino-Japanese hybrids</td>
<td>2,724</td>
<td>7.0</td>
</tr>
<tr>
<td>Loanwords</td>
<td>551</td>
<td>1.4</td>
</tr>
<tr>
<td>Others</td>
<td>465</td>
<td>1.1</td>
</tr>
<tr>
<td>Total</td>
<td>39,103</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Any statistical study shows that among the items classed as loanwords, English has the largest proportion, nearly 90 per cent.

English loanwords dealt with in this thesis are chiefly
the ones which are established in Japanese and are identified graphologically with the forms written in Katakana. Reference will be made to transitional forms whenever it is found necessary. To quote from Uriel Weinreich, "When a speaker of language X uses a form of foreign origin not as an on-the-spot borrowing from language Y, but because he has heard it used by others in X-utterances, then this borrowed element can be considered, from the descriptive viewpoint, to become a part of language X."²

The corpus for the present study is drawn mainly from the domestic and cultural columns of a typical Japanese newspaper, "The Asahi," with some additional data. Approximately 1500 sentences and sub-sentences containing English loanwords were collected over a period of three months. At the phonological level of analysis the forms represent the English (Standard Southern British) forms transferred or integrated into the Tokyo dialect. The present writer who is a speaker of the Tokyo dialect used herself as an informant most of the time. Occasionally reference is made to American English forms.

The phonological problems of English loanwords were dealt with by the present writer in the thesis submitted as a partial requirement for the B.A. at Isuda College in Tokyo in 1962. According to the bibliographical survey made at that time, most of the books on loanwords are simply inventories of loanwords in relation to other cultural importations
from various countries with some reference to the historical background. It is true that these provide interesting sources of information on the history of cultural diffusion since cultural loanwords are in a sense a reminder of what one nation has taught another. As Sapir puts it, "One can almost estimate the role which various peoples have played in the development and spread of cultural ideas by taking note of the extent to which their vocabularies have filtered into those of other people." These studies are, however, far from satisfactory from the linguistic viewpoint. Usually a couple of pages are spent on phonological problems but they are far from being based on careful phonetic analysis. The present writer, therefore, tried to observe and describe the phonological features in an unprejudiced way paying careful attention to the phonetic features before making abstractions from them. Because of the present writer's limited background in linguistics at that time, however, the method of approach was closer to that of a phonemicist than to that of a phonologist, which meant that the problems dealt with were not always capable of solution. Since loanwords alone constitute the corpus for the linguistic analysis, the analyst is naturally required to adopt rigorously scientific procedures free from the domination of metaphysics and psychology, but at the same time it should be remembered that "the object of linguistic analysis . . . is to make statements of meaning so that we may see how we use language to live," in other words, to deal with the whole man expressing himself and his culture.
This thesis thus attempts to give an overall description of the assimilation of English loanwords into the structure of Japanese, which is genetically so different from English, so that they may fulfil their communicative function.
1. The view of meaning adopted and the method of approach.

The remarkable progress of linguistics as an autonomous discipline would have been impossible without Ferdinand de Saussure's synchronic approach, i.e., priority of analysis of "états de langue," to which we owe the conception of a linguistic structure. This conception, however, varies from one school to another. "It is possible to say that those theories which derive from de Saussure (e.g. the circles of linguistics in Geneva, Copenhagen and Prague) manifest some dichotomy, some dualism, e.g. *signifiant* and *signifié*, form and substance, expression and content, form and content, etc., whereas the London and (the traditional) American schools have insisted much more on a purely formal approach in phonological and grammatical description and have produced what might be called a syntagmatic-paradigmatic theory of linguistic analysis." 5

The "traditional" American schools (which may be roughly equated with the Bloomfieldian approach) and the London school do not conflict in their practice of avoiding the weakness of the purely psychological and metaphysical approaches, and of following rigorously scientific procedures for
linguistic analysis. In other words, the expression of ideas is one of the functions of a language but is not a criterion that can be used for throwing light on language description. However, Bloomfield in his "Stimulus-Response" approach, arbitrarily limits his context of situation to what are potentially or actually common, observable and measurable data." Consequently he could not help saying that the statement of the meaning is the weak point in language study for it should require redefining in physiological terms as states of the speaker's body, whereas, to Firth, "the object of linguistic analysis . . . is to make statements of meaning so that we may see how we use language to live." Another criticism often made about descriptive linguists is that they put so much emphasis on "structure" that they sometimes ignore the observable facts which reflect "linguistic reality" or even make facts submit to the requirements of a method. 'Linguistic reality has been neglected,' says Martinet, "because of its close relationship with the world, entire universe of things and ideas which will keep linguistics from establishing a neat scheme of description." It is the present writer's opinion that nothing should be sacrificed to the principle of simplicity in linguistic description. Facts must be stated. They must be stated technically and the statement should be found applicable on a renewed connection with experience. Events are in all cases abstractions from reality which is the totality of the
speaker's experience. Linguists should accept "the whole man in his patterns of living," in their investigation. This will lead the analysts to the concept of meaning "as modes of behavior in relation to the other elements in the context of situation," which postulates the need for levels of analysis.

2. Levels of analysis.

Both the London and the traditional American schools accept these levels but in a different way. Scholars such as Bloch, Hockett, Trager, etc., accepted that each of these levels should be clearly and sharply distinguished from others and be described without depending on the others, in ascending order beginning with phonology. In Pike's theory, on the other hand, "levels of analysis exist but mixing of levels with mutual dependence of one level on another," is admitted. In the theory of J. R. Firth and his colleagues of the London school each level of analysis is regarded as dealing with one of the congruent modes into which the "meaning" is dispersed like the dispersion of light into a spectrum free from a hierarchical importance, sometimes in descending order beginning with the socio-cultural, proceeding through collocation and grammar to phonology and phonetics, and sometimes in the opposite order.

Take, for example, phonological study. Is the phonological inventory dynamic or static? On this point the present writer hesitates to accept the approach which finds
satisfaction simply in segmenting and reducing the utterance to phonemes. The phonological inventory should be related to the utterance as a whole in its function. In this way units obtained in one level of analysis might serve to solve the problems left unsolved in the other levels either below or above. In Japanese accent serves not only to differentiate one word from another, but also to bind together linguistic units. Its most important function in the language may be to serve as a grammatical device, that is, to delimit one phonological phrase from another. The voiced versus voiceless contrast is a matter of grammar rather than of phonology in the sets of native vocabulary in Japanese. When the present writer found herself in a position to expect the mutual influence of elements abstracted on different levels, Firth's prosodic approach proved to be most helpful. At the same time, to deal with features peculiar to Japanese, help from another approach is also sought. It may be added here that the recent trend in linguistics is toward the admittance of mutual dependence of one level on another. At the Summer Institute of Linguistics held at Bloomington, Indiana, in 1964, in special lectures delivered by such scholars as Chomsky and Pike, great interest was shown concerning grammatical constraints on lexical patterning and vice versa. It seemed also that an attack on grammar without a necessary prior phonemic analysis no longer provoked a controversy.

The procedure for the present writer to take then is to isolate and establish the items in the corpus each in its
context of situation to state the socio-cultural factors, which will be followed by statements of meaning at lexical (or collocational), grammatical and phonological levels. At the socio-cultural or situational level of analysis the social environment in which speech is used and what it is used for will be stated. A large part of the physical, concrete environment in which language is used may be irrelevant and an attempt should be made to set up the generalized abstract categories. "It is often difficult to separate the situational and collocational levels of statement, for the situation 'determines' in large measure collocation in any given text. (However), the level of collocation is primarily concerned with interior relations in texts, that of the situation, with exterior correlations for text." Whether or not syntax and morphology should be dealt with separately will depend upon the nature of the language under discussion. Distinction between the two used to be made by the traditional American linguists: morphology is a description of the more intimate combinations of morphemes; syntax is the description of the larger combinations described under morphology.  

In this particular study it will be impractical to draw a hard and fast line of division between morphology and syntax, because the physical counterpart of an English morpheme in Japanese may not be necessarily a morpheme but sometimes a word, a phrase or a unit intermediate between these, due to formal and/or semantic amalgamation.
The present writer owes the analysis made in this thesis chiefly to the theory deriving from a British view of linguistics and that of a Japanese linguist, Dr. Shiro Hattori, but she thinks it reasonable to choose various methods of approach to the material whose variety in quality is obvious from its varying functions. "Any account of a language will be an adequate statement, provided it describes, comprehensively and economically, what is heard (and read) in the language and enables the analyst to "renew connection" with further experience of it." 

13
CHAPTER III

SOCIO-CULTURAL LEVEL

In this chapter an attempt will be made to describe "the context of situation" in which the English loanwords in Japanese came into use.

At the situational and/or socio-cultural level of analysis the non-linguistic part of the speakers' culture is involved. In other words the social environment in which speech is used and what it is used for in the social environment are significant and will be described.

The relevant features will be:

-- the trend of the times
-- relationship between the countries where cultural borrowing takes place
-- the content of cultural borrowing
-- participants, their social status, age, sex
-- the nature of the medium of mass communication

With the 1860's as a turning point the Japanese people, now set free from class distinction, and with their eyes wide-opened to Western civilization, engaged in absorbing whatever came to them from Europe and America. The establishment of modern facilities for communication and transportation, the founding of textile and canning industries will suffice to illustrate this fact. As a natural
consequence of the introduction of the new things to Japan, English names for them were learned with the exception of those cases in which new descriptive names were coined out of the native vocabulary, e.g. chiku-on-ki the machine for accumulating sound, i.e. a record player. Some of the first English words were /burə/i (brush), /hæŋkətʃ/i (handkerchief), /ʃatsu/ (shirt), /bakɛtsu/ (bucket), etc. They may have possibly been the result of on-the-spot borrowings of English by merchants, sailors and longshoremen. The fact that these words first came in by the "ear-route" becomes significant at the phonological level of analysis in clarifying the problem of inconsistent patterns of assimilation. Willingness and conscious efforts of the people to be Westernized are also seen in their adoption of English terms related to dress and its ornaments, cooking, music and etiquette. Some examples of this type are: /reesu/ (lace), /ribo n/ (ribbon) and /kareeraisu/ (curry and rice).

The students of English in those days were also responsible for such words as /inki/ (ink) and /naihu/ (knife).

As the reading population of English increased the set of vocabulary learned was no longer limited to the names of "nouveau" daily goods, but some technical terms and words associated with new concepts came into use and were gradually established, e.g. /sanpuru/ (sample), /ɛnʤiən/ (engine).
This tendency was remarkable until the temporary stoppage of borrowing due to World War II. Borrowing by the "eye-route" or spelling pronunciation resulted in the characteristic phonological structure of certain words distinct from the earlier form of borrowing and from the post-war one spread by the audio-visual media, e.g. /airon/(iron), /guroobu/ (glove). A few doublets indicative of these different contexts of situation in which one and the same form was borrowed are as follows:

/sutoraiki/ and /sutoraiku/ are both from English "strike." The former is used to mean "to refuse to continue to work until certain demands are met"; the latter, "(in baseball) a pitched ball which is struck at but missed."

After World War II, through school education and the remarkable progress of mass communication, the number of people with considerable knowledge of English greatly increased.

Apart from the flood of foreign words in advertisements with the supposed psychological effect made on customers, English words came to make frequent appearances in daily conversation of those with considerable education. Possible reasons seem to be: 1) a show of knowledge which will serve to impress listeners; 2) the lack of equivalent native term; 3) precision and efficiency of some English words and idioms compared with native equivalents; and 4) the
shades of meaning created by the co-existence of English and Japanese lexical items.

This situation added complication to the structure of the language as a whole. Some examples at the phonological and lexical levels will be shown below:

<table>
<thead>
<tr>
<th>English</th>
<th>Form I</th>
<th>Form II</th>
<th>Form III</th>
</tr>
</thead>
<tbody>
<tr>
<td>party</td>
<td>pd:ti</td>
<td>pa:t'ii</td>
<td>patee</td>
</tr>
<tr>
<td>ticket</td>
<td>tikat</td>
<td>tikat'qto</td>
<td>-</td>
</tr>
<tr>
<td>ice tea</td>
<td>ais ti:</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>diesel</td>
<td>di:zel</td>
<td>d3jizeru</td>
<td>-</td>
</tr>
<tr>
<td>radio</td>
<td>r3idio</td>
<td>r3d3io</td>
<td>-</td>
</tr>
</tbody>
</table>

Form I shows the old form; Form II, a transitional form; Form III, post-war form. The use of the alien sequences -ti- and -di-, which used to be regularly replaced by -tfi- and -d3i- is not unusual now, and to some extent the choice from among the three in the cases above reflects the speakers' background, their age, education, etc. No alternative exists, however, in such a case as /rad3io/ which has acquired a full standing as a part of Japanese vocabulary.

The meaning came to be shared by the native and the loanwords in some cases. Naturally a particular aspect of the meaning of the original is selected in the usage and the rest has given way to the native equivalent.
Usage: (English equivalent)

1. Mr A is tall  
   A-san wa sega takai
2. Mr. A is thin  
   A-san wa yaseteiru
3. Mr. A is neat and stylish  
   A-san wa sumaato da
4. Mr. A is clever  
   A-san wa kashikoi

Remarks:

Both No. 3 and 4 could be "Mr. A is smart," in English, but the usage in Japanese is restricted to No. 3.

Description such as this which relies mainly on the native speakers' intuition is not always highly recommended, but the use of extensive collocation will make up for its defects.

A-san wa sumaato da ga B-san wa zunguri shiteiru.

Mr. A (Nom. Smart is but Mr. B (Nom. short and is

* A-san wa sumaato da ga B-san wa nibui.

Mr. A smart Mr. B slow and dull

The examples above show the meaning of /sumaato/ from English /sma:t/ by its collocability with /zunguri/ and its incollocability with /nibui/.

The statement of the meaning of a word by the use of collocation as a means of linguistic analysis will be discussed in the next chapter.
CHAPTER IV

LEXICAL LEVEL

"The way experience is analysed differs from one language to another. The set of habits we call a language suggests the breaking up of experience into a number of elements for which the language in question has equivalents."  

When a word is borrowed from one language to another it may become an additional element or it may conflict with an element in the recipient language. The former is the case in which a word came along with a new object or practice and stayed in spite of the possibility of a loan translation. In the latter case, generalization or specialization at the lexical level of the language structure will take place in sharing articulation of experience with elements in the recipient language, by which process richness in shades of meaning is increased. In these circumstances it is only natural if the original meaning is distorted.

A. Generalization

\[\text{toranpu} < \text{trump} \quad \text{(Western) cards or playing cards}\]
B. **Specialization**

<table>
<thead>
<tr>
<th>English meaning</th>
<th>Japanese</th>
</tr>
</thead>
<tbody>
<tr>
<td>loud speaker</td>
<td>supiikaa</td>
</tr>
<tr>
<td>sewing machine</td>
<td>misin</td>
</tr>
<tr>
<td>evening dress</td>
<td>ibunin'gu</td>
</tr>
<tr>
<td>morning coat</td>
<td>moonin'gu</td>
</tr>
</tbody>
</table>

Shown below are the interesting cases in which specialization took place in loanwords because of their conflict with the existent forms:

A. **Native element**

1. tenugui
2. kasi
3. cja
4. gjuunjuu
5. junomi (zjawaw)
6. sakazuki
7. tenpura

B. **Loan element**

1. taoru < towel
2. keeki < cake
3. tii < tea
4. miruku < milk
5. kappu < cup
6. koppu < kop (Dutch)
7. gurasu < glass
8. garasu < glas (Dutch)
9. hurai < fry
The semantic content shared by A and B:

<table>
<thead>
<tr>
<th>A.</th>
<th>B.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. a cotton towel of Japanese type</td>
<td>1. a Western type of towel</td>
</tr>
<tr>
<td>2. cake in general</td>
<td>2. Western cake</td>
</tr>
<tr>
<td>3. Japanese green tea</td>
<td>3. Western tea</td>
</tr>
<tr>
<td>4. cow's milk in general</td>
<td>4. Milk for tea; milk fixed for babies</td>
</tr>
<tr>
<td>5. a cup for green tea</td>
<td>5&lt;sub&gt;1&lt;/sub&gt; a cup for black tea, a cup</td>
</tr>
<tr>
<td></td>
<td>as a prize</td>
</tr>
<tr>
<td></td>
<td>5&lt;sub&gt;2&lt;/sub&gt; drinking container</td>
</tr>
<tr>
<td>6. Japanese wine-cup</td>
<td>6&lt;sub&gt;1&lt;/sub&gt; Western type of drinking</td>
</tr>
<tr>
<td></td>
<td>glass</td>
</tr>
<tr>
<td></td>
<td>6&lt;sub&gt;2&lt;/sub&gt; glass, as a material</td>
</tr>
<tr>
<td>7. a typical Japanese dish</td>
<td>7. Western type of cooked by deep-frying</td>
</tr>
<tr>
<td>cooked by deep-frying</td>
<td>deep-frying</td>
</tr>
</tbody>
</table>

In 4 and 7 an element A and an element B appear in the same morphological environment with different reference.

A. gjuunjuu-bin (regular bottle for milk)
B. miruku-bin (milk bottle for babies)
A. ebi-ten (deep-fried shrimps - Japanese style)
B. ebi-hurai (deep-fried shrimps - Western style)

The semantic range covered by the native term tempura
and the English-loan term *hurai* will be discussed.

Both can be translated "to deep-fry shrimps or a lobster."

The generic term *age-mono* can replace either *tempura* and *hurai* which are mutually exclusive.

<table>
<thead>
<tr>
<th>Cooking term</th>
<th>Batter</th>
<th>Utensil</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. tempura ni suru</td>
<td>wheat flour</td>
<td>skillet or pan</td>
</tr>
<tr>
<td>2. hurai ni suru</td>
<td>bread crumb</td>
<td>&quot;</td>
</tr>
<tr>
<td>3. agemono ni suru</td>
<td>indefinite</td>
<td>&quot;</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. e.g. shrimp</td>
<td>fry in oil</td>
</tr>
<tr>
<td>2.</td>
<td>&quot;</td>
</tr>
<tr>
<td>3.</td>
<td>&quot;</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Worcester Sauce</th>
<th>Lemon</th>
<th>Grated Radish</th>
<th>On top of Steamed Rice in a Bowl</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. never</td>
<td>never</td>
<td>acceptable</td>
<td>acceptable</td>
</tr>
<tr>
<td>2. acceptable</td>
<td>acceptable</td>
<td>never</td>
<td>never</td>
</tr>
<tr>
<td>3. neutral</td>
<td>neutral</td>
<td>neutral</td>
<td>neutral</td>
</tr>
</tbody>
</table>
Relevant features in the context of situations are abstracted as follows:

1) **Preparation**
   i. a kind of batter
   ii. a kind of utensil

2) **Cooking**
   i. the way ingredients are treated
   ii. a kind of ingredient

3) **Serving**
   i. a kind of container used for serving
   ii. seasoning
   iii. relish

Especially 1 (i) is distinctive feature and 3 (i), 3 (ii) and 3 (iii) are also significant in making distinction between the English-loan term and the native one. In other words, whether linguistically overt or not, a certain situational type selected from those given above does serve to distinguish between these terms.

It is therefore possible to say that one of the main concerns at the lexical level of analysis is an attempt to abstract types of internal, as well as external situations, which will influence the way English loan-words conform to the Japanese language. Overlapping is unavoidable at the socio-cultural and the lexical levels of analysis because the meaning of items is "function" in the context of
situation, i.e. "function" against its total cultural background. However, at the lexical level of analysis the importance of the internal relationship in the statement of the meaning will be stressed more than that of the external situation. One of the most significant features dealt with in the discussion of the internal relationship will be collocation, that is, tendency of lexical items to co-occur.

Here the construction with an English element as object of a Japanese verb and that with an English element as subject of a Japanese verb will be examined from the viewpoint of collocation. In these types of construction, part of the meaning of a noun used as subject or object is shown by the verb it functions with. What is interesting to observe is whether a borrowed element keeps its collocation as in the original English even if it is assimilated into Japanese at the phonological and grammatical levels.

_Misín_ sewing machine, which was previously given as an example of specialization shows interesting collocation.

<table>
<thead>
<tr>
<th>Object</th>
<th>Verb</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. misín o</td>
<td>humu</td>
</tr>
<tr>
<td>2. misín o</td>
<td>kakeru</td>
</tr>
<tr>
<td>3. misín o</td>
<td>hodoku</td>
</tr>
</tbody>
</table>

Parallel examples of the collocability of each of these three verbs will be sought.
1. **misiN** (sewing machine)  o humu  pedal a sewing machine
   pedaru (<pedal)  o humu  pedal (a bicycle)
   orugan (<organ)  o humu  pedal an organ
   hataoriki  o humu  pedal a loom

2. **misiN** (sewing machine)  o kakeru  sew by machine
   razio (<radio)  o kakeru  turn on the radio
   rekoodo (<record player)  o kakeru  turn on the record player
   airon (<iron)  o kakeru  iron (v.)
   denwa (telephone)  o kakeru  phone (v.)
   mezaması (alarm clock)  o kakeru  set an alarm-clock
   kote (curling iron)  o kakeru  iron (v.)

   Derivative nouns are **airoN-kake** and **misiN-kake**.

3. **misiN** (sewing machine)  o hodoku  unpick
   nuime (stitch)  o hodoku  unstitch
   ito (thread)  o hodoku  unravel
   himo (tie, string)  o hodoku  untie

   Parallel collocation in English and in Japanese is seen only in the first group.

   Types of assimilation of English loanwords into Japanese at the lexical level will be discussed by the use of collocation.

I. Collocation in the original is either ignored or abandoned and the collocation of the native equivalent is borrowed.
1. (a) An English noun is adopted as an additional item added to a range of specific Japanese terms which collocate with a verb in common. In the original English the habitual company the noun keeps is a range of specific verbs,

   e.g. beru (<bell) ga naru. The bell rings.

1. (b) An English element is adopted in one sense only, but shares its original functions with a number of native elements.

   i. The semantic range may be divided between the loan and the native elements.

   ii. Differentiation in usage may take place between the native and the loan elements, e.g. specific versus general; concrete versus abstract; literary versus colloquial as the result of later developments,

   e.g. baransu (<balance) o toru.

1. (c) The English element which is neutral as to its connotation in the original keeps the habitual company of a delimiting verb in Japanese,

   e.g. mudo (<mood) ga tadayoo.

1. (d) Difference in grammatical construction necessitated the loan element selecting a verb from the set of native vocabulary,

   e.g. suici (<swift) o hineru.

1. (e) Others.

2. Collocation in the original is to great extent kept.
2. (a) The native equivalent shows similar behavior in its relationship with verbs,

   e.g. memo (< memo) o toru.  Take a memo.

2. (b) The collocation of the English loanword is translated from English,

   e.g. supoQto (< spot) o ateru.  Hit the spot.

<table>
<thead>
<tr>
<th>Subject</th>
<th>Nominative</th>
<th>Verb</th>
</tr>
</thead>
<tbody>
<tr>
<td>beru (&lt; bell)</td>
<td>ga naru</td>
<td>The bell rings</td>
</tr>
<tr>
<td>sairen (&lt; siren)</td>
<td>ga naru</td>
<td>The siren blows</td>
</tr>
<tr>
<td>kane</td>
<td>ga naru</td>
<td>The bell chimes sounds</td>
</tr>
<tr>
<td>suzu</td>
<td>ga naru</td>
<td>The bell tinkles</td>
</tr>
<tr>
<td>dora</td>
<td>ga naru</td>
<td>The bell peals strikes</td>
</tr>
<tr>
<td>muteki (fog-horn)</td>
<td>ga naru</td>
<td>The fog-horn sounds</td>
</tr>
<tr>
<td>gosippu (&lt; gossip)</td>
<td>ga tobu</td>
<td>The gossip spreads like a wild fire</td>
</tr>
<tr>
<td>uwasa (rumour)</td>
<td>ga tobu</td>
<td>The rumour gets abroad</td>
</tr>
<tr>
<td>dema (false rumour)</td>
<td>ga tobu</td>
<td>The false rumour runs</td>
</tr>
<tr>
<td>tori (bird)</td>
<td>ga tobu</td>
<td>The rumour flies</td>
</tr>
</tbody>
</table>

*cf. gosippu ga hiromaru*

uwasa ga hiromaru

dema ga hiromaru
handoru (< handle) o mawasu
Turns a handle

wa (hoop) o mawasu
Trundles a hoop

koma (top) o mawasu
Spins a top

nekutai (< neck-tie) o simeru
Tie a neck-tie

obi (belt or sash) o simeru
Fasten a belt

samise no ito o simeru
Tighten up the strings of the instrument

roopu (< rope) o taguru
Hauls in a rope

nawa (rope, cord) o taguru
Reels in string

ito o taguru
Reels in the string of a kite

tako-ito o taguru

koodo (< cord) o taguru
Draws in a cord

1. (b)
akusento (< accent) o tsukeru
Accentuate

kjoozjaku (strong and weak) o tsukeru
Place stress accent

kootee (high and low) o tsukeru
Place pitch accent

henka o tsukeru
Give variety

iro o tsukeru
Embellish (colour)

e.g. o-kesjoo (make-up) ni akusento o tsukeru
Be shocked

sode (sleeves) ni akusento o tsukeru

sjokku (< shock) o ukeru
Be shocked

sjoogeki (shock) o ukeru
Be shocked

The former is colloquial; the latter, literary.
cf. kanden suru
zisin ga atta

baransu (<balance) o toru
tsuriai (balance) o toru
heikin (<balance) o toru

baransu (<balance) o tamotsu
tsuriai o tamotsu
heikin o tamotsu

baransu (<balance) o usinau
*tsuriai o usinau
heikin o usinau

baransu (<balance) ga kuzureru
tsuriai ga kuzureru
heikin ga kuzureru
kinkoo ga kuzureru

baransu no toreta sjokuzi
baransu no toreta kjooiku
kataasi de keikin o toru

Receive a shock
Shocks were felt
Balance
Balance, be in harmony
Keep one's balance
Keep balance
Be in keeping with
Keep one's balance
Lose balance
Be out of proportion
Lose one's balance
Well-balanced diet
Balanced education
Keep one's balance on one foot

Balance is more abstract and heikin is more concrete in usage.
(c)  

**muudo** (< mood)  ga tadayoo  
**kuuki** (air)  ga tadayoo  
**kaori** (fragrance)  ga tadayoo  
**kumo** (cloud)  ga tadayoo  
  tadayoo  
  drifts about, float  

*There is a mood in this room*
There is an atmosphere in this room
*There is a mood in that person*
There is an atmosphere about that person

**Kono heya wa muudo ga aru.**  
Kono heya wa huruki ga aru.  
Ano hito ni wa muudo ga aru.  
Ano hito ni wa huruki ga aru.  

*There is a mood in this room*
There is an atmosphere in this room
*There is a mood in that person*
There is an atmosphere about that person

**cf. muudo (< mood) o kakitateru**  
**kjoomi** (curiosity)  o kakitateru  
**kjoosjjuu** (nostalgia)  o kakitateru  

*Arouse mood*
*Arouse interest*
*Arouse nostalgic mood*

Mood in English could be "good" or "bad," but is neutral by itself. In Japanese it "floats" in the air to characterize things, give individuality.

It is possible to say that this usage is an instance of back formation at the lexical level, i.e. "mood" was isolated from mood-music.

**juumoa** (< humour)  o tobasu  
**sjare**  o tobasu  
**zjoodan**  o tobasu  

*Display humour*
*Exercise tact*
*Crack a joke*
cf. *ujuumoa o hurimaku * Be profuse of humour
    aikjoo o hurimaku Be profuse of smiles

Humour in English could be "good" or "ill" but is neutral by itself except for the connotation implied by such phrases as "dry humour" and "a sense of humour." In Japanese it is identified with "comicality."

1. (a)

    sjaberu (shovel) o ireru Shovel
    kuwa o ireru Hoe

    hookasu o awaseru Focus
    sjooten o awaseru
    pinto o awaseru

    imazineesjon (< imagination) o hatarakaseru Use one's imagination
    soozoorjoku o hatarakaseru
    cirjoku o hatarakaseru Use one's intelligence
    sirjoku o hatarakaseru Use one's insight

    sukezjuuru (< schedule) o kumu Make a schedule
    yotee (plan) o kumu Make a plan
    nittei (a day's program) o kumu Make a day's program
    puroguramu (program) o kumu Make a program

    cf. *sukezjuuru (< schedule) o tateru cf. Organize a schedule
    yotee o tateru Organize a plan
nittei

* puroguramu
  (< program) o tateru cf. Organize a program
merodii (< melody) o kucizusamu Hum a melody
uta o kucizusamu Hum a song

ruuru (< rule) o mamaru Observe rules
kisoku o mamaru Observe rules
hooricu o mamaru Observe the law

cf. ruuru ni sitagau Obey rules
kisoku ni sitagau Obey regulations
hooricu ni sitagau Obey the law

cf. puraibasii
  (< privacy) o tamocu Maintain privacy
taimen (face) o tamocu Maintain face
cii (status) o tamocu Maintain status
sinyyoo (credit) o tamocu Maintain credit

2.(b)
supotto (< spot) o ateru Hit the spot

The type 1.(a) will be discussed in detail here:

<table>
<thead>
<tr>
<th>Object</th>
<th>Particle</th>
<th>Verb</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>bisuketto (&lt; biscuit)</td>
<td>o</td>
<td>yaku</td>
<td>bake</td>
</tr>
<tr>
<td>sakana (fish)</td>
<td>o</td>
<td>yaku</td>
<td>broil</td>
</tr>
<tr>
<td>keeki (&lt; cake)</td>
<td>o</td>
<td>yaku</td>
<td>grill</td>
</tr>
<tr>
<td>imo (potato)</td>
<td>o</td>
<td>yaku</td>
<td>fry</td>
</tr>
<tr>
<td>omoci (rise cake)</td>
<td>o</td>
<td>yaku</td>
<td>toast</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>roast</td>
</tr>
<tr>
<td>Object</td>
<td>Particle</td>
<td>Verb</td>
<td>English</td>
</tr>
<tr>
<td>-------------</td>
<td>----------</td>
<td>------</td>
<td>---------</td>
</tr>
<tr>
<td>hottokeeki</td>
<td>o</td>
<td>yaku</td>
<td>bake</td>
</tr>
<tr>
<td>nikku (meat)</td>
<td>o</td>
<td>yaku</td>
<td>broil</td>
</tr>
<tr>
<td>tamago (egg)</td>
<td>o</td>
<td>yaku</td>
<td>grill</td>
</tr>
<tr>
<td>pan (bread)</td>
<td>o</td>
<td>yaku</td>
<td>fry</td>
</tr>
</tbody>
</table>

What devices are used to differentiate various types of cooking, without water, will be shown below:

<table>
<thead>
<tr>
<th>Adjunct</th>
<th>Predicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) huraipan (&lt;frying pan) de</td>
<td>yaku</td>
</tr>
<tr>
<td>tenpi (primitive oven) de</td>
<td>yaku</td>
</tr>
<tr>
<td>ami (gridiron) de</td>
<td>yaku</td>
</tr>
<tr>
<td>hibaci (charcoal brazier) de</td>
<td>yaku</td>
</tr>
<tr>
<td>toosutaa (&lt;toaster) de</td>
<td>yaku</td>
</tr>
<tr>
<td>obuw (&lt;oven) de</td>
<td>yaku</td>
</tr>
<tr>
<td>cf. sumi (&lt;charcoal) de</td>
<td>yaku</td>
</tr>
</tbody>
</table>

Adjunct serves to differentiate "yaku" by specifying the fuel and kitchen utensils with which cooking is done. In English, too, when "broil" and "roast" take place outside the oven, they are called "pan-broil" and "pan-roast." The term "French-toast" is a good example, too. It signals something different from the ordinary type of toast, i.e. done in the skillet with fat, not "in the toaster or oven without fat or grease."
As is shown above in the case of "niku o maru-yaki ni suru" the adjunct "obun de" is optional, while in the case of "niku o yaku" the adjunct is the thing that must be specified.

One of the differences between beefsteak and roast beef lies in the way meat is cut and the size of the pieces, although both could be yaki-niku in Japanese. It is possible to specify with the help of such native terms as "maru-yaki" and "sugata-yaki" where the shape of ingredients is a marked feature.

\[
\text{maru } \{ \text{sugata} \} \text{ whole; yaki } < \text{ yaku} \\
\text{(Nominal) (Verb Present Conclusive)}
\]

Besides those mentioned above there is another way to specify by using generic term yaku. The productivity of the first conjunctive form of a verb as a nominalizer, has brought about such hybrids as bataa-yaki, oiru-yaki on the analogy of native forms as follows:
Butter and oil are equated with seasoning.

In the sentence above, the Adjunct become optional, because the utensil where it is cooked, (i.e., a frying pan) is implied by bataa-yaki or oiru-yaki in contrast with miso-yaki and sio-yaki, which are done on the gridiron.
CHAPTER V

GRAMMATICAL LEVEL

a. konbíihu
massjupëteto
roorukjëbetsu
huraibínzu
puresuhámumu

b. sukeetomíku
huraipan
dánsuhóoru

c. sutoqínugu
surtópa
haihóiru
potetóqípu

d. hamueggusu
cikirraíisu
kareeráíisu

e.1. suutsukeíisu
huruutsukeeki

e.2. baketsu
sjátsu
súítsu
doonatsu
súutsu

kò:nd bí:if
mást petéitou
ròulá kábídz
fráíí bí:nz
prést hám

skéitiñ ríñk
fráiii pàn
dáínsìñ hò:116

stókinz
slípa z
hàihí:lz
pétéitou týlps

hám en égj
tjíken en ráís
kári en ráís
s(j)ú:tkèíis
frú:tkèik

bàkit
fë:t
fi:t
dòunet
s(j)u:t
What is striking about this list of English loanwords in comparison with their original forms is the omission of sounds /t, d; iŋ; s, z; əŋ/ in a, b, c, and d, and the insertion of /s/ in e. Further observation, however, will reveal other significant facts about them. Firstly, the sounds omitted are in absolute Auslaut or, more generally, sounds in an unstressed position. Secondly, the presence of only one accent kernel in the adopted form shows it is treated as one word or as a unit, whether its original form is a syntactic arrangement or a morphological structure. These imply that the forms are solid morphemes.

What is more interesting and presumably is a more important factor at play here will be the Japanese speakers' ignorance of and/or indifference to the morphology of the source language due to the difference in grammatical categories between the two languages under discussion. /t, d; iŋ; s, z; əŋ/ omitted in groups a, b, c, d, and /s/ inserted in group e, are all morphemes.

Since number as a grammatical category has no prominent function in Japanese, except for some cases in which -ra, -taci, -domo are attached to nominals to signal their plurality, (e.g. watakusi (I) watakusi-taci (We)), the plural ending of English loanwords may be easily disregarded. This will explain group c. In connection with this, one or two
other examples indicative of this linguistic fact will be given:

\[\text{ichi huito } \{\text{it/i ñi:to}\} \quad \text{one feet}\]
\[\text{go inci } \{\text{go int/i}\} \quad \text{five inch}\]

Group e will involve both phonological and grammatical factors. For example, fruits and doughnuts must have come in their plural forms and have been used irrespective of their number in every context. In some cases, the regular addition of /o/ to the word-final /t/ failed to occur because of the aspiration of /t/ in some English speakers' pronunciation perceived by the original introducer. In that case, /tsu/ will naturally be adopted, partly because it is a fully acceptable sound sequence in Japanese and partly because it is phonetically very close to the plural form of the original, especially when the word-final /u/ is devocalized.

In a. and b., deprived of the inflexional suffixes \{-D\} and \{-in\} the items are treated as being stem-formative elements to be made into compounds. For one reason, in spite of the syntactic arrangement of two forms in English these two forms are closely interdependent or almost semantically amalgamated. For another reason, translation of suffixes prevents naturalness and conciseness in expression.

Remarks:

By the use of Present Conclusive Attributive and Past Conclusive Attributive forms, a Japanese verb can occur in a modification structure with a noun head. It is, therefore,
possible to replace English V-ed N by Japanese V- あく, theoretically,

c.e. massjusita poteto
    puresusita hamu

When the intransitive form of the verb occurs as a modifier of a noun, the noun is described when the transitive form of the verb occurs as a modifier, the meaning of the noun is ambiguous. It could be either "performer" of the action or "undergoer of the action."

Examples of these with English elements as modifiers will be given below:

**Past Conclusive Attributive of Intransitive Verb**

sutaatosita dantai The group which started

**Past Conclusive Attributive of Transitive Verb**

sukautosita kantoku a. The director who scouted
    b. The director who was scouted

In fact the structural ambiguity shown above can be clarified by expanding inflected words to make word groups that pattern like sentences.

On the other hand, the English verb-noun construction is single-word modification, and intransitive verbs do not occur in this structure.

Similar reasons hold true in the case of d, where /ən/ is omitted and two nouns are juxtaposed to form a compound.

J. grín pí:s or ṣ

E. (h)wáit só:s or ṣ

barukiisētaa búcki swéto or ṣ

cf. blák bé:d or ṣ
    and blák bé:d or ṣ

The above examples are compound nouns which were, in the original, nominal groups consisting of a modifier
realized by an adjective and a head realized by a noun. How it happens cannot be explained by the discussion of the nature of one language. One possible explanation will be that by making the nominal group, which is syntactic, into a compound we discard the addition of a native adjectival ending, (i.e. -na or -i). Another thing which will encourage this device lies in the structure of English nominal group as follows:

E. nominal group
d o e n h

d e i

\[ d d d \]
\[ a b c \]

\[ o a o b o c \]
\[ e_{i1} e_{i1} e_{i1} e_{i1} n_{i1} n_{i1} n_{i1} n_{i1} \]

e.g. all the other Card. Ord. Sup.

In such nominal groups as "green peas" and "white sauce" insertability of other elements between \{e\} and \{h\} is very rare. It is remarkable that this device is extended also to the following cases in which the head is from the native vocabulary.

\[ \text{epithet} \quad \text{head} \]
\[ \text{kurasiQkuoNgaku} \quad \text{classic(al)} \quad \text{music} \]
\[ \text{popjuraakasju} \quad \text{popular} \quad \text{singer} \]
\[ \text{iNsutaNtosjokuhiN} \quad \text{instant} \quad \text{food} \]
\[ \text{regjuraabaNgumi} \quad \text{regular} \quad \text{program} \]
Whether they are hybrid compounds genetically as well as formally (and/or synchronically) or are partial loan translations is not clear, and is of no concern to the present writer.

It should also be pointed out here that there exist nominal groups in which English adjectives take the attributive form of a Japanese inflectional suffix, i.e. -na.

<table>
<thead>
<tr>
<th>Adj.</th>
<th>N.</th>
<th>English equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>modanna</td>
<td>ie</td>
<td>modern house</td>
</tr>
<tr>
<td>sumaatona</td>
<td>hito</td>
<td>smart man</td>
</tr>
<tr>
<td>romançïkuna</td>
<td>uta</td>
<td>romantic song</td>
</tr>
<tr>
<td>akademiïkuna</td>
<td>hûniki</td>
<td>academic atmosphere</td>
</tr>
<tr>
<td>sohutona</td>
<td>azi</td>
<td>soft taste</td>
</tr>
</tbody>
</table>

These adjectives change their forms, according to their position in the sentence, as follows:

1. Present conclusive-attributive
2. Present conjunctive
3. First conditional
4. First conjunctive
5. Adverbial
6. Past conclusive-attributive
7. Past conjunctural
8. Second conditional
9. Second conjunctive
10. Alternative
1. ano uta wa romanciQkuda
   That song is romantic
2. roman ciQkudaroo
   That song will be romantic
3. romanciQkunaraba...
   If that song is romantic
4. roman ciQkude
   That song is romantic and...
5. romanciQkuni...
   in a romantic way
6. romanciQkudatta
   That song was romantic
7. romanciQkudattaroo
   That song must have been
8. romanciQkudattanaraba...
   If it was
9. 
10. romanciQudattari...
    That song was romantic and/or...

The morphological analysis reveals some of the interesting shapes of English-loan adjectives. That is, stem-derivational suffix as a whole is treated as a stem of an adjective in Japanese,

   e.g. taimuriina (time-ly) + na
        akademiQkuna (academy-ic) + na
        supiiidiina (speed-y) + na

Then, what will be the equivalent of speedily which is analysed as [stem + {y}+{ly}]? The answer is "supiiidiini." It seems at a glance as if {ly} were replaced by "ni," but it would be more convincing to regard it as a conjugational form No. 5 with "supiiidii" as a stem. Most of the adjectives previously listed, (e.g. modern, smart,
romantic, etc.,) can take this adverbial form with -ni in spite of the absence of equivalent adverbs with the derivational suffix {ly} in the original, English.

It is worth mentioning here that not a single case was found in the present data in which an English-loan adjective follows the pattern of the Japanese adjective *akai* (red) which conjugates —i. -karoo. -kereba. -ku. //wu//. -katta. -kattaro. -kattara(ba). -ku(t)te. -kattari.

Some other native elements may be added to an English-loan adjective in the modifier —N. head structure.

<table>
<thead>
<tr>
<th>Adj.</th>
<th>N.</th>
<th>English equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>insuta tono</td>
<td>jicuen</td>
<td>spontaneous performance</td>
</tr>
<tr>
<td>ore zigakatta</td>
<td>kumo</td>
<td>orangish cloud</td>
</tr>
</tbody>
</table>

Native examples are:

<table>
<thead>
<tr>
<th>Adj.</th>
<th>N.</th>
<th>English equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>takusan no</td>
<td>hon</td>
<td>many books</td>
</tr>
<tr>
<td>midorigakatta</td>
<td>iro</td>
<td>greenish colour</td>
</tr>
</tbody>
</table>

-gakatta used here to make "orange" attributive is Past conclusive-attributive form of a verb kakaru, of which function as an inflectional suffix is signaled by the voicing of the initial consonant /k->g/. As a matter of fact, not only adjective but noun could be the stem.

A question naturally arises about the assimilation of the English nominal groups consisting of nominal
modifier and head:

\[
\begin{array}{ll}
\text{J.} & \text{n.-n.} \\
\text{aNzeNpiN} & \text{safety pin} \\
\end{array}
\]

\[
\begin{array}{ll}
\text{E.} & \text{n. h.} \\
\text{n.} & \text{noun} \\
\end{array}
\]

cf. \text{aNzeNna piN}

Innumerable hybrid N-N compounds are found in the present data. The most significant structural factor will be the absence of N N modification structure in Japanese, and the presence of N-N compounds in which the second element is head as in the English N N modification structure. The alternative is to put the first conjugational form of the inflectional suffix -da (i.e. -na which is attributive) to the nominal modifier, which, however, is not as concise as a compound.

This is neither a new device nor a special device for adopting the English loanwords, but since 1868 it has been popular to make N-N compounds by putting Chinese elements together without using any native inflectional suffix or particles whenever a new term is needed for a new concept or practice.

The following are some of the hybrids:

<table>
<thead>
<tr>
<th>Group A</th>
<th>E.N. - J.N.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>piano-baNsoo</td>
</tr>
<tr>
<td>2</td>
<td>service-agency</td>
</tr>
<tr>
<td>3</td>
<td>saabisu-kikaN</td>
</tr>
<tr>
<td>4</td>
<td>*maker-goods</td>
</tr>
<tr>
<td>5</td>
<td>karorii-keesaN</td>
</tr>
<tr>
<td>6</td>
<td>calory-reckoning</td>
</tr>
<tr>
<td>7</td>
<td>puriNto-moyoo</td>
</tr>
</tbody>
</table>
A short form of E.N. - J.N.

<table>
<thead>
<tr>
<th>A short form of E.N. - J.N.</th>
</tr>
</thead>
<tbody>
<tr>
<td>terebi-bunka</td>
</tr>
<tr>
<td>television-culture</td>
</tr>
<tr>
<td>paama-eki</td>
</tr>
<tr>
<td>permanent wave-solution</td>
</tr>
</tbody>
</table>

Group B

<table>
<thead>
<tr>
<th>J.N. - E.N.</th>
</tr>
</thead>
<tbody>
<tr>
<td>kan koo-basu</td>
</tr>
<tr>
<td>Sight-seeing-bus</td>
</tr>
<tr>
<td>zidoosja-buumu</td>
</tr>
<tr>
<td>car-boom</td>
</tr>
<tr>
<td>rokuon-teepu</td>
</tr>
<tr>
<td>recording-tape</td>
</tr>
<tr>
<td>gakusee-hooru</td>
</tr>
<tr>
<td>student-hall</td>
</tr>
<tr>
<td>keqqonsiki-siizuw</td>
</tr>
<tr>
<td>wedding-season</td>
</tr>
</tbody>
</table>

A short form of J.N. + a short form of E.N.

i.  anpo-demo                                                               
    against amendment of the security pact

ii. cin age-suto                                                            
    wage increase-strike - demonstration

from i. anzenhosjoo zjcoyaku.kaitei. (hantai) - 
security pact amendment against

ii. cin ginneage. (yookjuu)                                                 
    wages increase demand

One thing which is noteworthy about these compounds given above is that the Japanese element in these is, almost without exception, itself a Chinese compound in origin or at least a home-made Chinese compound, i.e., so-called Jiongo. Prof. Kindaichi says in his book, Nihongo that Jiongo nipped off the buds of renyoo-kei which is an
inflectional form of the Japanese verb capable of functioning as a noun. The present writer may argue against this by showing some examples below. It is still productive in combination with English loanwords.

<table>
<thead>
<tr>
<th>Subject</th>
<th>Object</th>
<th>Predicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal Group</td>
<td>Nominal Group</td>
<td>Verbal Group</td>
</tr>
<tr>
<td>watakushi wa</td>
<td>airon-kake</td>
<td>suru</td>
</tr>
<tr>
<td>I (particle)</td>
<td>ironing (particle)</td>
<td>do</td>
</tr>
</tbody>
</table>

The renyookei, an inflectional form of a verb, is tentatively given the status here of a derivational suffix. In combination with an English loan element, it has a nominal function syntactically and morphologically it belongs to the border-line between compound and derivation. The phonological features seen in such cases as bari<hari and
zitate<sitate are indicative of their status as bound forms.

As was already pointed out in this chapter, no better sources for derivational or stem-formative elements exist than Jiongo, usually represented by one symbol which consists of one syllable and one morpheme. Here are some hybrids which also belong to the border-line cases.

amerika-see  America-made
kuriinningu-ya  cleaning-shop
peesuto-zjoo  paste-form
purinzęto-zi  print-material
guree-keezj  grey-type
dorama-huu  drama-style
tekuniQku-zjoo  technique-concerning
saakuru-si (-si<zassi?)  circle-magazine
zjazu-ka  jazz-arranging
mai-siizuN  every-season
kon-siizuN  this-season

See ( ), ya ( ), zjoo ( ), si ( ), ka ( ), mai ( ),

huu ( ), zjoo ( ), si ( ), ka ( ), mai ( ),

go ( ), kon ( ) are quite limited in their function as free forms, but they are often used as bound forms in derivation. Which English words are selected to be combined with these Jiongo element seems to be determined, not only by grammatical, but also by lexical factors. Take mai-siizuN for example. There exist the following compounds with a
"case vide" in the set of native vocabulary. Naturally, *mai-siizun* is coined to fill the gap in the system.

<table>
<thead>
<tr>
<th>Time</th>
<th>Hybrid Noun</th>
<th>English Equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>每秒</td>
<td>mai-bjoo</td>
<td>every-second</td>
</tr>
<tr>
<td>每分</td>
<td>mai-hun</td>
<td>every-minute</td>
</tr>
<tr>
<td>每時間</td>
<td>mai-jikaw</td>
<td>every-hour</td>
</tr>
<tr>
<td>每日</td>
<td>mai-nici</td>
<td>every-day</td>
</tr>
<tr>
<td>每週</td>
<td>mai-sjuu</td>
<td>every-week</td>
</tr>
<tr>
<td>每月</td>
<td>mai-cuki</td>
<td>every-month</td>
</tr>
<tr>
<td>每年</td>
<td>mai-tosi</td>
<td>every-season</td>
</tr>
</tbody>
</table>

Hybrid nouns in which English or Japanese affixes are used are not numerous.

<table>
<thead>
<tr>
<th>English</th>
<th>Japanese</th>
</tr>
</thead>
<tbody>
<tr>
<td>smartness-sa</td>
<td>sumaato-sa</td>
</tr>
<tr>
<td>heat&lt;hot</td>
<td>atsu-sa&lt;atsui</td>
</tr>
<tr>
<td>coldness&lt;cold</td>
<td>samu-sa&lt;samui</td>
</tr>
</tbody>
</table>

The derivational suffix *-sa*, which is a nominalizer, is added to the stem of the adjective.

Two examples were found in the present data of a Japanese prefix attached to the English stem. o- is an honorific prefix, but the use of the following forms is restricted to women's style of speech:

* o - seuci | o - sentimental |
* o - njuu  | o - new |

Derivation covers other areas as well.
A. Affixation (This has been discussed so far).

B. Shortening.

B.1. The clipped forms

B.2. Acronyms

C. Back formation

B.1. The clipped form

2 morae

<table>
<thead>
<tr>
<th>Word</th>
<th>Pronunciation</th>
</tr>
</thead>
<tbody>
<tr>
<td>puro</td>
<td>pro.dak.jen; pro.fes.jen.al</td>
</tr>
<tr>
<td>suto</td>
<td>straik</td>
</tr>
<tr>
<td>demo</td>
<td>dem.onstrai.jen</td>
</tr>
<tr>
<td>roke</td>
<td>lou.kai.jen</td>
</tr>
</tbody>
</table>

3 morae

<table>
<thead>
<tr>
<th>Word</th>
<th>Pronunciation</th>
</tr>
</thead>
<tbody>
<tr>
<td>ekisu</td>
<td>eks.trækt</td>
</tr>
<tr>
<td>kombi</td>
<td>kom.bi.nai.jen</td>
</tr>
<tr>
<td>maiku</td>
<td>mai.kra.foun</td>
</tr>
</tbody>
</table>

4 morae

<table>
<thead>
<tr>
<th>Word</th>
<th>Pronunciation</th>
</tr>
</thead>
<tbody>
<tr>
<td>depaato</td>
<td>di.pá:t.ment sto:</td>
</tr>
<tr>
<td>sutomai</td>
<td>stræp.tou.mai.sin</td>
</tr>
<tr>
<td>apaato</td>
<td>apá:t.ment haus</td>
</tr>
</tbody>
</table>

In most of these cases syllable divisions and morpheme divisions in the source language are disregarded. As the result of clipping professional and production are homophones [puro], which, depending on the context, could be used as a short form of program and propaganda as well.
Some of the hybrids with "puro" as an element are:

- puro-yakjuu: professional baseball
- masu-puro: mass production
- dokuricu-puro: independent production

B.2. Acronyms

- azi-bira: "adjiteitių bil"
- sek-o-han: sekand-hénd
- rimo-kon: rimóut kontróul
- puro-resu: profesionał réslią

C. Back formation

- daburu
- sando-suru: san(đ)witʃ

Because of the similarity of the word-final /ru/ to present Conclusive Form of a verb, daburu is analysed as dabur + u and conjugated as follows:

1. Present conclusive attributive: dabúr.u
2. Present conjectual: dabúr.ǒo
3. First conditional: dabúr.eba
4. First conjunctive: dabúr.i
5. Imperative: dabúr.e
6. Past conclusive attributive: dabút.t.a
7. Past conjectural: dabút.tar.oo
8. Second conditional: dabút.tar.a
9. Second conjunctive: dabút.t.e
10. Alternative: dabút.tari

"Sandwich" seems to have been analysed as sand - affix, and sand is treated as stem-formative of a verb.
Thus, we get the form sando-suru, which means "to put something between two pieces like a sandwich."

**Verb and Verbals**

Suru is a Japanese verb which functions as a verbalizer when it is used as an inflectional suffix. Almost all the English-loan verbs are used as a stem of a compound verb formed with this suffix suru. The stem does not always have to be verb (1) but may be verbal group (2), noun (3) and its short form (4).

**Examples:**

(1) kabaa-suru
    riido-suru
doraibu-suru
arenzi-suru
sutaato-suru
cover
lead
drive
arrange
start

(2) beesuaQpu-suru
    kamubaQku-suru
sjaQtoauto-suru
"base-up"
come-back
shut-out

(3) sukeQci-suru
    memo-suru
saabisu-suru
koorasu-suru
sketch
memo
service
chorus

(4) roke-suru
    piiaaru-suru
location
propaganda
{Come back} + suru

1. kamubaQkusu.ru
2. kamubaQkusi.yoo
3. kamubaQkusu.reba
4. kamubaQkusi.
5. kamubaQkusi.ro
6. kamubaQkusi.ta
7. kamubaQkusi.tar.co
8. kamubaQkusit.tar.a(ba)
9. kamubaQkusi.te
10. kamubaQkusi.tar.i

service + suru

saabisusu.ru
saabisusi.yoo
saabisusu.reba
saabisusi.
saabisusi.ro
saabisusi.ta
saabisusi.tar.co
saabisusi.tar.a(ba)
saabisusi.te
saabisusi.tar.i

Whatever kind of stem they have they belong to the same class as far as conjugation is concerned.

1. Present conclusive-attributive
2. Present conjectural
3. First conditional
4. First conjunctive
5. Imperative
6. Past conclusive-attributive
7. Past conjectural
8. Second conditional
9. Second conjunctive
10. Alternative
Some auxiliary verbs are connected with these English-loan verbs in the following fashion.

A. \textit{sutaatos} + \textit{ase} + inflectional ending \hspace{1cm} \textit{E. let \_ start}

\begin{align*}
1. \text{sutaatos.ase.ru} \\
2. \quad .ase.yoo \\
3. \quad .ase.reba \\
4. \quad .ase \\
5. \quad .ase.ro \\
6. \quad .ase.ta \\
7. \quad .ase.tar.co \\
8. \quad .ase.tar.a \\
9. \quad .ase.t.e \\
10. \quad .ase.tar.i
\end{align*}

B. \textit{riidos} + \textit{are} + inflectional ending \hspace{1cm} \textit{E. get beaten}

\begin{align*}
1. \text{riidos.are.ru} \\
2. \quad .are.yoo \\
3. \quad .are.reba \\
4. \quad .are \\
5. \quad .are.ro \\
6. \quad .are.t.a \\
7. \quad .are.tar.co \\
8. \quad .are.tar.a. \\
9. \quad .are.t.e \\
10. \quad .are.tar.i
\end{align*}
Besides suru, the verb dekiru, suffixes buru and meku, may serve to verbalize some English-loan nouns and adjectives.

1. e.g. sutaato-deki.ru modan-buru dorama-meku
2. dekiyoo .bur.oo .mek.oo
3. dekireba .bur.eba .mek.eba
4. sutaato.deki .bur.i .meki
5. * deki.ro .bur.e .mek.e
6. sutaato.deki.ta .but.ta .meita
7. .dekitar.oo .but.tar.oo .meitar.oo
8. .dekitar.a(ba) .but.tar.a .meitar.a
9. .dekite .but.te .meite
10. .dekitar.i .but.tar.i .meitar.i

English: "be able to start" "pretend to be modern" "look like drama"

Lastly, there is one case in which no affix was necessary, i.e. dabur.u< double.
CHAPTER VI

PHONOLOGICAL LEVEL

The English form[pə:ti] is adopted and is spoken by some [pə:tʃi:], by others, [pə:te:], and by still others, [pə:ti:], as was pointed out in a previous chapter. According to the command of English on the part of the original introducer or a later user, some foreign sound sequences may be spoken even in the native context or they may be replaced by the native sequences. The close examination of the example above, however, reveals the fact that in any case the syllabic pattern of the form is consistent, i.e. CVVCVV.

The basic syllabic patterns of Japanese are as follows:

1. /CV/  
   /C/ stands for p; t; k; s

2. /CVV/  
   b; d; g; z and /h/

3. /CVN/  
   /m; n; j/, /w/, /r/

4. /CVQ/

5. /CSV/

6. /CSVV/  
   /S/ stands for /j/

7. /CSVN/

8. /CSVQ/  
   /V/ stands for i u e o a

Every native speaker of Japanese, however, is more sensitive to the unit which is called a "mora" by Dr. Hattori,
i.e. "phonemic spans of approximately equal duration," than to the so-called syllables listed above. While a syllable which ends with a short vowel corresponds to one mora, a syllable which ends with a long vowel corresponds to two morae. In the example above, in spite of the difference in the degree of assimilation of the sequence -ti-, all three forms consist of CV + V + CV + V, i.e. four morae. Another example will be /handobaggu/ (cf. /handbag/) which consists of six morae: /ha/, /n/, /do/, /ba/, /q/, and /gu/. The patterns of morae suggested here are: /CV/, /V/, and /Q/. Others are: /V/, /SV/, and /CSV/. The significance of the mora as a phonological unit lies in its relationship with accent which will be discussed later.

The inventory of morae in Tokyo dialect will be shown below:

/a, i, u, e, o, ja, ju, jo/
/wa,
/ma, mi, mu, me, mo, mja, mju, mjo/
/pa, pi, pu, pe, po, pja, pju, pjo/
/ba, bi, bu, be, bo, bja, bju, bjo/
/sa, si, su, se, so, sja, sju, sjo/
/za, zi, zu, ze, zo, zja, zju, zjo/
/ta, te, to/
/da, de, do/
In narrow transcription the inventory is as follows:

[a, i, u, e, o, ja, ju, jo/
/ci, cu cja, cju, cjo/
/na, ni, nu, ne, no, hja, hju, hjo/
/ra, ri, ru, re, ro, rja, rju, rjo/
/ka, ki, ku, ke, ko, kja, kju, kjo/
/ga, gi, gu, ge, go, gja, gju, gjo/
/ha, hi, hu, he, ho, hja, hju, hjo/
/n/
/q/

[w]
As is clear from this, the Japanese syllabic pattern admits neither consonant clusters nor consonantal endings since two consecutive consonants never belong to one mora and no consonant but /m/ and /ŋ/ can form a mora by itself.

One of the interesting features of well-established English loanwords to observe is, therefore, the change in the syllabic structure. At least two cases will be predictable: the addition of a vowel to the word-final consonant except /n/ and the insertion of a vowel between consecutive consonants to form an extra mora.

There are also some "cases vides" in the system. The most important ones in connection with the borrowings from English are /wi, wu, we, wo/, /ti, t(j)'u/ and /di, d(j)u/. It is assumed that these gaps will be filled up either by the nearest counterparts in the existent system or by the new phonemic sequences. It is only natural that the choice will be influenced by orthography. In the written form of the Japanese syllabary, the ta-line, the da-line and the wa-line run as follows, respectively:
The "ta-line" [ta, tf, tsu, te, to]
The "da-line" [da, d3i, d3u, de, do]
cf. The "za-line" [za, d3i, d3u, ze, zo]
The "wa-line" [wa, i, u, e, o]

This explains such cases as [tʃikəto] for [tikət] and [d3iʔ: zeru] for [diːz(o)l].

That does not exhaust the problem involved in the phonological analysis of English loanwords, for the Japanese sound system lacks morae with the following consonants, /f, v, θ, ð; l/.

As for vowels, English and Japanese will be compared by the use of the simplified pattern of the system:

<table>
<thead>
<tr>
<th>English</th>
<th>Japanese</th>
</tr>
</thead>
<tbody>
<tr>
<td>i</td>
<td>i</td>
</tr>
<tr>
<td>u</td>
<td>u</td>
</tr>
<tr>
<td>e</td>
<td>e</td>
</tr>
<tr>
<td>Α</td>
<td>o</td>
</tr>
<tr>
<td>aο</td>
<td>a</td>
</tr>
</tbody>
</table>

To be concrete, in the Japanese sound system [a], [A], [ə] and [a] are underdifferentiated and converge on /a/ although in relation with prosodic features, phonetic realization of /a/ greatly varies.

Because of these gaps in the Japanese system, the original introducer or a later user will fail to identify or discriminate between particular sounds which will be manifested by the substitution of one phoneme for another or by the dropping of a sound.
The problems at the phonological level of analysis will be roughly divided into two:

(1) the change in a syllabic structure
(2) the change in phonematic units

This section deals with the change in a syllabic structure.

a. [pai] /CV/ /pai/ /CVV/
b. [pet] /C_1VC_2/ /peQto/ /CVQCVC/
c. [pen] /C_1VC_2/ /pen/ /CVNC/
d. [pas] /C_1VC_2/ /pasu/ /CVVC/
e. [pa:t] /C_1VC_2/ /paato/ /CVVCV/
f. [peis] /C_1VC_2/ /peesu/ /CVVCV/
g. [pamp] /C_1VC_2/ C_2 = CC /ponpu/ /CVNCVC/
h. [palp] /C_1VC_2/ C_2 = CC /parupu/ /CVGCVCV/
i. [spi:d] /C_1VC_2/ C_1 = CC /supiido/ /CVGCVCV/
j. [spriŋ] /C_1VC_2/ C_1 = CCC /supuringu/ /CVGCVCVNCU/
In English b.c.d. share the same syllabic structure in which the syllable nucleus consists of a simple vowel distinguished either from the cases e, f and i, in which the syllable nucleus is compound or from the cases g and h, which have consonant clusters at the syllable final. As the result of their assimilation to the Japanese syllabic pattern, however, each of them has a different form of realization in Japanese, i.e., b. /CVQCV/ consisting of two syllables or three morae; c. /CN/ of one syllable or two morae, and d. /CVCV/ of two syllables and two morae.

There is no problem about the fact that all C2's except /-n/, as is seen in the case of c, which is replaced by /N/, should form a mora by employing an additional vowel. Difference between b. and d. then, seems to be due to the nature of the C2's.

C2 in b.: /t/ voiceless stop preceded by a simple vowel
C2 in d.: /s/ voiceless fricative preceded by a simple vowel

The question is whether or not the occurrence of /Q/ is determined by the manner of articulation. In the native set of vocabulary, /Q/ used to occur only before voiceless stops /p, t, k/, as well as /s/ and /c/, which are also voiceless consonants. /Q/ corresponds to the laryngeal tension during the first half of the geminated consonants. In some cases in
Japanese its presence and absence serve to distinguish one word from another as follows:

<table>
<thead>
<tr>
<th>CVQCV</th>
<th>CVQCVC</th>
</tr>
</thead>
<tbody>
<tr>
<td>/saka/</td>
<td>(slope)</td>
</tr>
<tr>
<td>/oto/</td>
<td>(sound)</td>
</tr>
</tbody>
</table>

Concerning /Q/ in English loanwords there should be at least two things worth investigating, in comparison with /Q/ in native words:

1. Is the distribution more limited or extended?
2. Has it a distinctive function?

**Group I**

<table>
<thead>
<tr>
<th>CVC</th>
<th>CVQCVC</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>Japanese</td>
</tr>
<tr>
<td>/tip/</td>
<td>/t̞iQpu/</td>
</tr>
<tr>
<td>/kap/</td>
<td>/kaQpu/</td>
</tr>
<tr>
<td>/nob/</td>
<td>/noQbu/</td>
</tr>
</tbody>
</table>

**Group II**

<table>
<thead>
<tr>
<th>/hit/</th>
<th>/hiQto/</th>
<th>cf. /hito/</th>
</tr>
</thead>
<tbody>
<tr>
<td>/net/</td>
<td>/neQto/</td>
<td>cf. /hito/</td>
</tr>
<tr>
<td>/hat/</td>
<td>/haQto/</td>
<td>cf. /hato/</td>
</tr>
<tr>
<td>/pot/</td>
<td>/poQto/</td>
<td>cf. /haato/</td>
</tr>
<tr>
<td>/fut/</td>
<td>/huQto/</td>
<td></td>
</tr>
<tr>
<td>/bed/</td>
<td>/beQdo/</td>
<td></td>
</tr>
<tr>
<td>/ned/</td>
<td>/heQdo/</td>
<td></td>
</tr>
</tbody>
</table>
## Group III

<table>
<thead>
<tr>
<th>CVC English</th>
<th>CVQCV Japanese</th>
<th>CVCV Japanese</th>
<th>CVVCV Japanese</th>
</tr>
</thead>
<tbody>
<tr>
<td>/klæsik/</td>
<td>/kurasiqku/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>/nek/</td>
<td>/neqku/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>/træk/</td>
<td>/toraqku/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>/buk/</td>
<td>/buqku/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>/ʃɔk/</td>
<td>/ʃjoqku/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>/ eg/</td>
<td>/eŋgu/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>/bæg/</td>
<td>/baŋgu/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>/dɔɡ/</td>
<td>/doŋgu/</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Group IV

| /steʃ/       | /sutaŋhu/      |               |               |
| /pæʃ/       | -              | /pahu/        |               |
| /læv/       | -              | /rabu/        |               |
| /ɔlɪv/      | -              |               | /ɔriibu/      |

## Group V

| /bæθ/       | -              | /basu/        |               |

## Group VI

<p>| /mis/       | -              | /misu/        |               |
| /boʊs/      | -              | /bosu/        |               |
| /bæs/       | -              | /basu/        |               |
| /dʒæz/      | =              | /zjazu/       |               |</p>
<table>
<thead>
<tr>
<th>Group VII</th>
<th>CV</th>
<th>CVQC</th>
<th>CV</th>
<th>CVVC</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>English</strong></td>
<td><strong>Japanese</strong></td>
<td><strong>Japanese</strong></td>
<td><strong>Japanese</strong></td>
<td><strong>Japanese</strong></td>
</tr>
<tr>
<td>/raQs/</td>
<td>/raQsju/</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>/maQs/</td>
<td>/maQsju/</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Group VIII</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>/maQci/</td>
<td>/maQci/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>/piQci/</td>
<td>/piQci/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>/baQdzi/</td>
<td>/baQdzi/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>/zjaQdzi/</td>
<td>/zjaQdzi/</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Group IX</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>/naQcu/</td>
<td>/naQcu/</td>
<td></td>
</tr>
</tbody>
</table>

From Groups I to III, it is clear that the distribution of /Q/ is extended, so that it can occur before voiced stops. Irregularity found in the distribution of /Q/ in Groups IV to VII, which deal with fricatives may be due to the fact that out of these only VI and VII have equivalents in the native sound system. The only possible statement may be that /Q/ fails to occur before voiced fricatives.

The occurrence of /Q/ before affricates will substantiate its status as a phoneme.

As a conclusion it is possible to say that the choice always falls on /CVQC/, not /CVC/ as an assimilated form of English /CVCV/ when the syllable nucleus is a simple vowel.
and when $C_2$ is voiceless stops /p, t, k/ and affricates /tf, dʒ, ts/ and that /Q/ may also be followed by the voiced stops /b, d, g/ and /ʃ/.

As for its function, two examples are shown from Group I of the minimal pair differentiated by the use of /Q/.

/hito/ \textit{versus} /hiQto/  
\textit{(man)} \hspace{1cm} \textit{(hit)}

/hato/ \textit{versus} /haQto/  
\textit{(dove)} \hspace{1cm} \textit{(hat)}

The insertion of a vowel between consecutive consonants, as in the case g. h. i. and j. is based on the same principle that governs the addition of a vowel to the word-final consonants and increases the number of syllables from one to three or four. In g. and j. as the result of replacement by /N/, /m/ and /ŋ/ come to form a mora by themselves. Further discussion on this matter will be made afterwards.

What will happen to the syllable nucleus which is compound—long vowels or dipthongs, in other words? Examples are a. e. f. and i. As the second element of a compound nucleus, (i.e. a glide) is given a full status as a mora, in the Japanized form, two consecutive vowels which correspond to two morae, exist.

The detailed description of some of the changes made in the syllabic structure of English words assimilated to Japanese will be given below:
1) The addition of a vowel to the word-final consonant except /-n/:

i. /u/ is added to:
   /p/, /b/
   /m/
   /f/, /v/
   /θ/, /ð/  
   /s/, /z/
   /ts/
   /ʃ/, /ʒ/
   /l/
   /x/, /ɣ/

ii. /i/ is added to:
    /ʃ/
    /tʃ/, /ʒ/  
    /k/

iii. /o/ is added to:
    /t/, /ð/  

iv. The change to /n/ of the word-final /n/ and /ŋ/.

Examples:

/p/ + /u/  
[paip]  [paːipw]
[teip]  [teəpju]
[roup]  [roʊ:pju]
[grup]  [gruːpju]
[tʃuːlip]  [tʃuːripepju]
/b/ + /u/  
[وبا]  

/m/ + /u/  
[هم]  [همو]  
[kرم]  [كرمو]  
[نيم]  [نرمو]  
[تيم]  [تيمو]  

(/f/→/h/) + /u/  
[نايف]  [نايفو]  
[nda]f]  [ندافو]  
[سترف]  [سترفو]  
[تيو]f]  [تيفو]  

(/v/→/b/) + /u/  
[درايف]  [درايفو]  
[kا]'v]  [كابو]  
[سيف]  [سيفو]  

(/θ/→/s/) + /u/  
[باو]  [باوو]  

/ʃ/ + /u/  
[ريس]  [ريسو]  
[kو]s]  [كوسو]  
[sا:كوس]  [ساكاسو]  
[d squads]  [داسوو]
<table>
<thead>
<tr>
<th>Phoneme Combination</th>
<th>English Pronunciation</th>
<th>IPA Pronunciation</th>
</tr>
</thead>
<tbody>
<tr>
<td>/z/ + /u/</td>
<td>/dʒæ/</td>
<td>[dʒæz]</td>
</tr>
<tr>
<td>/tʃ/ + /u/</td>
<td>/fruts/</td>
<td>[fruts]</td>
</tr>
<tr>
<td>/ʃ/ + /u/</td>
<td>/rʌf/</td>
<td>[rʌf]</td>
</tr>
<tr>
<td>/ʒ/ + /u/</td>
<td>/beɪs/</td>
<td>[beɪs]</td>
</tr>
<tr>
<td>/l/ - &gt; /r/ + /u/</td>
<td>/ɻiːl/</td>
<td>[ɻiːl]</td>
</tr>
<tr>
<td>/k/ + /u/</td>
<td>/fɔːk/</td>
<td>[fɔːk]</td>
</tr>
</tbody>
</table>
/g/ + /u/

[hand bag]  [handobaggu]

[hót dóg]  [hotto doggu]

[eg]  [eggwu]

/k/  + /i/

[keik]  [keik]

[steik]  [suiteskii]

[iŋk]  [ininki] cf. [inkuu]

[straik]  [suitorsikii] cf. [suitorsikuu]

/s/  + /i/

[brʌf]  [buraf] ( cf. [bur300] )

/t/  + /i/

[lʌntʃ]  [rantʃi]

[switʃ]  [suittyʃi]

[bentʃ]  [bentʃi]

[mætʃ]  [matʃi]

/d/  + /u/

[ɔrɪndʒ]  [or300ndʒi]

[spændʒ]  [swupondʒi]

[bædʒ]  [ba300dʒi]

[steːdʒ]  [swuːtʃdʒi]
A
d
A
A


Only a few examples of the insertion of a vowel between consecutive consonants will suffice since the choice of a particular vowel to insert depends on the first consonant of the two, which is essentially the same as the addition of a vowel to the word-final consonant.

<table>
<thead>
<tr>
<th>cluster</th>
<th>vowel inserted</th>
<th>E.</th>
<th>J.</th>
</tr>
</thead>
<tbody>
<tr>
<td>kl-</td>
<td>/u/</td>
<td>[klə:s]</td>
<td>[kurəsɯ:]</td>
</tr>
<tr>
<td>kr-</td>
<td>/u/</td>
<td>[kɾiːm]</td>
<td>[kɯɾpːmu]</td>
</tr>
<tr>
<td>-kt-</td>
<td>/u/</td>
<td>[dɔktə]</td>
<td>[dɔkɯta:]</td>
</tr>
<tr>
<td>-kn-</td>
<td>/u/</td>
<td>[piknik]</td>
<td>[pikɯn̩kkɯ]</td>
</tr>
<tr>
<td></td>
<td>/u/</td>
<td>[äksesäri]</td>
<td>[äkɯsesäri:]</td>
</tr>
<tr>
<td></td>
<td>/i/</td>
<td>[ékstrə]</td>
<td>[ekisutɔra]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[mikeə]</td>
<td>[mikisa:]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[tekst]</td>
<td>[tekisutɔ]</td>
</tr>
<tr>
<td>-mp-</td>
<td></td>
<td>[sämpl]</td>
<td>[sampuʁuʁ]</td>
</tr>
<tr>
<td>-mb-</td>
<td></td>
<td>[simbel]</td>
<td>[ʃimboruʁ]</td>
</tr>
<tr>
<td>cf. -m</td>
<td></td>
<td>[hæm]</td>
<td>[hɑm u]</td>
</tr>
</tbody>
</table>

E. [ékstrə] in fact has four consonants in succession, which need to have three vowels inserted, in order to give a permissible sequence in the sound system of Japanese. Thus:

/ékstrə/ → /ekisutɔra/

VCCV
vccccv
2 syllables

VCVCCVCCV
5 syllables
What determines the choice of a specific vowel to add or insert in the process of assimilation of English forms to the Japanese phonemic pattern has not yet been explained up to this point. The possible solution seems to be the following:

1. manner of articulation of the consonant in question
2. point of articulation of the consonant in question
3. acoustic features of the consonants
4. auditory impression produced by combinations of 1, 2 and/or 3
5. pressure from the system

/k/, /g/ + /u/ may be explained by 2. That is, the principal members of /k/ and /g/ which are velar stops are of the back variety in realization so that the addition of a back vowel /u/ causes the least complication.

In spite of the established custom of adopting /k/ as /ku/ an attempt to get the form as close as possible to the original has made the addition of /i/ possible to a /k/ of front variety due to the adjacent vowel, e.g. /mikisaa/ (mixer); /suteQki/ (stick). In the course of time, it has so happened that the forms with /i/ added and /u/ added now co-exist, each representing a different domain of semantic content and also suggesting different media (i.e. audio and visual) by which the forms were learned. A good example of this is a doublet: /sutoraiki/ and /sutoraiku/.
Similarly /suteQki/ is reserved for a walking stick, while /suteQku/ is only used as an element of such a compound as /aisukuriimusuteQku/ (ice-cream stick).

The choice of forms between /iNku/ and /iNki/ is, however, merely the matter of individual taste for they represent one and the same thing.

/s/ is another example which has two possible forms of adoption: with /i/ or with /u/. The sequences /ji/, /tji/ and /dji/ are free from any articulatory problem because of the front and palatal quality shared by the consonants and the vowels in combination. On the other hand such a form as /raQsu/ will be explained by the following fact. In some native speakers' rather exaggerated pronunciation of /s/ and /j/ the protruding of the mouth creates a resonance chamber narrow and deep which produces a tamber associated with /u/.

[p], [b], [f] and [m] are bi-labial sounds which in themselves contain the tamber similar to u-sound which will, in turn, be conformed to the native [u].

"The l-sound produced with a given-vowel position of the main part of the tongue always has a noticeable acoustic resemblance to that vowel . . . Tongue position of 'dark' l is (l̃)." 22

E /r/ and E /l/ converge on J /r/

.J /r/ + /u/
Exception

\[ /\text{bira} / \quad \text{for} \quad /\text{bil}/ \]

\(/u/\) failed to be added in this case for two reasons.

1) There already exists a word \textit{biru} which is from building.

2) It is very often used in the sense of advertizing handbill which flutters down. Japanese phonaesthetic word which describes this fluttering of bills, leaves, etc. is \textit{hirahira}. It so happens also that the voiced counterpart of Japanese /h/ is /b/. Consequently in association with \textit{hirahira} and \textit{bira} came into use. This is one of the good examples of folk etymology.

As for \(/t/, /d/ + /o/\) the pressure of the system seems to be significant. No such morae as /ti/, /tu/, /di/ and /du/ exist in the Japanese syllabary. Consequently it is assumed that /t/ and /d/ should take vowels from /a/, /e/ and /o/. Among these Japanese [o] is most indefinite, therefore is flexible as to its backness and its degree of opening. The pattern of adoption may have already been fixed in the treatment of the word final /t/ and /d/ in the earlier loanwords from, say, Dutch, as /to/ and /do/.

The treatment of nasals in English loanwords reflects their distribution in the Japanese sound system.

The following variants of /\textit{N}/ are phonologically determined:
[n], [m], [ŋ], [m], [♀]

1. /hon/ [hon] book
2. /hon to/ [hon to] book and
3. /hon ga/ [hon ŋa] or [hon ga] book (s)
4. /hon mo/ [hon mo] book also
5. /hon o/ [hon o] book (o)

That is why the word-final /n/ does not employ any vowel but as a conditional variant of /ŋ/ forms a mora by itself.

e.g. /

/n/ which has a mora value appears only when it is followed by velar consonants. It led to the word-final /-ŋ/-s in loanwords taking an additional mora beginning with homorganic consonants. Thus, we get such forms as [toreenŋu] /toreeningu/ and [kri:ŋŋu] /kriiningu/. [m] cannot stand by itself in the word-final position but it can, as a member of /n/, when followed by bi-labial consonants. Therefore, /hamu/ < /ham/; /sampuru/ < /sa:mp1/. Phonetically then clusters -mb-, -mp- in loanwords remain as they are, it seems. They are, however, different from the English ones in some important points. The difference lies not in the matter of the phonetic features of a phoneme but of the syllabication. The fact that they are homorganic has made the combination very close in English but in Japanese [m] is syllabic or in other words it has the definite duration of one mora and [p], and [b] respectively forms another mora with the adjoining vowel.
Lastly some examples will be given in which short vowels in the original are given the duration equivalent of two morae in Japanese.

e.g.

\[\begin{align*}
\text{so:se:d3i} & \quad \text{for} \quad \text{sosid3} \\
/C\text{VCVCV}/ & \quad /C\text{VCVC}/ \\
\text{ko:hi:} & \quad \text{kofi} \\
/C\text{VCVC}/ & \quad /C\text{VCV}/
\end{align*}\]

The native speakers of Japanese are sensitive to the relative length of each constituent unit, so that they recognize /so/ and /si/ longer than /d3/ and try to conform these into morae. Thus, [d3] takes vowel /i/ to form a mora and consequently /so/ and /si/ take an additional vowel identical with their respective final vowels so that they become twice as long as /d3/ without a great change in acoustic quality. That is, /soo/: /see/: /zi/ = 2 morae: 2 morae:1 mora. This does not explain [ko:hi:] satisfactorily and yet in terms of ratio /ko/: /hi/ = /koo/: /hii/ = 1:1.

The solution based upon the way in which loanwords are discriminated in the recipient language (which was illustrated above) will throw light upon the case dealt with at the
beginning of this section in which /hiQto/ not /hito/
replaced English /hit/. That is, /hit/ is perceived and inter-
preted as 1 mora + 0 mora not as a native word /hito/ which
consists of 1 mora + 1 mora. In order to form a mora /t/
takes /o/, so that the relative number of morae required
before /to/ becomes 2. Japanese speakers have two alterna-
tives to take here: hii or hiQ. Because of the presence
of /hii/ in another word (e.g. /hiito/ for English /hijt/,
the latter is employed.

hit
1 mora + non-mora
2 morae + 1 mora
2 morae + 1 mora

hiQto

hito

To sum up then, various devices are detected for the
assimilation of English loanwords to the syllabic structure of
Japanese with "mora" as its basic unit.

Accent

In fact "mora" is the one that is responsible for the
so-called staccato rhythm of Japanese language.

Apart from this staccato rhythm a characteristic pitch
accent results from the sequence of high and low pitches in
successive morae as is shown on the following page:
o represents a mora; •, the accent kernel.

- - - - -

•
- - - - -

○ ○ ○ saakesu circus

- - - - -

•
- - - - -

○ ○ ○ gurupu group

- - - - -

○ ●
- - - - -

○ ○ ○ hankači handkerchief

- - - - -

○ ○ ○
- - - - -

○ supido speed

As is clear from the examples above well-established loanwords, whatever kind of stress they had in the source language, follow the accent pattern of the recipient language.

First of all general rules about accent of Japanese will be described:

1. Every mora is pronounced either "high" or "low" within a word or a linguistic unit. The change from "high" to "low" does not occur within one mora as is the case in Chinese.

2. If the first mora is "high," the second mora is always "low," and vice versa.

3. No two "highs" exist, within a word or a functional unit, with "low" between them.
4. As the result of 2 and 3 the accent of Japanese serves to demarcate linguistic units.

5. There are some minimal pairs in which accent, not a segmental phoneme, serves to distinguish one form from another.

\[
\begin{array}{ll}
\text{e.g.} & \text{particle} \\
a. /\text{hasi}/ \cdot o (ga) & \text{chopsticks} \\
b. /\text{hasi}/ o \cdot (ga) & \text{bridge} \\
c. /\text{hasi}/ o o (ga) & \text{edge} \\
\end{array}
\]

Dr. Hattori calls the "high" immediately followed by the "low" the accent kernel. According to the position of the accent kernel we can classify various patterns of accent. In Pattern a, the accent kernel falls on the first mora; in Pattern b, on the second. Pattern c is atonic. As the number of morae increases other patterns will be expected. It is assumed that loanwords will follow the favorite type of accent in the dialect under discussion. Native speakers will immediately react to a strange place-name or an unfamiliar name of a person in Japanese using the form which may be called "potential."
<table>
<thead>
<tr>
<th>Pattern</th>
<th>2 morae</th>
<th>3 morae</th>
<th>4 morae</th>
<th>5 morae</th>
<th>6 morae</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>ba</td>
<td>su</td>
<td>razio</td>
<td>saabisu</td>
<td>konsaato</td>
</tr>
<tr>
<td>b</td>
<td>J</td>
<td>J</td>
<td>apaato</td>
<td>meheezjaa</td>
<td>sukarsiqpu</td>
</tr>
<tr>
<td>c</td>
<td>J</td>
<td>hankaci</td>
<td>bisukeQto</td>
<td>badominton</td>
<td></td>
</tr>
<tr>
<td>d</td>
<td>J</td>
<td>J</td>
<td>zjaanarizumu</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>g</td>
<td>J</td>
<td>inku</td>
<td>tonneru</td>
<td>J</td>
<td>cuberukurin</td>
</tr>
</tbody>
</table>

A slanting line with J. shows that no example is found among loanwords but the pattern exists in the native vocabulary.
Further examples:

<table>
<thead>
<tr>
<th>Pattern a</th>
<th>Pattern b</th>
<th>Pattern c</th>
<th>Pattern d</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 morae</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>basu (bus)</td>
<td>gasu (gas)</td>
<td>hamu (ham)</td>
<td></td>
</tr>
<tr>
<td>3 morae</td>
<td>razio (radio)</td>
<td></td>
<td>inku (ink)</td>
</tr>
<tr>
<td>4 morae</td>
<td>sáveisu (service)</td>
<td>apato (apartment)</td>
<td>hankači (handkerchief) (tunnel)</td>
</tr>
<tr>
<td></td>
<td>sakasu (circus)</td>
<td>sumaato (smart)</td>
<td>kohči (coffee)</td>
</tr>
<tr>
<td>5 morae</td>
<td>koⁿsaato (concert)</td>
<td>maneezja (manager)</td>
<td>bisukečto (biscuit)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>sukuraζpu (scrap)</td>
<td></td>
</tr>
<tr>
<td>6 morae</td>
<td>sukaɾasiζpu (scholarship)</td>
<td>badoriνton (badminton)</td>
<td></td>
</tr>
<tr>
<td>Pattern g</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>cuberukuri (tuberculin)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Quite an extensive distribution is seen in the accent pattern of English loanwords in Japanese, and yet it is possible to suggest Pattern a as one of the ready-made patterns for a strange word in spite of the limitation of the present data. It is also worth noticing that in Pattern a the accent kernel correlates with stress in the original, although the converse is not always true. In some cases there are more than one possibility even in the speech of the same individual.

<table>
<thead>
<tr>
<th>Pattern a</th>
<th>Pattern g</th>
</tr>
</thead>
<tbody>
<tr>
<td>e.g.</td>
<td></td>
</tr>
<tr>
<td>inku</td>
<td>vs.</td>
</tr>
<tr>
<td>botan</td>
<td>vs.</td>
</tr>
</tbody>
</table>

It seems that some internal factor rather than such an external factor as the speakers' social status is at play here. This kind of fluctuation in accent pattern is by no means unusual in the set of native vocabulary. It is said that some of the "well-worn" words tend to be atonic, i.e. to follow Pattern g.
The examples below indicate the difference in accent pattern between a word in isolation and the same word in combination with another word to form a compound. This may to some extent lead to the occurrence by analogy of some atonic forms even in isolation. It is, however, only one of the possible explanations.

cf. /inku/ o o and /inkubin/ o o o (ink-bottle)
/basu/ o o and /basumici/ o o o (bus-street)
/rajfu/ o o /rajfudoki/ o o o (rush-hour)

No. 3 and No. 4 of the rules about accent in Japanese should be recalled here. \{basu\} in "basumici" loses its inherent accent to conform to that of "basumici" as a whole which has only one accent kernel. Thus accent in Japanese plays an important role in the demarcation of the linguistic unit. It serves to link phonology with grammatical level of analysis.

Lastly it should be pointed out that not a single minimal pair was found among English loanwords in which accent was a distinctive feature.

Difference in the prosodic features of the two languages have brought about some characteristics which are yet to be discussed:

1. the dropping of sounds
2. devoicing of vowels in unaccented position between voiceless-consonants
1. the dropping of a sound
   a) konkuri for konkriːt
      hankəci for hankətʃif
      rōusu for rōust
      ramune for lêmənəd

   What is characteristic about these words is that they are fairly old loans in frequent use and that they are most likely to have entered the language by the "ear-route."
   Because the native speakers of Japanese, who originally introduced these words, were not accustomed to stress accent, they easily missed the unstressed part of a word especially in the word-final position. The next group of words in which the dropping of a sound is seen involves not only phonological but also morphological problems. A detailed discussion of these is to be found, therefore, at the grammatical level of analysis. In short /d/ and /t/ in the examples below are morpho-phonemes:

   b) konbriːhu for kɔ:nəd biːf
      kondensumiruku kondenst milk
      huraiblɪnzu fráid bɪ:nz

2. devocalization of [i] and [u].
   e.g. supuuN spun
        CVCUWN
        CVCVCUWN stro:
        sutoroo
        CVCVCUWN
        sukii
        CVCUWN
        CVCW
        (o)
Because of the devocalization of /u/ between voiceless consonants in unaccented position sup-, sut- and suk- are phonetically close to the original clusters but are not so phonologically. That is [sw] forms one mora and [p ], [t] and [k] respectively belong to another mora, with a vowel following them.

cf. devocalization of [i] and [u] between voiceless consonants and /q/ which is their allophone, e.g. [ɕitto] (hit) and [ɸutto] (foot).

The change in phonematic units will be discussed in this section. With the presentation of the inventory of Japanese phonemes this problem was already predicted in relation to the conformation of English loanwords to Japanese. That is, Japanese lacks the following consonants /f, v; ɹ, ɻ/ (Case I) and some particular combinations of sounds (Case II) such as /ti, t(j)u, di, d(j)u, wi, we/. Each phoneme has its value in its relationship with the other phonemes in the phonological system of the language. What is distinctive in one language is not necessarily so in another. For instance, /ɾ/ and /l/ converge on /r/ in Japanese. Japanese vowels are underdifferentiated from the viewpoint of English. (Case III). All these will give rise to the substitution of Japanese
phonemes for English ones.

<table>
<thead>
<tr>
<th>Case I</th>
<th>J.</th>
<th>E.</th>
</tr>
</thead>
<tbody>
<tr>
<td>/h/</td>
<td>for</td>
<td>/f/</td>
</tr>
<tr>
<td>a. [h]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. [q]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. [ç]</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>J.</th>
<th>E.</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. megəhon</td>
<td>mégefoun</td>
<td></td>
</tr>
<tr>
<td>juniho:mu</td>
<td>júnifo:m</td>
<td></td>
</tr>
<tr>
<td>b. [q]wan</td>
<td>fan</td>
<td></td>
</tr>
<tr>
<td>[q]uirumuw</td>
<td>film</td>
<td></td>
</tr>
<tr>
<td>c. [ç]ju:zu</td>
<td>fju:z</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>J.</th>
<th>E.</th>
</tr>
</thead>
<tbody>
<tr>
<td>/b/</td>
<td>for</td>
<td>/v/</td>
</tr>
<tr>
<td>[dorəbw]</td>
<td>[draiv]</td>
<td></td>
</tr>
<tr>
<td>[beranda]</td>
<td>[vərənda:]</td>
<td></td>
</tr>
<tr>
<td>[gro:bu]</td>
<td>[gləv]</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>J.</th>
<th>E.</th>
</tr>
</thead>
<tbody>
<tr>
<td>/s/</td>
<td>for</td>
<td>/ɕ/</td>
</tr>
<tr>
<td>[səriv]</td>
<td>[ɕəril]</td>
<td></td>
</tr>
<tr>
<td>[ɔ:sodəkkwsu]</td>
<td>[ɕ:ɵdəks]</td>
<td></td>
</tr>
<tr>
<td>[marason]</td>
<td>[məɾəsən]</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>J.</th>
<th>E.</th>
</tr>
</thead>
<tbody>
<tr>
<td>/z/</td>
<td>for</td>
<td>/ð/</td>
</tr>
<tr>
<td>[gjæza:]</td>
<td>[ɡæðə]</td>
<td></td>
</tr>
<tr>
<td>[ɾiəmu]</td>
<td>[ɾɪəmən]</td>
<td></td>
</tr>
<tr>
<td>[buraza:]</td>
<td>[braːzə]</td>
<td></td>
</tr>
</tbody>
</table>
Substitution takes place usually between two sounds which are near in the point of articulation and/or in the manner of articulation. A brief phonemic description in articulatory and acoustic terms is given below to show the factors at play in those cases.

<table>
<thead>
<tr>
<th>Point of Articulation</th>
<th>Manner of Articulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>h</td>
<td>glottal</td>
</tr>
<tr>
<td>ɣ</td>
<td>pre-palatal</td>
</tr>
<tr>
<td>ɸ</td>
<td>bi-labial</td>
</tr>
<tr>
<td>f</td>
<td>labio-dental</td>
</tr>
<tr>
<td>b</td>
<td>bi-labial</td>
</tr>
<tr>
<td>v</td>
<td>labio-dental</td>
</tr>
<tr>
<td>ɹ</td>
<td>bi-labial</td>
</tr>
<tr>
<td>s</td>
<td>blade-alveolar</td>
</tr>
<tr>
<td>ɹ</td>
<td>dental</td>
</tr>
<tr>
<td>z</td>
<td>dental or alveolar</td>
</tr>
<tr>
<td>ɹ</td>
<td>dental</td>
</tr>
<tr>
<td></td>
<td>h</td>
</tr>
<tr>
<td>-------</td>
<td>---</td>
</tr>
<tr>
<td>Vocalic/Consonantal</td>
<td>-</td>
</tr>
<tr>
<td>Compact/Diffuse</td>
<td>-</td>
</tr>
<tr>
<td>Grave/Acute</td>
<td>+</td>
</tr>
<tr>
<td>Tense/Lax</td>
<td>+</td>
</tr>
<tr>
<td>Optimal Constrictive</td>
<td>-</td>
</tr>
<tr>
<td>Optimal Stop</td>
<td></td>
</tr>
</tbody>
</table>

**Case II**

/te/ for /ti/

1) [pa:te:] [pa:ti]
   [pi:te:e:] [pi:tiː]  

2) [pa:ti:] [pa:ti]
   [pi:ti:e:] [pi:tiː]  

cf. 3) [pa:ti:] [pá:ti]
   [pi:ti:e:] [pi:tiː]  

Further examples:

2) [tʃi:mə] [tiːm]
   [ʃuʃi:ruŋ] [ʃuʃiːl]  

[pəɾasutʃikkuŋ] [plástik]
[tʃi:keʃtto] [tíkat]
All these forms are fully established and speakers have no choice but to use these forms.

/tsu/ for /tu/
[tsu:rɪsuwto] [túərist]
[tsubɛrɛkərin] [t(j)ubɛ:kJulίn]

/tʃu/ for /tʃu/
[ɑmətʃuə] [ɑmətʃuə]
[tʃuːripiwu] [tʃuːlip]
[sitʃu] [stʃu]

1. ... [dʒi] for [di]
[rɛdʒiɔ] [rɛidiou]
[sɒtadʒiɔ] [stʒuːdiou]
[dʒɛːzeru] [dɪ:zel]

2. [de] for [di]
[akoːdɛn] [ekɔ:dɛn]
[dezəin] [dizəin]
[depə:to] [dipə:t (department store)]

cf. 3. [kɒmedɪ]

N.B. 1. [dʒɛːzeru] * [deːzeru]
3. [dʒɛːzeru] * [dʒizain]
2. [dezəin] * [oɪrwsaːdɛn]
3. [dizəin] * [oɪrwsaːdɛn]
These are possible coexistent forms. The sign* indicates that this form is not heard. The explanation of these "cases vides" in the system produced by the variety of media through which a form may be introduced, has already been given.  

Exception:

\[\text{[ri]} \quad \text{for} \quad \text{[di]}\]
\[\text{[purin]} \quad \text{[pudir]}\]

cf. [merijaamu] for Portuguese **medias**

Judging from the fact that Japanese [r] is so close to English alveolar [d] in articulation, this substitution is not unusual, especially if we recall that English medial inter-vocalic [d] may be flapped.

\[\text{[wi]} \quad \text{for} \quad \text{[wi]}\]
\[\text{[windo]} \quad \text{[windou]}\]
\[\text{[wisu kr:]} \quad \text{[wiski]}\]
\[\text{[swiftri]} \quad \text{[switf]}\]
\[\text{[we]} \quad \text{for} \quad \text{[we]}\]
\[\text{[weatoc]} \quad \text{[weist]}\]
\[\text{[wetto]} \quad \text{[we]}\]

cf. [-i] for [wi]
\[\text{[sandoiftri]} \quad \text{[sanwitf]}\]
\[\text{[-e]} \quad \text{for} \quad \text{[we]}\]
\[\text{[se:ta:]} \quad \text{[sweta]}\]
\[\text{[wo]} \quad \text{for} \quad \text{[wo]}\]
\[\text{[wo:tta:]} \quad \text{[wote]}\]

cf. [wo:ta]
Case III

/r/ for /l/ and /r/

[ruːru] [ruːl]
[reːru] [reil]
[reːsu] [reis] and [leis]

[dʒ] for /ʒ/
[ʒ]
/dʒ/

[redʒəː] legə:
[reʒəː] beiʒ
[beʒdʒə] beijdʒ

cf. [baɻdʒə] bsdʒ

Careful observation will reveal the fact that [dʒ] and [ʒ] are used indiscriminately in the same person's pronunciation. In other words, they may be regarded as free variants.

J.
[g] for /g/
[ŋ] /ŋ/

E.

This shows considerable variety in actual production especially in relation to the age of a speaker. As far as the Tokyo dialect is concerned, word-initial /ɡ/ is pronounced as a Japanese /ɡ/ while word-medial or word-final /ɡ/ and /ŋ/ converge on Japanese[ŋ] in some people's pronunciation and
on [g] in that of others, with a few exceptional cases, in which /Q/ occurs:

\[ \text{J.} \quad \text{for} \quad \text{E.} \]

(1) Informant A [ŋ]
   \[ [kũrĩ:nĩŋhw] \quad \text{klĩ:nĩŋ} \]
   \[ [hɛŋa:] \quad \text{hɛŋə:} \]
   \[ [fĩŋa:] \quad \text{sĩŋə:} \]

Informant B
\[ [kũrĩ:nĩŋgu] \]
\[ [hɛŋga:] \]
\[ [fĩŋga:] \]

(2) Informant A [ŋ]
\[ [ʃũgə:] \quad \text{ʃũga:} \]
\[ [rũgu] \quad \text{li}:g \]
\[ [puroŋuŋəmu] \quad \text{próugram} \]

Informant B [g]
\[ [ʃũ:ga:] \]
\[ [rũ:gu] \]
\[ [puroŋuŋəramu] \]

(3) Informant A [g]
\[ [ʃũgə:] \quad \text{ʃũga:} \]
\[ [rũ:gu] \]
\[ [puroŋuŋəramu] \]

Informant B

a) word-initial /g/ e.g. [gũrũ:n], [gũrũən]
b) after /Q/ e.g. [han:dɔ:ŋgɯ], [hoot:dɔ:ŋgɯ]
Remarks:

In b) substitution of voiceless for voiced sound may occur after /ɔ/ as follows:

\[\text{handobakxu}\]

To sum up:

Informant A

\[\begin{align*}
E. \ [\eta + g] & \rightarrow J. \ [\eta_1 + \eta_2 + \text{vowel}] \\
E. \ [\text{Vowel} + \eta] & \rightarrow J. \ [\text{Vowel} + \eta_2] \text{ Vowel:long} \\
E. \ [\text{Vowel} + g] & \rightarrow J. \ [\text{Vowel} + g_1 + g_2] \text{Vowel:short}
\end{align*}\]

Informant B

\[\begin{align*}
E. \ /g/ \text{ and } /\eta/ & \rightarrow J. \ [g]
\end{align*}\]

\[\eta_1\] is a member of /N/, velarized before /g/.

\[\eta_2\] is a member of /g/ nasalized due to its phonetic environment in Tokyo dialect.

\[g_1\] is a member of /Q/.

We cannot ignore another group of people who agree with neither Informant A nor Informant B. That is, they use [g] and [η] freely without conditions. It is, therefore, possible to regard [η] as a free variant of [g].

These two cases, (i.e. [ζ] versus [dζ], [g] versus [η]) are dealt with differently from one linguist to another. For example Einar Haugen says, "contrast of [z] and [ćz], [g] and [η], is marginal, belonging to a social rather than a structural dimension of linguistic description," while Dr. Hattori regards [g] and [η] as separate phonemes. Argument
concerning this is not our present concern.

/a/ for /a/

[mætʃə] [matʃ]  
[sæləd]  
[hæm]  

/a/ for /æ/

[ræʃə] [raʃ]  
[bайте]  
[læntʃ]  

/a/ for /e/  

[sæspέns]  
[пəдгъмаз]  
[анъу́нсе]  

/a/ for /ə:/  

[sé:kəs]  
[skə:t]  
[ə:t]
The replacement of sounds in English loanwords by native sounds may be due to factors other than phonological--sometimes grammatical and sometimes orthographical.

Case IV
1. Voiced \(\rightarrow\) voiceless
2. Diphthongs (the levelling of diphthongs)
3. Spelling pronunciation

1. Examples:

<table>
<thead>
<tr>
<th>Japanese</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>ぷる冒険道</td>
<td>broumaid (peipe)</td>
</tr>
<tr>
<td>ぴ:つじ 帕拉索ウ</td>
<td>bi:tf pərəsol</td>
</tr>
<tr>
<td>にゅう: s</td>
<td>nju: z</td>
</tr>
<tr>
<td>べっと^27</td>
<td>bed</td>
</tr>
<tr>
<td>べたるウ</td>
<td>médel</td>
</tr>
<tr>
<td>ばん(だ) バッグ</td>
<td>hän(d) bag</td>
</tr>
<tr>
<td>ばぐつり</td>
<td>bęg3</td>
</tr>
<tr>
<td>るい: z</td>
<td>lu: s (loose adj.)</td>
</tr>
</tbody>
</table>

Often voiceless vs. voiced contrast in the set of native vocabulary is more a matter of grammar than that of phonology.\(^28\)

In Japanese, the initial voiceless consonant of a word in isolation is voiced when it is an element of a compound as follows:
kami (paper) - origami (folding paper)
sakura (cherry blossoms) - hazakura (cherry leaves)
take (bamboo) - aodake (green bamboo)
guru (crane) - orizuru (paper crane)

Again, a limited number of nouns are pluralized by
duplication with the second element voiced.

   e.g.  ki (tree)        kigi (trees)
       sima (island)     simazima (islands)

For this reason voiceless-voiced contrast is sometimes
ignored by the native speakers of Japanese in their daily
conversation. This analogy is also extended to the forms
borrowed from English and in some cases voiceless and voiced
consonants are used almost interchangeably. In class a.
above these forms are fully established and no alternative
exists, while in Class b. substitution of voiceless conso-
nants for the voiced ones is more frequent in the speech of
older people with very little knowledge of English. Replace-
ment in Class c. resulted in the wrong choice of the part of
speech. Another factor should also be taken into consider-
ation. That is, in the Japanese writing system called
katakana the difference between voiceless and voiced morae is
signalled by the presence of a diacritic marks, which could
be easily missed.
2. Levelling takes place in the following diphthongs and triphthong.

<table>
<thead>
<tr>
<th>E.</th>
<th>J.</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. [ei] -&gt; [e:] /ee/ VV 2 morae</td>
<td></td>
</tr>
<tr>
<td>b. [ou] -&gt; [o:] /oo/ VV</td>
<td></td>
</tr>
<tr>
<td>c. [au:] -&gt; [awa:] /awaa/ VCVV 3 morae</td>
<td></td>
</tr>
</tbody>
</table>

**Examples:**

**a.**

<table>
<thead>
<tr>
<th>J.</th>
<th>for</th>
<th>E.</th>
</tr>
</thead>
<tbody>
<tr>
<td>keeki</td>
<td>keik</td>
<td></td>
</tr>
<tr>
<td>teeburu</td>
<td>teibl</td>
<td></td>
</tr>
<tr>
<td>bekekon</td>
<td>beikn</td>
<td></td>
</tr>
<tr>
<td>pẹẹpaa</td>
<td>peipe</td>
<td></td>
</tr>
<tr>
<td>mẹẹkaa</td>
<td>méike</td>
<td></td>
</tr>
</tbody>
</table>

**exceptions:** epurda for eipre
arewzi " ereindž

**b.**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>kọoto</td>
<td>kout</td>
</tr>
<tr>
<td>ñoobaa</td>
<td>ọuwe</td>
</tr>
<tr>
<td>ndọto</td>
<td>nout</td>
</tr>
<tr>
<td>ñönasu</td>
<td>bóunės</td>
</tr>
<tr>
<td>hoomusìQku</td>
<td>hóumsik</td>
</tr>
</tbody>
</table>
exceptions: posuto < poust
c.

hurawaa
tawaa
sjawaa
flaue
taue
fauae

In Cases a. and b. the greatest factor seems to be the Japanese speakers' habits of pronouncing the sequences [ei] and [ou] as [e:] and [o:] as far as the Tokyo dialect is concerned. For example the transliteration of the term "English language" in Japanese from the hirakana writing is /eigo/ and yet it is pronounced [e:go] by the majority. Likewise /otousan/ (father) is pronounced [oto:san]. This assimilation fails to occur only when morpheme division happens to occur between /o/ and /u/, and between /e/ and /i/.

  e.g. [keito] ke(wool) + ito (string)
      [outi] o(prefix) + uti(house)

Naturally in adopting loanwords where no such factor is at play monolingual Japanese will pronounce [ei] and [ou] as [e:] and [o:].

[aua] is perceived as consisting of three morae and yet it is not interpreted as [aua] because no such sequence exists within a morpheme in Japanese. Without the number of morae being changed it is replaced by [awaa].

3. This group consists of those cases in which regular substitution failed to take place because of spelling pronunciation. The majority of them are long established, most
likely having come in by eye-route.

\[ /o/ \quad \text{for} \quad /A/ \]

- grōbu
- huronto
- kōñpasu
- supōnzi

cf. regular change: /e/ for /A/

\[ /o/ \quad \text{for} \quad /u(:)/ \]

- sukoppu
- kōkkw
- Hokk:. 

cf. regular change: /u/ or /uu/ for /u( :)/

\[ /s/ \quad \text{for} \quad /ei/ \]

- apüriko'tto
- eiprikot

cf. regular change: /ee/ for /ei/

Another explanation is that the last item is from American English. There are some other examples of this kind in which the regular substitution failed to occur:

\[ /a/ \quad \text{for} \quad /o/ \quad \text{American} \]

- katan(ito)
- karaa
- kārezzi
- sukarašqpu
CHAPTER VII

SUMMARY AND CONCLUSIONS

The degree of assimilation of English loanwords into Japanese will be measured at different levels of analysis to some extent by asking a question: what is it that signals a loan element? In other words, can we determine whether or not a loan element shows a characteristic behavior pattern of its own? The consolidation of the analytical problems dealt with in this thesis will be made along these lines.

The factors at play in the assimilation of loan elements are:

(a) **Internal**

1. Sheer absence of equivalent exponents at various levels of the Japanese structure
2. pressure of the system
3. productivity of certain forms
4. popular patterns in coinage
5. underdifferentiation of equivalent exponents in Japanese

(b) **External**

1. different channels of borrowing—oral and written
2. the socio-cultural background at the time when the particular element was borrowed
3. the socio-cultural background of the original introducer and/or that of the later users.

4. the writing system of Japanese

Phonological level

(a) prosodic features:

All English elements must conform to one of the following syllabic patterns of Japanese, without exception: /CV/, /CVW/, /CVN/, /CVQ/, /CSV/, /CSVV/, /CSVN/ and /CSVQ/ through 1) the addition of a vowel to the word-final consonants and 2) the insertion of a vowel between consecutive consonants. These, together with the insertion of /Q/ after a simple vowel before voiceless stops and affricates (sometimes also before voiced stops and /f/), result in the remarkable increase of the number of syllables. /Q/ which is phonologically conditioned will in the long run emerge as a distinctive feature. A marker of a loan element in this connection is /Q/ before voiced stops /b, d, g/.

Secondly, an English item conforms to one of the normal pitch accent patterns of Japanese resulting from the sequence of high and low pitches in successive morae. The favorite accent patterns seem to be either the one in which the accent kernel falls on the first mora or the atonic pattern, but of course these patterns are not necessarily markers of loan elements.

The expected increase in the number of syllables fails
to occur when a consonant in an un-stressed syllable or the word-final morpho-phoneme is dropped.

(b) **Phonematic units**

/\f, \n; \h, \h/ are replaced by the Japanese counterparts /\h, \h; \s, \s/ and likewise particular CV combinations /\t\i, t(j)u, \d, d(j)u; we/ are replaced by /\c\i (or \t\e), c(j)u, zi (or d\e), z(j)u, ue/.

/r/ and /l/ converge on Japanese /\r/; /\s, \s, \a, \a:/, /\h, \h, /, on /\a/.

These apply to the so-called "conservative dialect."^30

Fluctuation is seen in the pronunciation of the speakers who have a considerable knowledge of English, where phonological gaps are filled by the adoption of /\t\i, t(j)u: \d, d(j)u/ in recent loans.

Remarks:

These speakers, however, stick to the use of the native counterparts in the long-established loans. e.g. razio< radio, cikeQto< ticket

The occasional use of [f] is recognized in this innovating dialect.

One of the great differences seems to lie in the arrangement of morae. In spite of the mathematical possibilities of combinations of morae, combinations which actually appear as constituents of a Japanese word are restricted. Loanwords, on the other hand, are free from such restriction so long as each constituent is given a mora value. For example, such sequences as /\s\p/- and /\s\p/- do not occur in the original Japanese, though they consist of actual Japanese morae.
Grammatical level

Derivational suffixes and inflectional suffixes are usually dealt with under separate headings since the former is the matter of morphology and the latter, of syntax. As far as the discussion of loanwords is concerned, it seems more appropriate to distinguish between the formation of inflected items and that of uninflected ones. Here inflectional suffixes are definitely responsible for word-formation.

1. Formation of a word which is inflected:
   a. Adjective E. stem + na e.g. sohuto-na (soft)
   b. Verb E. stem + suru e.g. sutaato-suru (start)

2. Formation of a word which is not inflected:
   a. compound E. - J. J. - E.
   b. derivative
      i. English stem with Japanese affixes
      ii. short forms
          clipped forms
          acronyms
      iii. back formation
   c. border-line cases

Formal characteristics of hybrids as a whole:
   i. Grammatical categories in English are ignored in most cases.
   ii. The morpheme shape in the original is ignored. Loan elements are taken as being stem-formative.
iii. Hybrids follow their own accent pattern.

cf. \{ 
\text{ranci} < \text{lunch} \\
\text{ran-ci dok} < \text{lunch-time (tonic)} \\
\}

iv. Some affixes are productive in connection with the adoption of English elements, e.g.:
The adjective-formative suffix \text{-na}, the verbalizer \text{-soru} and the nominalizer, which is the first conjunctive form of a verb.

A marker of a loan element:

Adjectives and nouns belonging to types other than the \text{-na} type and \text{-soru} type do not give English-Japanese hybrids with only one exception, \text{dabur} u \text{< double}.

Some of the \text{A - N} and \text{N - N} hybrid compounds are substitutes for the modification structures \text{A N, N N} at the syntactic level.

Lastly, two specific examples will be given. Japanese is not particularly rich in adjectives but one device is readily available: an element alien or native may be used as a stem and made adjectival by the addition of \text{-na}. One of the problems caused by the adoption of innumerable Chinese elements is the presence of too many homonyms, which often enough interferes in communication. Therefore it is possible to assume that some English elements may be of use in avoiding this ambiguity in speech while the native equivalent will be set aside for literary use.
Lexical level

The same total field of meaning is, for purposes of communication, cut differently from one language to another. In other words "distinction within a perceived field is a matter that is culturally conditioned, learned and passed on." Different types of linguistic units are used for articulatory experience.

It is a well-known fact in the history and development of the English language that a distinction came to be made between an animal and its flesh by the use of parallel sets of linguistic items, native and French. In Japanese, too, variety and subtlety have been created in the way experience was broken up into communicable bits by the introduction of English elements.

The function of an English loan-element is revealed through the study of internal and external contexts of situation in which it occurs.

1. It may be a simple additive element by itself.
2. It may mean an addition of a particular variety to a set of existent items.
3. As the result of its conflict with a native equivalent either a "generic" or "specific" sense is selected in the use of a loan-element.
4. Likewise either an "abstract" or "concrete" sense is selected.
In spite of the great number of English loanwords they have been well assimilated into the structure of Japanese. To some extent the future of the Japanese language in connection with cultural borrowing may be predicted. Although the phonological and grammatical systems of a language are not easily affected by cultural borrowings, gaps in the system may be gradually filled. Fluctuation is more prominent at the lexical level. Along with new objects and practices new terms constantly come and go from various parts of the world. The symmetry of the language structure at the lexical level requires the presence of terms both generic and specific, abstract and concrete. Some English elements may be added to satisfy this requirement. Some will be added to the set of vocabulary to bring about variety and subtlety in the way experience is articulated. This is what the analysis made in this thesis has revealed.

Some of the problems to be discussed in the future will now be presented:

If English elements behave quite distinctively from the native and jiongo elements it will be methodologically acceptable to admit the existence of different strata within Japanese. For convenience sake phonological problems will be discussed here. In Old Japanese the word-initial [r] and voiced consonants were unknown until the period of Chinese influence. /Q/, /N/, /CSV/ as independent syllables did not exist either. The word-initial [p] which had undergone the change p > φ > h revived through cultural borrowing from
Portuguese. The way for the acceptance of these items had undoubtedly been prepared by the onomatopoeic words and phonaesthetic\textsuperscript{32} words which often follow phonological patterns peculiar to themselves. Thus, the voiceless versus voiced contrast is of great phonological importance in modern Japanese whereas in the original native set of vocabulary the voiceless consonant becomes voiced only to mark the junction initial. In other words it is a morphophonemic matter. If this morpho-phonemic change fails to occur in compounding, it will often be a marker of loan-words. It may be suggested that co-existent phonemic systems should be set up to clarify the phonological problems in Japanese, as Eugene Henderson has suggested for Siamese, as follows: i, a primary system, ii, a naturalized secondary system, and iii, a fragmentary "alien" system.

Bernard Bloch rejected this idea of co-existent phonemic systems as far as Japanese is concerned, and yet he says, "the innovating dialect of standard colloquial Japanese ... is worth describing in full. ..." This means he still admits co-existence of phonemic systems on different planes, i.e. in terms of varieties of the language according to the speakers of different age groups, different social status and education. For convenience sake, however, the innovating dialect is described wholly in terms of its difference from the conservative as follows:
(1) certain of its phonemes have a wider distribution, entering into combinations that are foreign to the conservative dialect (2) it exhibits a phonemic distinction between two sound types which in the conservative dialect are allophones of a single phoneme; and (3) it contains one sound type, constituting a new phoneme, which is not present in the conservative dialect at all. 33

(2) At the lexical level of analysis it must constantly be stressed that collocation is vitally influenced by the external context of situation and the latter, in turn, by collocation. Another important feature still to be investigated in the future is how far lexical patterning depends on grammar in the process of assimilation of loanwords.
FOOTNOTES


7Firth, loc. cit.


10Bursill-Hall, op. cit., p. 126.


12See Gleason, Hockett, Sledd et al.

13Bursill-Hall, op. cit., p. 186.

14Martinet, op. cit., p. 22.

15A tentative study of some culinary terms in Japanese at the lexical level of analysis was done by the present writer during the Summer Institute of Linguistics, 1964 at Bloomington, Indiana.
The form "dance hall" is also acceptable especially in American English.

The attributive use rather than adjunctival use may have been borrowed.

\[ \text{e.g. (a) five-inch (noun)} \]

Martinet, loc. cit., p. 47.

These symbols were used by M. A. K. Halliday in his lecture at the 1964 Linguistic Institute at Bloomington. means "be realized by."


See p. 48.


See p. 77.

Kindaichi,

See p. 56-57.


This word may be from Dutch.

Dr. Gregg suggested the phonetic features of English word-initial and word-final voiced consonants as one of the solutions. That is, usually the on-glide and off-glide is phonetically voiceless:

\[
\begin{align*}
/\text{b}/ & \quad [\text{pb}] \\
/\text{d}/ & \quad [\text{td}] \\
/\text{g}/ & \quad [\text{kg}] \\
\end{align*}
\]


32 Firth, *op. cit.*, p. 37.

33 Bloch, *loc. cit.*
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C. DICTIONARIES


INDEX

Academic, 39, 40
Accent, 26
Accessory, 69
Accordion, 87
Achieve, 65
Agitation, 48
Amateur, 87
America, 45
Announcer, 92
Apartment, 47, 79
Apricot, 97
Arrange, 49

Bacon, 44, 95
Badge, 62, 67, 89, 93
Badminton, 78, 79
Bag, 61
Balance, 24, 27
Ball, 66
Base up, 49
Bat, 68
Bath, 65
Beach parasol, 95
Bed, 60, 93
Beige, 66, 93
Bell, 24
Bill, 48, 72
Biscuit, 30, 78, 79
Boat, 44
Bonus, 95
Book, 61
Boom, 43
Boss, 61
Boxer, 69
Brother, 84
Brush, 13, 67
Bucket, 13, 34
Bulky, 37
Bus, 43, 61, 78, 79, 81
Butter, 33, 44, 92
Button, 44, 80

Cake, 67, 95
Calory, 42
Can, 68
Chicken, 34
Chief, 65
Chorus, 49
Circle, 45
Circus, 65, 76, 79, 92
Class, 69
Classic, 38, 61
Cleaning, 45, 68, 73, 90
Coat, 96
Coffee, 74
Collar, 97
College, 97
Colour, 97
Combination, 47
Come back, 49, 50
Concert, 78, 79
Concrete, 82
Condensed milk, 82
Cook, 66, 97
Cord, 26, 68
Corned beef, 34, 47, 82
Cotton, 97
Course, 65
Cover, 49
Cream, 44, 64, 69
Cup, 19, 60
Curry and rice, 13, 34
Curve, 65

Dancing hall, 34
Demonstration, 43, 47
Department, 47, 87
Design, 87
Diesel, 87
Doctor, 69
Doughnut, 34
Double, 48
Drama, 45
Drive, 49, 65, 84

Earth, 92
Egg, 61, 67
Engine, 13
English, 66
Episode, 68
Evening, 18
Extra, 47, 69

Fan, 68
Fat, 60
Film, 84
Flower, 96
Focus, 29
Foot, 60, 83
Fork, 66
Fresh, 66
Fried beans, 34, 82
Front, 97
Fruit, 34, 66
Fry, 18, 19, 20
Frying pan, 31, 33, 34
Fuze, 84

Gas, 79
Gathered, 84
Glass, 18
Gloves, 14, 84, 97
Gossip, 25
Gray, 45
Green peas, 37
Group 64, 76

Half, 65
Hall, 43
Ham, 64, 65, 69, 73, 92
Ham and eggs, 34
Handbag, 54, 67, 90, 93
Handkerchief, 13, 76, 82
Handle, 26
Hanger, 90
Hat, 60, 63
Head, 60
Heat, 60, 63

Heel, 66
High heels, 34
Hint, 68
Hit, 75, 83
Hook, 97
Homesick, 95
Hot cake, 31
Hot dog, 67, 90
Hour, 96
Humour, 28

Ice tea, 15
Imagination, 29
Inch, 36
Ink, 13, 67, 71, 78, 80, 81
Instant, 38
Iron, 14, 23, 44

Jazz, 45, 61, 66
Journalism, 78, 79
Judge, 62
Juice, 62
Junior, 44

Knife, 13, 65
Knob, 60, 64

Lace, 13, 89
Lead, 49, 51
Leader, 79,
League, 90
Leisure, 89
Lemonade, 82
Location, 47
Loose, 93
Love, 61
Lunch, 67, 92, 102

Machine, 18, 22
Maker, 95
Manager, 78, 79
Marathon, 84
Mark, 24, 66
Marmalade, 79
Mash, 37, 62, 66
Mashed potato, 34
Mass, 48
Match, 62, 67, 92
Megaphone, 47
Melody, 30
Memo, 25
Microphone, 47
Milk, 18, 19
Miss, 61
Mixer, 69, 70
Modern, 39
Mood, 28, 66
Morning, 18, 68
Name, 65
Neck, 61
News, 93
Note, 95
Nuts, 62

Oil, 33, 44
Oil sardine, 87
Orange, 41, 67
Organ, 23
Orthodox, 84
Over, 95

Race, 65
Radio, 15, 23, 78, 79, 87, 100
Record, 23
Regular, 38
Remote control, 48
Rhythm, 84
Ribbon, 13
Roast, 82
Rolled cabbage, 34
Romantic, 39, 40
Rope, 26, 64
Rouge, 66
Rule, 30, 89
Rush, 62, 66, 71, 81, 92

Salad, 92
Sample, 13, 69
Sandwich, 48, 79, 88
Sausage, 74
Scholarship, 78, 79, 97
Schedule, 29
Scoop, 97
Scout, 37
Scrap, 79
Season, 43, 45
Second-hand, 48
Sentimental, 46
Service, 42, 49, 78, 79
Sheet, 34
Shirt, 13, 34
Shock, 26, 61
Shovel, 29