The studies of the Japanese language and linguistics have advanced quite significantly in the last half century due to the progress in the study of the cognitive processes and brain mechanisms underlying language use, language acquisition, and language disorders. Thanks to technological developments, experimental techniques employed in psycholinguistic studies have also advanced and a large body of new knowledge has accumulated. The current volume brings these state-of-art findings together and discusses our brain functions, in particular, the process of Japanese language acquisition (how we acquire/learn the Japanese language as a first/second language) and the mechanism of Japanese language perception and production (how we comprehend/produce the Japanese language). In turn we address the limitations of our current understanding and issues for future research on language acquisition and processing by users of the Japanese language.

Theoretical orientation, outstanding features, and target audiences

Psycholinguistics is an interdisciplinary field. As such, the theoretical approach each contributor takes in this volume varies, though mostly it is from either linguistics or psychology. Despite their different theoretical orientations, they all attempt to enrich our understanding of the language acquisition process (i.e., the acquisition of the Japanese grammatical system in a broader sense) and the language processing mechanism. Note here that the term “language acquisition” is broadly used and is not distinguished from “learning” in a technical sense. It also includes first language, second language, and so on. Furthermore, the term “second language acquisition” is used broadly including language development processes where Japanese is a second language, i.e., within a community where Japanese is used as a primary language, and where Japanese is used as a foreign language, e.g., within a community where Japanese is taught as a foreign language. It is also important to point out that there is an area overlap (under the same term “Language acquisition”) with the Applied Linguistics volume (edited by Masahiko Minami) of the Handbooks of Japanese Language and Linguistics (this series). However, our focus (thus, the coverage) crucially differs from the Applied Linguistics volume in that this volume looks at the acquisition of grammatical knowledge and the development of our cognitive systems, and it does not necessarily discuss the Japanese language from a sociocultural perspective.

This volume brings together the leading scholars in their topical subfields of Japanese psycholinguistics. Unlike the encyclopedic Handbook of East Asian Psycholinguistics, Vol. 2 Japanese (44 chapters, 2006, Cambridge University Press), which I co-edited, this volume selects fewer topics (21 chapters) that have had promising research outcomes within the past 5 to 10 years. (For instance, the topic of L1 character/lexical processing was not included because it has been taken up frequently elsewhere.) Each chapter, approximately 40 double-spaced manuscript pages, discusses the importance of the particular topic or topics in depth, presenting not only new findings in Japanese, but also theoretical implications to other languages. In this way, Japanese language users with some knowledge of linguistics, psychology, and/or cognitive sciences (e.g., first year graduate students in those fields) and experienced linguists or cognitive psychologists who are interested in cross-language differences and who would like to do a comparative study can follow the importance of the issues under discussion and understand the latest analyses in Japanese psycholinguistics. Therefore, there are no comparable books available in the market.
Timeline:
The editor reviewed manuscript would be submitted in December 2012.

The Structure of the volume

The individual chapters in the volume are conventionally placed into two larger areas, language acquisition and language processing, but the contents of those chapters are by no means exclusive of each other as they are naturally interrelated. For instance, the language acquisition process involves language processing, and vice versa.

The Japanese Language Acquisition section consists of seven chapters on L1 Japanese acquisition and four chapters on L2 Japanese acquisition. These chapters allow us to understand how grammatical features (including pragmatic and discourse features) are acquired and how our brain develops in the language domain, with respect to both language particular and universal features. First, Otsu’s chapter lays out a historical background of the Japanese first language acquisition studies, followed by Mazuka’s chapter that discusses Japanese children’s perceptual development. Imai’s chapter looks at the conceptual and grammatical development of nouns. Fukuda, Fukuda, and Ito’s chapter brings findings in Japanese SLI (Specific Language Impairment), which offers a window to understand how our brains develop and become efficient language users. In particular, this chapter is related to Murasugi’s chapter in that it discusses the uses of tense/aspect morphemes. Languages such as English observe a developmental stage where children do not seem to produce utterances with tense, but Japanese children do not seem to have such a stage because their verb forms always have tense morphemes. However, Murasugi’s chapter challenges this view and shows that Japanese is no different from other languages in that Japanese children also have a developmental stage without tense. Two chapters by Fukuda et al. and Murasugi bring fascinating cross-linguistic analyses. Goro’s chapter looks at children’s interpretations of quantifiers, which is assumed to be the same as the adults’ given the lack of clear positive evidence. Minami’s chapter discusses more complicated narrative development in L1 cognitive system.

1. Japanese acquisition research---Past, Present, and Future (Yukio Otsu, Keio University)
2. Learning to become a native listener of Japanese (Reiko Mazuka, Riken & Duke University)
3. Relation between count/mass syntax and the ontological concept about individuation: From a psychological perspective (Mutsumi Imai, Keio University)
4. Grammatical Deficits in Japanese Children with Specific Language Impairment (Shinji Fukuda, Hokkaido Iryo University; Suzy Fukuda, Aoyama Gakuin University; and Tomohiko Ito, Gakugei University)
5. Root infinitive analogues in Child Japanese (Keiko Murasugi, Nanzan University)
6. The acquisition of constraints on quantifier scope (Takuya Goro, Ibaraki University)
7. Narrative development in L1 Japanese (Masahiko Minami, San Francisco State University)

Three chapters discuss issues in L2 Japanese acquisition. In particular, all chapters refer to the influences of L1. L2 acquisition is cruicially different from L1 acquisition in that there already exists one grammar in a language user’s brain during the course of L2 language acquisition. Thus, L2 language development or the process of learning L2 Japanese is different from that of L1. Similarities and dissimilarities between L1 and L2 allow us to lay out the similar and dissimilar brain functions in language acquisition. Shirai’s chapter sets the stage with a summary of previous studies in L2 acquisition research and points out significant findings and issues for future research. Nakayama and Yoshimura’s chapter presents a theoretical framework that accounts for the complexity of errors L2 learners make including fossilized errors. The semantic notion telicity exists universally in human languages, but the grammatical manifestation of this notion differs depending on the language. Gabriele’s chapter deals with this issue in L2 in relation to L1.
1. The L2 acquisition of Japanese  (Yasuhiro Shirai, University of Pittsburgh)
2. The modularity of grammar in L2 acquisition (Mineharu Nakayama, The Ohio State University; and Noriko Yoshimura, University of Shizuoka)
3. Cues for meaning: the acquisition of telicity in Japanese as a second language (Alison Gabriele, University of Kansas; and Mamori Hughes, Graduate Center of the City University of New York)

The Japanese Language Processing section consists of seven chapters on L1 Japanese processing and three chapters on L2 Japanese processing. The selected topics included in the volume are rather limited, given the relative youth of the field. However, these chapters allow us to understand how the Japanese language is processed in the L1 and L2 cognitive systems and the findings bring some implications to language particulars and universals. L1 processing chapters mostly deal with sentence processing. The data dealt with in all language acquisition chapters come from the spoken language, but many of the language processing chapters discuss reading. This difference comes from the methodological and technological limitations of the latter. However, only recently, more studies on the spoken language have been conducted. Hirose is one of the frontier researchers in this respect and her chapter deals with the use of prosodic information in production/comprehension. One of the most complex grammatical structures is a relative clause structure. By referring to this structure, Sakai discusses various factors involved in processing Japanese sentences. Sakamoto’s chapter demonstrates how Japanese speakers deal with the difficulty caused by the head-final word order. Japanese speakers do not wait to process a sentence until the end of the sentence, but rather they process it incrementally and anticipate forthcoming words. Koizumi’s chapter also discusses word order since a flexible word order could increase the processing complexity. Chang’s chapter addresses how frequency shapes the preference of a particular word order and what to anticipate in Japanese. Hirotani’s chapter deals with discourse processing, looking at how contextual information aids processing sentences. Hagiwara’s chapter explores Japanese brains from L1 and L2 acquisition perspectives and discusses recent neurolinguistic findings.

1. Speaker's and listeners' use of prosodic information in production/comprehension (Yuki Hirose, University of Tokyo)
2. Relative clause processing in Japanese: Behavioral and corpus research (Hiromu Sakai, Hiroshima University)
3. Expectancy-driven parsing and integration process: a series of ERP studies on Japanese sentences (Tsutomu Sakamoto, Kyushu University)
4. Word order in sentence processing (Masatoshi Koizumi, Tohoku University)
5. Learning to order words in Japanese and English: A connectionist approach (Franklin Chang, University of Liverpool)
6. The Role of Contextual Information in Processing Japanese Sentences (Masako Hirotani, Carleton University)
7. Neuroscience of Japanese language acquisition, processing, and breakdown (Hiroko Hagiwara, Tokyo Metropolitan University)

The field of L2 Japanese processing is in its infancy. The issues included are related to lexical and sentence processing. The number of factors considered in L1 increases greatly in L2 as there exist (at least) two grammars and L2 grammar is not necessarily native-like. Furthermore, given a limited real time experience, the processor is not always working as fast as it can optimally. These factors are observed in L2 processing. Sawasaki and Kashiwagi’s chapter, in particular, refers to the use of working memory resources by L2 readers. Iwasaki’s chapter discusses both L1 and L2 Japanese sentence production in a specific theoretical model. Tamaoka’s chapter points out issues created by Chinese speaking L2 Japanese users. Because of their knowledge of Chinese characters or kanji, L1 Chinese readers pose different issues from those of English speaking L2 Japanese users, for instance, in their L2 reading. By looking at different L1s, the chapter sheds some light on the language processing mechanism in general.
1. Factors in L2 sentence processing (Koichi Sawasaki, University of Shizuoka; and Akiko Kashiwagi, Oakland University)

2. Sentence production model to be expanded for L1 and L2 Japanese (Noriko Iwasaki, University of London)

3. Processing of the Japanese language by native Chinese speakers (Katsuo Tamaoka, Nagoya University)

In the past four decades, researchers interested in Japanese have employed a variety of theoretical and experimental paradigms to examine different issues in order to understand the human cognitive system. In this context, the Japanese language has served as a crucial test case for general psycholinguistic theories and models. By bringing these independent findings together into this volume, the current volume becomes an essential collection of Japanese psycholinguistics for years to come.

Brief information on the editor

Mineharu Nakayama is a professor of Japanese linguistics at the Department of East Asian Languages and Literatures, The Ohio State University, U.S.A, and a visiting professor at the University of Shizuoka, Japan. He received his Ph.D. in Linguistics from the University of Connecticut in 1988. His research specialty lies in Japanese psycholinguistics (such as language acquisition and processing) and syntax. He has published a number of articles and books in those areas as well as Japanese pragmatics and teaching Japanese as a foreign language. He recently co-authored a book with Noriko Yoshimura *Kaigai tanki eigo kenshuu-to dai 2 gengo shuutoku* ‘Short-term English study abroad and L2 acquisition’ (Tokyo: Hituzi Syobo, 2010) and co-edited a volume with Reiko Mazuka and Yasuhiro Shirai *Handbook of East Asian Psycholinguistics vol. 2: Japanese* (Cambridge University Press, 2006). He has been the editor of the *Journal of Japanese Linguistics* since 2006 and an associate editor for the *Studies in Language Sciences* since 2010.

Appendix:

Brief abstracts of the individual chapters in the Handbooks of Japanese Language and Linguistics: Japanese Psycholinguistics

1. Introduction
   Mineharu Nakayama (The Ohio State University)

   This chapter briefly discusses general themes that cover this volume and the relevance of the topics selected. It also provides brief backgrounds of the issues taken up in each chapter.

   I. Language Acquisition
   2. Japanese Acquisition Research---Past, Present, and Future
      Yukio Otsu (Keio University)

   In this chapter, we will look back Japanese acquisition research since the 60s with particular focus on syntax and semantics, and attempt to clarify what we have achieved and what not. The chapter concludes by pointing out some potential future directions. The chapter pays some attention of research environment in Japan related to language acquisition research.

   3. Learning to become a native listener of Japanese
      Reiko Mazuka (Riken & Duke University)
Infants are born with an ability to learn any human language. But within the first year of their lives, their perceptual systems become attuned to the phonological system of the ambient language, which is the prerequisite to begin language acquisition. To date, however, the research on how infants learn the phonological system of a language has been carried out almost exclusively on the basis of English and a few other European languages, such as Spanish, Italian, French, German, and Dutch, and research on the development of non-European languages are badly lacking. Japanese is a language whose segmental and suprasegmental characteristics differ from the European languages in critical ways such as mora-timed rhythm, edge prominent prosody, presence of duration-based phonemic contrasts, and exceptional distribution of segments. Empirical research on how Japanese infants learn the phonology of Japanese could shed light onto the mechanism of infants' speech perception development. In this chapter, we will review the latest empirical evidence on how Japanese infants acquire the language specific aspects of phonological acquisition, and discuss their significance in light of cumulative evidence from English and other European languages.

4. Relation between count/mass syntax and the ontological concept about individuation: From a psychological perspective

Mutsumi Imai (Keio University)

The distinction concerning individuation is one of the most important distinctions in human concept, and appreciation of this distinction is a prerequisite for word learning (Imai & Gentner, 1997; Soja, Carey, & Spelke, 1991). However, two questions concerning individuation—(1) whether this conceptual distinction is universally coded by grammar and (2) whether the acquisition of the conceptual distinction depends on the acquisition of the grammatical distinction of countable and uncountable nouns—have been unsettled. Classifier languages provide interesting test cases for these questions. It has been assumed that classifier languages such as Chinese and Japanese do not grammatically mark the countability status of nouns (Chirichea, 1998; Quine, 1969; Lucy, 1991). However, recently, some theorists argue that classifier languages actually mark the countability of nouns grammatically by the choice of classifiers or other quantifying constructions (Cheng & Sybesma, 1998; Yi, 2009; Zhang, 2009).

In this paper, I approach the two questions by neurological and behavioral experiments. I first present results from a study that examined whether the count/mass distinction is neutrally processed as a syntactic or semantic distinction in Japanese speakers, using Event Related Potential (ERP) to address the first question. I then address the second question based on the results of a series of crosslinguistic studies testing how Japanese and English-speaking speakers infer meanings of a novel word associated with a novel object or a substance before and after the acquisition of the classifier grammar and count-mass syntax, respectively.

5. Grammatical Deficits in Japanese Children with Specific Language Impairment

Shinji Fukuda (Hokkaido Iryo University), Suzy Fukuda (Aoyama Gakuin), and Tomohiko Ito (Gakugei University)

The grammatical competence of a Japanese child with Specific Language Impairment was closely examined from the age of 9 to 14, using elicited production tasks, grammatical judgment tasks, comprehension tasks, and spontaneous speech. The data obtained in this longitudinal study along with that of other children from experimental studies demonstrate that Japanese children with Specific Language Impairment experience difficulty acquiring Tense, Aspect, Case-markers, and passive constructions. We will discuss the implications of these results.

6. Root infinitive analogues in Child Japanese

Keiko Murasugi (Nanzan University)

Root Infinitives are the "ill-formed" non-finite verbal forms which children speaking non-pro-drop languages at around two years old typically produce in matrix clauses. In this paper, based on the longitudinal study and the corpus analysis, we first argue that there is a Root Infinitive analogue in the pro-drop languages such as Japanese, and propose that the form of Root Infinitive analogue in Japanese is Verb + "ta". Then, we attempt to capture the nature of the very early non-finite verb forms from the broader perspectives, suggesting that there are three types of "ill-formed" non-finite verbs in child languages: Root Infinitive forms found in German/Dutch-type languages, the bare verb forms (lacking inflection) found in English/Swahili-type languages, and the surrogate verb forms (being...
associated with the unmarked suffix) found in Japanese, Korean, Italian, Spanish, Kuwaiti Arabic, Romanian, Greek, Turkish and K'iche' Maya, whose verb stems cannot stand by itself without being associated with suffix. We finally argue for the claim that the children's intermediate acquisition stage is restricted within the permitted variation of human languages: The very early non-finite verb stage found in early child grammar is due to the underspecification of tense, and the clausal structure corresponds to that of the Dravidian languages, where tense morphology that appears on verbs is non-finite and labeled aspect.

7. The acquisition of constraints on quantifier scope
   Takuya Goro (Ibaraki University)

This chapter discusses the acquisition of language-specific constraints on quantifier scope by preschool children. Constraints on scope interpretation are often subject to cross-linguistic variation. For example, several constructions in Japanese do not allow scope interpretations that the corresponding English sentences do allow. Given such differences between languages, the relevant constraints on scope cannot be totally innate, and some kind of learning must be involved in the acquisition of the knowledge. I review the results of experimental investigations with preschool children and discuss what kind of learning mechanism would be necessary for the acquisition of those language-specific constraints.

8. Narrative development in L1 Japanese
   Masahiko Minami (San Francisco State University)

This study discusses narrative development in the first language (L1). Oral personal narratives told by Japanese-speaking preschoolers and their mothers are analyzed to examine the developmental directions. In addition to monologic narratives, furthermore, dialogic narratives told by the same children and their mothers are analyzed in order to identify and study culturally preferred narrative elicitation patterns and possible cultural transmission. The children’s narrative development is also compared with oral personal narratives of adult native speakers and adult Japanese-language learners.

9. The L2 acquisition of Japanese
   Yasuhiro Shirai (University of Pittsburgh)

This chapter reviews important works that have been conducted in the acquisition of Japanese as a second language, which have made substantive impact on second language acquisition research and theory. The choice of the studies is primarily based on citation records. They currently include the following:


Universal Grammar approach: Access to UG (Kanno, 1997); Binding (Thomas, 1995); Unaccusativity (Hirakawa 2001, Oshita 2001, Sorace & Shomura, 2001)

Processability Theory (DiBiase & Kawaguchi, 2002; 2010, Kawaguchi, 2005; Mine 2010)

Vygostkyan Sociocultural theory (Ohta, 2000)

Language socialization (Kanagy, 1999)


Second language attrition (Nagasawa, 1999, Hansen, 1999)

Phonology (Hirata, 2004)

Orthography (Koda, 1989)

The chapter discusses the contributions of the research on L2 acquisition of Japanese that have been made so far, and some future directions.
10. The modularity of grammar in L2 acquisition
   Mineharu Nakayama (The Ohio State University) and Noriko Yoshimura (University of Shizuoka)

This chapter discusses the modularity of syntax, morpho-phonology, semantics, and pragmatics referring to the L2 acquisition data. Syntactic properties discussed include Japanese speakers’ L2 acquisition of English subjects, expletives, and WH-interrogatives while interface properties include Japanese speakers' acquisition of English inflectional morphology and reflexives, and English speakers' acquisition of Japanese zibun. By discussing these data, it supports the idea that syntactic properties are acquired early while the acquisition of interface properties is delayed in L2 acquisition.

11. Cues for meaning: the acquisition of telicity in Japanese as a second language
   Alison Gabriele (University of Kansas)

Previous studies have suggested that learners can use morphosyntactic cues in the interpretation of telicity even when the cues differ in the L1/L2. However, there is very little research that examines cases in which learners must rely on context as opposed to morphological cues in order to reach the appropriate interpretation. Building on Gabriele (2010), we examine the acquisition of telicity by English-speaking learners of Japanese, focusing on how beginning learners interpret bare ‘count’ and ‘mass’ nouns which are distinguished via morphosyntax in English, but not in Japanese. The study will shed light on the extent to which the properties of the L1 impact development in L2 semantics.

II. Language Processing

12. Speaker's and listeners' uses of prosodic information in production/comprehension
   Yuki Hirose (University of Tokyo)

This chapter discusses Japanese native speakers’ and listeners’ uses of prosodic information, in particular, disambiguating wh-scope and noun modification. The latter may also include the discussion of the nature of the length effect in processing of modifier association ambiguity.

13. Relative clause processing in Japanese: Behavioral and corpus research
   Hiromu Sakai (Hiroshima University)

Incremental processing of Japanese head-final relative clauses forces the parser to process the relative clause first and then the head noun. That is, the parser has to takes the opposite direction compared to English head-initial relative clause processing. Bearing this cross-linguistic difference in mind, we discuss what behavioral experiments and corpus studies on Japanese relative clause processing tell us about the nature of human cognitive mechanisms that enable us to process typologically diverse languages in the world.

   Tsutomu Sakamoto (Kyushu University)

When we try to understand what a speaker says (a writer writes), two distinct processes are involved. One is to listen to what (s)he said, and the other is to expect what (s)he is going to say. The former is the bottom-up process and the latter is the top-down process. Thus, the top-down process is the process of expectancy-driven parsing. Expectancy is caused by various linguistic elements and combination of such elements. For example, the appearance of a classifier makes us to expect the appearance of host-NP (e.g., Taroo-ga san-satsu syoten-de zassi-o katta). The combination of three NPs such as ‘NP-ga NP-o NP-ni’ causes the expectation of ditransitive verb (e.g., Taroo-ga Hanako-ni hon-o ageta).

Such expectancy as described above has not been proved to exist by rigid psycholinguistic experiments. However, since the pioneering study of Kutas & Hillyards (1980), it has been assumed that the violation of semantic expectation elicit N400 and that of syntactic expectation LAN/P600. Furthermore, it is claimed that the satisfaction of expectation, which invites the integration of the two elements (expectancy inducer and inducee), also elicit P600. Recent studies have revealed that various ERP components are related to various linguistic activities in our brain.
This chapter aims to introduce a series of ERP studies on Japanese sentence processing. The findings of these studies make it possible to reveal the precise process of sentence understanding on real time.

15. Word Order in Sentence Processing
Masatoshi Koizumi (Tohoku University)

This chapter discusses how studies of the processing of sentences with alternative word orders may contribute toward revealing the nature of the human language faculty from two different, but tightly interrelated, perspectives. On the one hand, various factors are examined that possibly affect the load of word order processing, including (i) factors that may be operative sentence internally, (ii) factors that may be relevant at the level of local discourse, and (iii) factors that have to do with life time experience. On the other hand, grammatical hypotheses are evaluated based on data from the processing of flexible word order languages.

16. Learning to order words in Japanese and English: A connectionist approach
Franklin Chang (University of Liverpool)

Processing theories assume that speakers generate word order through language-general processing mechanisms. Different languages have different word orders and speakers must learn these language-specific regularities. It is not clear whether features of the language processor can be changed by language learning. To explore this question, a connectionist model of language acquisition was trained to produce English and Japanese utterances from meaning. The model was tested on its ability to order noun phrases that differed in terms of weight. The model exhibited a short-before-long bias in English and a long-before-short bias in Japanese (as in the human data), and this is because the model learned a different balance between meaning and syntax in the generation of word order in each language. This suggests that the nature of language processing can be strongly shaped by language learning.

17. The Role of Contextual Information in Processing Japanese Sentences
Masako Hirotani (Carleton University)

This chapter has three parts. First, it will provide an overview of recent developments in discourse processing. The aim of this part is to introduce and familiarize the reader with some of the more recent proposals regarding how discourse representations are built and processed in real-time sentence comprehension. Most of the studies covered in this section come from English and German psycholinguistics. The part concludes pointing out that Japanese data may present some challenges to many early psycholinguistic proposals and that the continued study of the unique properties of Japanese sentence and discourse structures can augment the field. In its second section, the chapter will cover studies conducted on Japanese discourse processing. In particular, it will discuss results of a few existing studies, which, by using on-line measures like an Event Related Potentials and eye-movement recording technique, have investigated how contextual information facilities the processing of the information status of Japanese noun phrases (e.g., Hirotani & Schumacher, 2011; Hirotani, White, & Liversedge, in preparation). In its third and final part, the chapter ends by using the previously examined data to postulate what a unified theory of discourse processing might look like. It also revisits our main questions -- what are the crucial questions in processing that can be addressed at a discourse level, and what contributions can Japanese data make?

18. Neuroscience of Japanese language acquisition, processing, and breakdown
Hiroko Hagiwara (Tokyo Metropolitan University)

While a decade ago, neuroimaging was just explored for neurolinguistic questions, it now constitutes a routine component. Contrary to the expected interactions between linguistics/psycholinguistics and neuroscience, however, the current state-of-the-art is rather problematic in that the linguistic/psycholinguistic studies are rather isolated from the rest of the neuroscience. The more you focused on linguistic issues, the more difficult to obtain sharp and crisp data from neuroimaging. Given that neuroimaging means nothing until and unless it is validly interpreted, this chapter discusses the importance of linguistic and psychological theories and provides the clues of how we ask fruitful questions. The chapter deals with Japanese neurolinguistic issues of language development, processing and
breakdown (i.e. aphasia), particularly focused on the distinction between (and within) lexical categories and functional categories, word order and so on.

19. Issues in L2 Japanese sentence processing
   Koichi Sawasaki (University of Shizuoka) and Akiko Kashiwagi (Oakland University)

Recent psycholinguistic studies have shown that second/foreign language (L2) learners’ performance in reading task is sometimes close to that of native speakers but not always. Many factors, such as knowledge and strategies of first language (L1), L2 proficiency level, and individual difference in working memory (WM), may affect L2 learners’ sentence reading performance. For example, Japanese is a head-final language, which requires a different parsing strategy from a head-initial language. For those L2 speakers with a head-initial language as L1 such as English, parsing Japanese would be quite challenging due to difference in structures. Adult L2 speakers with fully developed L1 grammatical system and processing strategies, may bring such L1 knowledge and strategies into L2 sentence processing. In addition, L1 processing research has shown that the L1 parser takes different parsing strategies depending on the size of one’s WM capacity. The question naturally arises as to whether the L2 parser also takes different parsing strategies depending on the size of one’s WM capacity. In this chapter, we will discuss the different factors that may affect L2 sentence processing and their latest findings focusing on L2 Japanese research. Then, we will address the challenges and future issues in the field.

20. Sentence production model to be expanded for L1 and L2 Japanese
   Noriko Iwasaki (University of London)

Inspired by Kita and Özyürek (2003) and Kita (2010), the author adopts Levelt’s general scheme (Levelt, 1989) and discusses key issues to consider in order to revise and expand the sentence production model to account for both L1 and L2 Japanese speakers’ sentence and gesture production. Japanese diverges from languages based on which Levelt’s model was proposed: its head-final structure (see, for example, Iwasaki 2011) and a large inventory of highly iconic lexical entries (i.e., mimetic words), which often co-occur with gesture (Kita 2001) and whose retrieval processes may diverge from other, conventional lexical items (Vigliocco & Kita, 2006).


21. Processing of the Japanese language by native Chinese speakers
   Katsuo Tamaoka (Nagoya University)

A great number of Chinese speakers have been learning Japanese as a foreign language. As this number increases, various issues have been identified on their processing of Japanese. The present chapter will introduce up-to-date studies on lexical access and sentence processing by native Chinese speakers in order to clarify ultimate goals and issues of current research.