

# 通識教育學報

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## 目 錄

- 一、國內高成就學生英文閱讀模式與英語成就的探討.....鄭宗諭.....1
- 二、《顫抖女子，或我的神經歷史》中的能動性、大腦回憶錄與書寫  
治療.....郭欣茹.....27

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No.19 June, 2016

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## CONTENTS

- ◆ Links between Beliefs about Reading and Achievement of English Proficiency  
among High-Achieving Readers in Taiwan.....Tzung-yu Cheng.....1
- ◆ Agency, Brain Memoir, and Writing Cure in *The Shaking Woman, or a  
History of My Nerves*.....Hsin-Ju Kuo.....27

## 國內高成就學生英文閱讀模式與英語成就的探討

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### 摘 要

本研究探討技巧式、互動式以及意義型三個英文閱讀模式與英語成就的關係。樣本為國內 35 位高成就大一學生。研究工具採用 Theoretical Orientation to Reading Profile (TORP)。研究結果顯示，65.7% 的高成就學生屬於互動式的英文閱讀學習模式，34.3% 的學生屬於技巧式的英文閱讀學習模式。所有樣本中，沒有學生的英文閱讀模式是屬於意義型的。 $t$  測試結果顯示，高成就學生之間的英文成績呈現顯著差異：互動式學習模式  $>$  技巧式學習模式， $t(33) = 2.4676, p = 0.019$ 。皮爾遜相關係數統計分析顯示，閱讀模式與英文成績呈現正相關， $r(35) = 0.553, p = 0.000$ 。本研究結果證明互動式英文閱讀的好處，同時也顯示臺灣學生對英文閱讀持有不同的學習模式。

**關鍵詞：**英文閱讀模式、英文閱讀、英文閱讀好者

## INTRODUCTION

In the past decade, we have often had students in our college freshman English classes, who have scored above 90 in the English language segment of Taiwan's National Joint University Entrance Examination. When asked how they had prepared for the English exam, most of their replies were either "My English teacher copied a lot of articles and short stories for us to read" or "I read lots of English stories and articles I enjoyed." In both English as a mother tongue context and EFL/ESL context, students after several years of English learning form their own beliefs about reading. These beliefs can be placed into three orientations: meaning-oriented, skills-oriented and interactive oriented (Vacca, Vacca & Gove, 1991). Do these beliefs come naturally or by nurture? Teachers also hold beliefs about reading. These beliefs influence the way they work with the students and directly shape their students' beliefs about reading (Gove, 1983; Vacca, Vacca & Gove, 1991).

Philosophers of English literacy learning and instruction in the L1 context, for many decades, have differed greatly in opinion as regards the effects of learning and instruction sorted under the three beliefs about reading on children's reading development (Dahl & Freppon, 1995; Graham & Harries, 1994; Krashen, 1999; 2002; Sweet, 1997). These reading beliefs have also been applied to the EFL/ESL context (Zainal, 2003). Yet, extensive empirical studies as those conducted in the L1 context to verify the effectiveness across the teaching approaches classified under the three reading beliefs are few and far between. Moreover, studies that explore the relationship between EFL/ESL learners' beliefs about reading and their achievement of English proficiency are hard to find. To fill up this gap, we first sought a valid instrument that assesses English readers' reading beliefs, and then examined the relationship between EFL/ESL students' beliefs about reading and their achievement of English proficiency.

In this paper, the rationale behind the study is presented first along with some earlier studies. That is followed by the study of the present question, carried out

among 35 high-achieving college students in Taiwan. We hope that this research will lead the way to large-group studies for the betterment of EFL/ESL teaching and learning.

## **RELATED LITERATURE**

### **What Shapes a Reader's Beliefs about Reading?**

In the L1 settings, preschoolers usually come to first-grade classrooms with different beliefs about reading (Vacca, Vacca & Gove, 1991). Durken (1966), in two longitudinal studies, concluded that the early and non-early reading children were not markedly dissimilar; however, families that were more willing to help children to read tended to have early readers. The native-language environment of our childhood household is “a virtual sound-stage, with family members constantly arguing, debating, imploring, and cajoling” (Quails, 2001, p. 12). Environmental prints, such as the writing on clothing, advertising, logos, instructions and trademarks on food products and other packaging in the home are also plentiful. One study has identified approximately 65 literary genres in home settings (Duke & Purcell-Gates, 2003). Children constantly talked to or motivated to interact with the caregivers will master the sounds and the grammatical systems of their native language or languages by the age of three (Pinker, 1994). If parents, siblings, and care providers share and read books with young children, they help children to become familiar with the conventions of text and the organization of books in various genres and to develop phonological awareness from books (De Temple & Snow, 2003). Children coming from this print-rich environment tend to extend their experience to school reading tasks and view reading as a meaning-driven activity (Durken, 1966; Quails, 2001).

In formal school education, teacher's views of reading often result in and support different instructional concerns and practices. Our memories of learning, school policies, curriculum guidelines, the beliefs of colleagues, the book publishing industry, and the testing policies also come in to influence a teacher's thinking and decision about reading (Vacca, Vacca & Gove, 1991). Moreover, as Ketner, Parnell

and Smith (1997) observed, teachers with more diverse experience and training were more likely to endorse a meaning-based style of instruction. Teachers with less experience were more likely to endorse skills-centered strategies. Furthermore, if teachers endorsed developmentally appropriate practices with young children, they also endorsed a meaning-based teaching orientation. Studies have also documented that children under meaning-based instruction used top-down approach to tackle writing; while skills-oriented students wrote from bottom-up (Dahl & Freppon, 1995; Graham & Harries, 1994). Other findings have also documented that readers may vary their strategies during learning (Block, 1992; Sun & Zhang, 2004). They may use the implicit knowledge already acquired in the bottom level to acquire explicit knowledge at the top level. Similarly, they may use explicit knowledge already acquired in the top level to acquire implicit knowledge at the bottom level (Sun & Zhang, 2004).

In the EFL/ESL context, does L1 reading ability influence EFL/ESL reading? The linguistic threshold hypothesis and linguistic interdependence hypothesis explored the role played by a reader's L1 reading ability in his or her EFL/ESL reading; yet, the results are mixed and inconclusive (Zainal, 2003). Studies based on the linguistic threshold hypothesis have documented that readers have to attain certain level of EFL/ESL proficiency before they are capable of utilizing higher level processing strategies to help them comprehend an EFL/ESL text (Clarke, 1988; Horiba, 1990). In other words, EFL/ESL reading ability relies more on EFL/ESL capability rather than on L1 reading ability (Zainal, 2003). Yet, Block's studies of reading strategies used by L1 and EFL/ESL readers have found that readers appear to use similar strategies when reading L1 and EFL/ESL texts (Block, 1986, 1992).

Based on the review, learners' beliefs about reading are likely to be influenced by their previous learning experience as what their teachers do and test may shape what they believe. For this reason, a student who has been under the instruction of a teacher who values grammar teaching and testing would equate grammar learning with English learning. Frustration of learning may occur, if a student, who believes

learning English is reading for meaning, is instructed by a teacher who emphasizes mainly skill instruction.

### **Effects of Meaning-oriented and Skills-oriented Teaching Approaches on Students' Reading Development**

In English as a mother tongue context, reading development consists of two stages: learning to read and reading to learn (Singer & Donlan, 1989). From pre-school years to the first and second grades, children learn to read; however, when they enter the third and fourth grades, more emphasis is placed on reading to learn from content-area texts (Vacca, Vacca & Gove, 1991). In the L1 context, the debates over the effects of the different meaning-based and skills-centered teaching approaches on children's reading development focus chiefly on the learning-to-read stage and its potential influence on the subsequent literacy performance.

In a cooperative research program in first-grade reading instruction that comprised 27 individual studies sponsored by the United States government, Bond and Dykstra (1967) examined the approaches currently used in American first grade classrooms: Basal textbooks, Basal and Phonics, the Initial Teaching Alphabet, Linguistic methods, Language Experience approach (LEA), Phonics and Linguistic methods. These approaches cover the continuum of instruction from the skills-centered and interactive to meaning-based. They found that the analyses of treatments according to level of reading readiness revealed that no method was especially effective or non-effective for first-graders of high or low readiness as measured by tests of intelligence, auditory discrimination, and letter knowledge. Yet, they found that the best predictor of first-grade reading achievement was the ability to recognize letters of the alphabet prior to reading instruction. Thirty years later in 1997, the entire report was reissued at *Reading Research Quarterly*, recognizing its importance and as a comparison for the current first-grade reading instruction in the United States (Bond, Dykstra, Clymer & Summers, 1997).

While investigating the effects of meaning-based and skills-centered teaching



approaches on children's reading achievement by comparing 14 studies, Graham and Harries (1994) also concluded that no approaches were in particular more effective than the others in facilitating children's learning to read. Yet, they found that children under meaning-emphasized instruction used meaning-oriented approaches to tackle writing; while students instructed under skills-centered approaches used skills-oriented approaches. Nevertheless, the meaning-oriented students write richer content (Dahl & Freppon, 1995; Graham & Harries, 1994).

Based on a metaanalysis, Sweet (1997) found no evidence that supports the efficacy of the meaning-emphasized approaches. He pointed out that for the past decade, whole language instruction had dominated the curricula of the entire 50 states in the United States; yet, the tide had been turning during the past several years as California, Ohio, Texas, North Carolina, Wisconsin, Virginia, and Washington had passed legislation that requires systematic instruction in phonics. Hence, he suggested that if we were to have lifelong readers who love books, children must be taught the letters and sounds directly and systematically. Nonetheless, the advocates of meaning-emphasized hypothesis, Krashen (1999) for example, added to the contention that if reading comprehension tests include real reading or reading of actual textbooks, children taught under meaning-based approaches would score better, with no difference on skills tests. Despite these efforts and incessant debates, Greenberg, Jin, and White (2007) who conducted the 2003 national assessment of adult literacy in the United States reported that 70% of the 4<sup>th</sup> graders, 30% of the 8<sup>th</sup> graders, and 64% of the 12<sup>th</sup> graders read below their expected grade levels. The Reading Wars, as Krashen stated earlier in 2002, "show no signs of stopping" (p.32).

In the EFL/ESL context, L1 reading models and theories evolved from linear to interactive processing have also been applied to EFL/ESL reading (Zainal, 2003). There are several versions of EFL/ESL reading models and theories such as Hoover and Tunmer's two-component model, which comprises "word recognition and comprehension" (Hoover & Tunmer, 1993), Coady's three-component model, which consists of "conceptual abilities, process strategies, and background knowledge"

(Coady, 1979), and Bernhardt's Theoretical Distribution of Reading Factors in EFL/ESL (Bernhardt, 1991). Yet, there are no extensive empirical studies as those conducted in the L1 context to delineate the efficacy across the various approaches sorted under the three models of reading. For instance, it is estimated that Taiwanese children in over 60% of families in larger cities begin private English classes during the kindergarten and even sometimes earlier (Gluck, 2007). However, these classes are of variable quality, and the achievement attained by these alternative forms of instruction remains unknown (Cheng, 2010; Gluck, 2007).

In the L1 context, it is estimated that most children entering the first grade already possess around 5,000 to 6,000 oral and aural vocabularies (Lorge & Chall, 1963; Moe, 1974). These auditory and oral vocabularies are used to help first-graders to embark on the tasks of reading and writing. Yet, in an EFL/ESL context such as in Taiwan, before the initial contact with English reading, most children are devoid of the aural and oral repertoires. Under this perplex, should they start learning English in this sequence: listening -> speaking -> reading -> writing? Or should they start with the four language components simultaneously? Should they start with the meaning-centered approaches? Or should they start with the skills-focused approaches?

### **What are Skilled and Non-skilled Readers' Beliefs about Reading?**

Are skilled readers meaning-oriented? Are non-skilled readers skills-oriented? Do both skilled and non-skilled readers operate reading interactively? In the L1 context, studies are dated and have provided mixed answers. The first study directly addressed these questions was conducted in 1980. Juel (1980) compared word identification strategies with varying context, word type, and reader skill. She found that among second and third graders, the skilled readers were skill-oriented readers, but they became meaning-oriented when trying to cope with words of low frequency or with words that were difficult to recode. The non-skilled readers, as Juel (1980) reported, were meaning-oriented readers. Other studies reported that skilled readers

are meaning-oriented, as during reading they constantly activate prior knowledge to process, test, reformulate information, and adjust their rate of reading to fit the reading purposes and the nature of the materials (Dechant, 1991; Perfetti, 1985). Stanovich (1980) observed that non-skilled readers are meaning-oriented as they rely more on context and guessing. Yet, Burmeister (1983) reported that non-skilled readers tend to maximize the graphic input while minimizing the semantic and the syntactic input.

In the EFL/ESL context, research has not yet provided a definite answer as well. There are a great number of studies that have attempted to differentiate skilled readers from non-skilled readers through exploring how they operate the higher-level syntactic and semantic processes and the lower-level processes such as word recognition (Nassaji, 2003; Pang, 2008). The existing studies have documented that skilled readers, when compared with non-skilled readers, tend to use more of the higher-level syntactic and semantic processes to enhance comprehension and are also more proficient in using them (Block, 1992; Nassaji, 2003; Pang, 2008; Parry, 1991; Yang & Zhang, 2002). Non-skilled readers, on the contrary, display less monitoring ability (Yang & Zhang, 2002), are slower in word recognition, weak at automatic syntactic processing (Nassaji, 2003), and less aware of the discourse organization of the texts (Carrell, 1992; Commander & Stanwyck, 1997).

The review of the literature leads to a dual hypothesis. Skilled readers are more proficient in manipulating both skills-based and meaning-oriented resources; consequently, their use of either bottom-up or top-down resources enhances reading achievement. Non-skilled readers, on the other hand, are less proficient in utilizing both skills-based and meaning-oriented resources; as a result, their use of either bottom-up or top-down resources is incapable of facilitating comprehension.

The ultimate goal of reading instruction in both L1 and EFL/ESL contexts is to foster children to become readers who are able to read to learn from texts independently. What instructional styles and teaching strategies can better foster children's reading growth? EFL/ESL students after several years of English learning

form their own beliefs about reading. What are the beliefs that they predominantly have? In this study we attempted to 1) identify the beliefs about English reading of a group of university freshmen who were accepted by a Department of Medicine that accepted only the top 1.50% of the Taiwanese high school graduates majoring in sciences and 2) determine the potential links between achievement of English proficiency and reading beliefs.

## METHOD

### Participants

In this study, the participants were from a freshman English class offered primarily for majors in medicine. The original class comprised 45 students. One week before the survey, the class was informed of the purpose of the survey. The participants were also told that the participation was voluntary, which would not influence their semester English scores. On the day of the survey, three students came to class ten minutes after the administering began. Two students did not come to class until the second hour, and five students did not mark their personal data on the scale. As a result, the remaining 35 students were used for the final data analysis.

To define the participants as “high-achieving university EFL/ESL readers” in Taiwan, the researcher used a formula to derive the standing of the Department of Medicine that they were from. The formula calculates “the minimum college department admittance score (MCDAS) which shows the sum of the raw scores of the test subjects” (See Cheng, 2010, pp. 29~32). Based on the formula, the department accepted only the top 1.50% of the Taiwanese high school graduates majoring in sciences which include engineering and life sciences. The participants’ proficiency in English was determined by the scores in the English language segment of Taiwan’s National Joint University Entrance Examination, held annually in July. The English scores of the 35 readers averaged 87.60 ( $N = 35$ , Range = 80~97,  $SD = 4.995$ ).

### **Instrumentation**

Two instruments have been developed to identify beliefs about reading: the Conceptual Framework of Reading Interview (Gove, 1983; Vacca, Vacca & Gove, 1991) and the Theoretical Orientation to Reading Profile (TORP) (DeFord, 1985). The Conceptual Framework of Reading Interview was developed for in-service and pre-service teachers. It consists of 10 open-ended questions and is in two forms: Form A for Pre-service Teachers and Form B for In-service Teachers. The difference between the two forms is the use of tenses; that is, the questions explore what “pre-service teachers *will do*” and “what in-service teachers *have done* or *did*.” The Conceptual Framework of Reading Interview probes the responses to the following categories (Gove, 1983; Vacca, Vacca & Gove, 1991):

1. Naming the main instructional goals,
2. Naming the most important instructional activities,
3. Ranking the parts of Directed Reading Activity,
4. Telling what a reading test should do,
5. Explaining if it is important to introduce new words before reading,
6. Telling what students should do when they come to an unknown word during silent reading,
7. Deciding what to do when students make oral reading mistakes, and
8. Identifying the best reader through oral miscues and explaining why.

To interpret the results, the teachers check the guidelines for analyzing the Conceptual Framework of Reading Interview. The guidelines consist of the potential responses that were classified under either the bottom-up conceptual framework or the top-down framework (Vacca, Vacca & Gove, 1991).

The next tool, the Theoretical Orientation to Reading Profile (TORP) (DeFord, 1985) was developed for literacy teachers, parents, and advanced readers or mature adult readers. It is a 28-item self-report measure that includes 10 skills-based, 10 interactive and 8 meaning-oriented statements. Participants respond to the TORP on

a 5-point Likert-type scale ranging from 1 (SA - strongly agree) to 5 (SD - strongly disagree). To determine the theoretical orientation, tally the total score on the scale, add the point values as indicated on each statement, except for these statements: 5, 7, 15, 17, 18, 23, 26, and 27, for these, reverse the point values by assigning five points for SA to one point for SD. A total TORP score represents readers' orientation based on a continuum ranging from 28 to 140. A total score ranging from 28 to 65 indicates a skills-based belief; a total score ranging from 66 to 110 indicates an interactive belief of reading; and a total score above 110 suggests a meaning orientation.

The TORP has been widely used in the assessment of reading beliefs and in finding correlations with different literacy assessing scales (Ketner, Parnell, & Smith, 1997; Reutzel & Sabey, 1996). The coefficient alpha reliability of the instrument was reported to be .80 (DeFord, 1985) or .98 (Reutzel & Sabey, 1996).

The study employed the Theoretical Orientation to Reading Profile (TORP) with some modifications to fit it into the EFL/ESL context. For more than a decade, the researcher has been administering the TORP to his students at different levels of English achievement as one of his first-week class activities in new semesters. Over the years it has been observed that below-average students tend to lack adequate knowledge to comprehend the statements. Their responses tend to be erroneous. Above-average students in contrast tend to have more adequate knowledge to comprehend the statements. Their responses tend to be more meaningful. The modifications were based on the confusions reported by the students. In the modifications, items with difficult words, specialized terms, and words such as "children" or "child" and "teach" or "introduce" are either removed or replaced by a simpler expression. The modification involves a total of 17 statements. Listed below is the entire survey with its modified statements:

01. An English learner needs to be able to express the rules of phonics in order to assure proficiency in processing new words.
02. An increase in reading errors is usually related to a decrease in

comprehension.

03. Dividing words into syllables according to rules is a helpful practice for reading new words.
04. Fluency is a necessary part of reading that indicates good comprehension.
05. Materials for early reading should be written in natural language without concern for short, simple words and sentences.
06. When an English learner does not know a word, they should be instructed to sound out its parts.
07. It is a good practice to allow English learners to edit what is written into their own words when learning to read.
08. The use of a dictionary is necessary in determining the meaning and pronunciation of new words.
09. Reversals, e.g., saying “saw” for “was”, are significant problems in reading.
10. It is a good practice to correct an English learner as soon as an oral reading mistake is made.
11. It is important for a word to be repeated a number of times after it has been introduced to ensure that it will become a part of sight vocabulary.
12. Paying close attention to punctuation marks is necessary to understand story content.
13. It is a sign of an ineffective reader when words and phrases are repeated.
14. Being able to identify words according to grammatical function (e.g., nouns) is useful in proficient reading.
15. When coming to a word that is unknown, the reader should be encouraged to guess the meaning and go on.
16. English learners need to be introduced to the root form of words (e.g., run, long) before they are asked to read inflected forms (e.g., *running*, *longest*).
17. It is not necessary for English learners to know the letters of the alphabet in order to learn to read.

18. Flash-card drills with sight words is an unnecessary form of practice in reading instruction.
19. Ability to use accent patterns in multi-syllable words (pho' to graph, ph to' gra phy, and pho to gra' phic) should be developed as part of reading instruction.
20. Controlling text through consistent spelling patterns (e.g., The fat cat ran back. The fat cat sat on a hat.) is a means by which English learners can best learn to read.
21. Formal instruction in reading is necessary to ensure the adequate development of all the skills used in reading.
22. Phonic analysis is the most important form of analysis used when meeting new words.
23. An English learner's initial encounters with a reading passage should focus on meaning, not upon individual words.
24. Word shapes should be taught in reading to aid in word recognition.
25. It is important to learn skills in relation to other skills.
26. If an English learner says "house" for the written word "home," the response should be left unconcerned.
27. It is not necessary to learn new words before they appear in the reading text.
28. Some problems in reading are caused by readers dropping the inflectional endings from words (e.g., jumps, jumped).

### **Procedure**

The study was conducted in the second month of the fall semester after the participants entered college from high schools. In administering the TORP scale, the researcher guided the participants to read the statements "item by item" in English. After the participants read each statement, Mandarin Chinese interpretations were also added to facilitate comprehension. The interpretations and the administering



procedure have been adopted since 2003 after the researcher scrutinized and translated the items with one of his colleagues who expressed interest in administering the TORP to her students. The procedure took approximately 50 minutes.

### **Reliability**

Split-half reliability procedures were used to identify the internal consistency reliability of the instrumentation (Gay, 1987). The 35 subjects' responses were divided into two comparable halves: all odd items in one half and all even items in the other half. The reliability procedures yielded a correlation coefficient of 0.413 (Significant at the 0.014 level).

## **RESULTS**

In analyzing the data, three steps were used. First examined were the participants' responses to the TORP scales. Next checked were the TORP criteria (DeFord, 1985) to place the participants into the three orientations: meaning-oriented, skills-oriented and interactive oriented. Then inferential statistics was calculated using the subjects' English scores on the National Joint University Entrance Examination. Finally, the Pearson product-moment correlation coefficient was performed to check potential correlation.

### **Percent of Belief Distributions among Readers**

The descriptive results show that 65.7% of the high achievers were believers of the interactive type of reading (Mean = 76.2, Range = 67~90); while 34.3% were believers of the skills-centered type of reading (Mean = 58.8, Range = 52~64). No believers of the meaning-emphasized type of reading were found. Table 1 displays the results.

**Table 1**  
**Percent of Belief Distributions**

	Interactive: Score (Frequency & Percent)			Skills: Score (Frequency & Percent)		
Valid	67	(2	08.7)	52	(1	08.3)
	68	(1	04.3)	54	(1	08.3)
	69	(1	04.3)	56	(1	08.3)
	70	(1	04.3)	57	(1	08.3)
	71	(1	04.3)	58	(1	08.3)
	74	(5	21.7)	59	(1	08.3)
	76	(2	08.7)	60	(2	16.7)
	77	(2	08.7)	62	(3	25.0)
	78	(1	04.3)	64	(1	08.3)
	79	(1	04.3)			
	82	(2	08.7)			
	83	(1	04.3)			
	86	(2	08.7)			
	90	(1	04.3)			
Mean	76.2			58.8		

### **Link between English Achievement and Beliefs about Reading**

Table 2 displays the results of the *t*-test that examined the difference in English achievement between the believers of the skills-centered and the interactive types of reading. A significant difference was found between the two types of readers,  $t(33) = 2.4676$ ,  $p = 0.019$ . The believers of the interactive type of reading outperformed those of the skills-centered type of reading.

**Table 2**  
**Results of *t*-test Comparing Interactive and Skill-centered Believers**  
**on English Score**

	N	Mean	SD	<i>t</i>	<i>df</i>	<i>Sig.</i>
Interactive	23	89.00	4.32	2.4676	33	.019**
Skills	12	84.91	5.26			
Total	35					

\*\* Significant at the 0.05 level (two-tailed).

Pearson correlation coefficient was computed to examine the correlation between the English scores and the TORP scores. A significant correlation was found  $r(35) = 0.553$ ,  $p = 0.000$ . Table 3 displays the results. The correlation coefficient of 0.553 indicates  $(0.553)^2$  or 30.58% common variance.

**Table 3**  
**Correlations between English Score and TORP Score**

		English Score	TORP Score
English Score	Pearson Correlation	1	.553 (**)
	Sig. (2-tailed)	.	.000
	N	35	35
TORP Score	Pearson Correlation	.553 (**)	1
	Sig. (2-tailed)	.000	.
	N	35	35

\*\* Correlation is significant at the 0.01 level (2-tailed).

## DISCUSSION

### Distributions of Beliefs about Reading among Readers

The results of the current study reveal that even in the EFL/ESL context students hold different beliefs about reading. The causative factors are diverse. The

most salient factors, as Vacca, Vacca and Gove (1991) listed, include our memories of learning, school policies, testing policies, curriculum guidelines, the beliefs of peers or colleagues, and the publishing industry. In addition, teachers with different teaching experiences endorse different models of reading instruction, which in turn shapes what a student believes in reading (Ketner, Parnell & Smith, 1997).

Do L1 reading beliefs carry over to EFL/ESL reading? The linguistic threshold hypothesis and linguistic interdependence hypothesis are unable to explain the findings as the results of their empirical studies are inconclusive and mixed (Zainal, 2003). Yet, we do believe that the subjects in this study are meaning-driven in reading Mandarin Chinese as they did extremely well when reading to learn in high school from the content-area courses such as biology, physics, chemistry, and mathematics. They might have been very fluent and automatic in Mandarin bottom-up skills and very quick at text comprehension, information retaining and retrieving for problem solving. But why did they not transfer the meaning-driven reading processing to English reading?

In Taiwan, the linguistic environment is multi-glossing: a huge number of families converse in either Hakka or Min. In formal school education, the Mandarin Chinese on the other hand is the official school language for learning subject-area courses such as mathematics, biology, physics, chemistry, history, geography and civics. Great efforts have been made in elementary schools to raise the level of Mandarin reading and writing to meet the educational demands (Cheng, 2010; Hung, 2005). No families, care providers or even private English classes for children can devote adequate time to engage children in dialogic reading or book sharing to scaffold auditory and oral language development.

Additionally, the researcher analyzed used materials such as class notes, textbooks, vocabulary workbooks, grammar books, commercial English magazines, and question sheets of quizzes and exams used by the students from two tier-one high schools in Chia Yii City. The researcher found that English instruction places tremendous teaching emphasis on translating and diagramming complicate sentences,

practicing and drilling the grammar rules encountered in textbooks, and memorizing unfamiliar words and its derivatives. Students are assigned word books and are tested on a weekly basis, in the hope that they can recall and use the words in reading and writing. On-the-air English programs are common assignments at tenth grade; yet, at eleventh grade, the practice tends to become optional and some teachers even give up the practice as it is difficult to find time for extra reading and listening materials among content-area courses such as biology, physics, chemistry, mathematics, Mandarin, history, geography, earth science, and civics. Extensive reading habit, put forth by the top-down hypothesis advocates, is insignificantly practiced in classrooms. Apparently, what a teacher practices, the school mandates, and the testing practices significantly shape the way a student perceives reading.

### **Link between English Achievement and Beliefs about Reading**

In the current study, the subjects believing in the interactive type of reading significantly outperformed those believing in the skills-centered type of reading in English achievement. This was further confirmed by the results of the positive correlation that if good readers employ more interactive strategies, their English scores tend to be higher. Existing empirical data suggested that skilled readers do not process reading by using a single strategy but keep it changing in accordance with learning contexts and need (Block, 1992; Juel, 1980). For example, Juel (1980) found that skilled readers became more meaning-oriented when trying to cope with words of low frequency or with words that were difficult to recode. In addition, skilled EFL/ESL readers used meaning-based cues to evaluate what they had understood (Block, 1992).

One feature for skills-centered approaches to be successful in practice is automaticity (Lagerge & Samuels, 1974). The learners must practice decoding print to speech until they are automatic if they are to devote their attention to comprehending the text. Based on the literature review, good readers are able to manipulate a variety of reading strategies as they are proficient in meta-cognitive or

self-monitoring strategies (Dechant, 1991); that is, they are capable of selecting, classifying, synthesizing, organizing, summarizing, and retaining what is important in memory as they go along. In bottom-up resources processing, good readers have automatized the word identification skills and are capable of rapid and accurate word recognition (Golinkoff, 1975-1976), and, with minimum language cues, can recognize instantly the rich sight words they have developed (Perfetti, 1985).

The subjects in this study, either the interactive or the skills-based types of readers, were talented students with outstanding performance in school. They have mastered the bottom-up types of reading skills. Hence, we do believe that in order to enhance a better learning achievement, readers whose perception and decoding have already become automatic are perfect and ready for interactive or higher interactive reading (Vacca, Vacca & Gove, 1991) or, as Eskey (1988) expressed, the top-down types of reading for comprehending the writer's message. That is, as students become more fluent in fundamental English skills, they can devote more time to higher interactive types of reading or comprehending the writer's message so as to increase their frequent print exposure. Frequent contact with prints on the other hand sharpens their learned bottom-up skills and develops in them an intuitive sense of the structural flow of the English sentence.

### **LIMITATIONS**

In the study, the statistical power of the comparison and the results are likely constrained by factors such as sample size and limited use of English tests to determine the subjects' English proficiency. The sample size of only 35 high-achievers, which was later divided into two proficiency groups, may yield estimates and results that are less reliable and meaningful. In addition, only the English language segment of JCEE was employed to operationally determine the English proficiency within this group of high-achieving readers. Yet, there is no evidence to suggest that such English test scores are an accurate indication of the subjects' general English proficiency.

### CONCLUSION AND SUGGESTIONS

The evidence that supports the advantages of the interactive-oriented type of reading is documented in this study. Based on the hypothesis of the eclectic model of reading (Dechant, 1991; Stanovich, 1980; Sun & Zhang, 2004), meaning comes from many sources: logographic, graphemic, phonological, orthographic, morphemic, grapheme/phoneme correspondent, lexical, semantic, syntactic, and schematic or prior knowledge. Processing of the sources is parallel and simultaneous, and information passes from one level to the next in both directions; each one of the sources depends on the others and any one source can be activated at a given time (May, 1986). In contrast, there are no pure top-down models of reading because readers must start by focusing on print (Vacca, Vacca & Gove, 1991). On the other hand, there are no pure bottom-up models, either. Information from beyond the “bottom” word level is needed to decide, for example, the meanings of “run” in these sentences: “Do you want to run for the president? The red ink has run on the wet cloth. Greek exit could trigger a run on European banks.”

The school mandates, the testing practices as well as a teacher’s instructional styles and teaching strategies significantly shape the way a student perceives reading. The subjects in the study hold different beliefs about reading; therefore, English teachers in Taiwan can also be assumed to hold different beliefs as well. Accordingly, in the future, studies can be conducted on English teachers at different school levels. The studies can first examine their general beliefs about the reading process. Then examined are their teaching practices to check whether or not there is a match between beliefs and practices. If there is no match, the causes that make them jettison their beliefs in reading can be explored.

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## **Links between Beliefs about Reading and Achievement of English Proficiency among High-Achieving Readers in Taiwan**

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### **Abstract**

This study examined the links between achievement of English proficiency and the beliefs about reading among a group of high-achieving readers. The subjects were 35 high-achieving university freshmen who responded to the *Theoretical Orientation to Reading Profile* (TORP). Descriptive data showed that 65.7% of the high-achievers were believers of the interactive model. The believers of the bottom-up or skills-centered model were 34.3%; whereas, no believer of the top-down or meaning-emphasized model was found. Then, a *t*-test was performed between the two types of readers by using the subjects' English scores on the National Joint University Entrance Examination. The result revealed that among the high achievers, believers of the interactive model outperformed those of the skills-centered model,  $t(33) = 2.4676$ ,  $p = 0.019$ . Finally, the Pearson product-moment correlation coefficient was calculated, where a significant positive correlation was found,  $r(35) = 0.553$ ,  $p = 0.000$ . The results of the study support the advantages of the interactive-oriented reading and reveal that EFL students in Taiwan hold different beliefs about the reading process.

**Keywords: Reading Belief Systems, EFL/ESL English Reading, Good English Readers**

## 《顫抖女子，或我的神經歷史》中的能動性、大腦 回憶錄與書寫治療\*

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### 摘 要

近來在認知科學領域的探索已經改寫了過去行為主義的限制並同時見證了當代小說一個新(次)文類的出現，即神經學的敘述或神經小說(neuronovel)，意指傳統過去在心理分析中之心智作用，轉由大腦功能性所取代。藉由分析席莉·胡思薇(Siri Hustvedt)的大腦回憶錄(brain memoir)《顫抖女子或我的神經歷史》(*The Shaking Woman, or a History of My Nerves*)，本篇論文試圖探討作品中，曾經入圍 2014 年曼氏布克獎的人文學創作者，如何以自身經歷批判性地整合詮釋了大腦認知、身體感知與自我認同之間的相互影響與交互作用。作為一神經學敘述文本，《顫抖女子》推展了文學敘事、神經科學、疾病治療與作者自身的生命經驗的邊界前沿，重新詮釋人體因莫名之神經系統異常所導致的肉體與自身意識感知之異化經驗，並進而問題化傳統哲學上心身二元論的探討。論文首先透過檢視心智、意識與傳統的心身二元論意涵，重新理解定位其在當下神經與大腦科學研究的趨勢下如何呈現，而此種新的詮釋與辯證如何影響了當代文化學者如席莉·胡思薇(Siri Hustvedt)的創作，在文本中呈現神經系統或是大腦功能的認知變異如何反向形塑一種兼具被動接受性與創造反叛性的主體能動性。扣合前項討論，論文第二部分接著探討作者如何將此種被激發衍生之能

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\* 本篇論文初稿曾發表於 2015 年 5 月 23 日於國立中山大學舉辦之第三十七屆全國比較文學學術研討會。承當日與會學者與期刊兩位匿名審稿人寶貴建議，僅此致謝。

動的思考，內化在「書寫」的策略技術中。胡思薇闡述書寫的日常過程作為一個策略，如何混同著外在偶發之異體作用力所導致的無法控制之身體顫抖，共同強化了她的自我意識與形塑了個體的主體認同政治。在此次文類大腦回憶錄作品中，「書寫」成為對神經異常化之兼容並蓄的載體，並由其衍化出不同於正常化常模型態下的能動性或認同建構。

**關鍵詞：**席莉·胡思薇、《顫抖女子或我的神經歷史》、大腦回憶錄、能動性、書寫治療

*Conscious states are entirely caused by neuronal processes in the brain and are realized in the brain. This approach to the mind-body problem, however, leaves us with a number of philosophical problems such as, for example: What are the relations between consciousness and intentionality and how does consciousness function causally to move our bodies? It also leaves us with very difficult neurobiological problems: How exactly does the brain cause conscious experiences, and how are those experiences realized in the brain? (6)*

--- John Searle, *Freedom and Neurobiology: Reflections on Free Will, Language, and Political Power*

## Introduction

The dualistic concept of mind and body has long been a prominent issue in human thought, and notably in literary works. Narratives portraying a correlation between an individual's sense of self and their body have thus been used to examine philosophical questions with regard to the connections that the mind, body and self-identity have with the outer world. However, recent developments in neuroscience have reignited the debate as to whether the body and mind are separate or not. The conjugation of neurology or cognitive science with literature became a trend at the end of twentieth century, which was, as Mark Turner notes, an age "in which the human mind was discovered" (vii). The characteristics of metaphors, representations and parables, traditionally categorized into the literary domain, are now in fact considered core components that shape our everyday cognition, and thus human minds are literary (Turner 5, 39 and 41). This inter-disciplinary milieu has also resulted in an era when "[n]eurobiologists, cognitive anthropologists, evolutionary psychologists, and computer scientists have taken up literature and art, investigating their structures and purposes in order to integrate them into an ongoing research program in cognition" (Hogan 2). This field has been defined by an inter-disciplinary assertiveness integrating the humanities and sciences into an outlook that can help explore the complexities and dynamics among cognitive science, literature and the arts in general. Cognitive literary studies emerged in the 1980s from investigations of

literary texts with regard to the embodied mind and consciousness (Jaén and Simon 13). The process of integrating literature and cognitive science draws forth a vital question: when scientific or philosophical, literary descriptions of consciousness, mind and the self draw the attention of writers and artists, what impact does the resulting integration bring? A thorough examination of the interactions between the humanities and science, and neuroscience in particular, is presented in Siri Hustvedt's *The Shaking Woman, or A History of My Nerves* (2009).

Siri Hustvedt has published several novels to considerable critical acclaim, including *The Blindfold* (1992), *The Enchantment of Lily Dahl* (1996), *What I Loved* (2003), *The Sorrows of an American* (2008), *The Summer Without Men* (2011), and *The Blazing World* (2014), with the latter appearing on the long list for the Man Booker Prize in 2014. Among her various works, *The Shaking Woman, or the History of My Nerves* is considered an illness memoir, focusing on Hustvedt's seizure-like disorder and aiming to elucidate her neurological illness from humanist perspectives, drawing inspiration from literary works, historical documents and the arts. Overall, *The Shaking Woman* can be viewed as an illness narrative in which the author investigates what made her suddenly start to shake uncontrollably fiercely when delivering a memorial speech in honor of her father, who had passed away more than two years previously. This shaking took over both sides of her body, although her mind remained clear and sensible. It was thus like Hustvedt's body and mind had been separated, with a conscious subject observing her shaking other. The author did not lose consciousness, and even with the convulsions finished her speech without any assistance from the audience, who were obviously concerned. But later she started to wonder, was this seizure a corporal symptom, or was it some kind of psychiatric syndrome? Do clear lines of demarcation exist between the mind and body?

The division between the mind and body serves as one of the most enduring conceptual splits in the humanities and medical science, and one that delineates the ways in which physicians perceive their patients and how the latter see their



sufferings. In figuring out what ails her, Siri Hustvedt firstly investigating her illness by receiving physical checkups, examining the medical mechanisms underlying her history of migraines, as well as the relationships between these and various neurological and psychological phenomena. As Hustvedt assumed, the medical examinations were not able to find any abnormalities that triggered her shaking. Continuing her own exploration of the correlations between body and mind, she also discusses the genealogies of hysteria and epilepsy using a range of intriguing literary figures and medical examples. The main purpose of this writing is to explore the reality of Hustvedt's own lived experience. As Hustvedt notes, "[i]llness can make almost every person vulnerable to a mind/body split" (Hustvedt 169). While sick people may still think clearly, their bodies seem to betray them. What Hustvedt wants to learn is whether her thinking ego exists independently from or interactively with her uncontrollably shaking body. She thus examines the various causes of her somatic problems, ranging from migraines to convulsions, as well as presenting psychological accounts of research on the mind and consciousness, memories and narratives, in order to unpack the mystery of her condition. Much of Hustvedt's text on such phenomena uses real life cases or experiences, in order to show "[h]ow our brains become minds and how neurons create our inner selves [which] remain burning questions in both science and philosophy" (Weintraub 64). Based on Hustvedt's "brain memoir," a form of neurological narrative, this paper investigates the core issues of embodied perceptions, and the unbreakable connections between body and mind when seen through the lens of illness, and then elucidates how agency and selfhood are gradually re-established and achieved by the act of writing.

Hustvedt thus embarked on an exploration of the nature of selfhood, which has often been taken for granted, in order to discover what roles her mind as consciousness and brain as somatic existence may have played in her body's uncontrolled shaking. In the Western philosophical tradition the mind is always put above the body, and is seen as the core component in a person's self-identity. With respect to traditional philosophical accounts, René Descartes' psyche/soma or

mind/body dualism asserts that people are composed of two elements, spirit and matter, although this argument is now seen as outdated and rather controversial. As noted above, most neuroscientists would argue against Cartesian dualism, yet this mind-body divide continues to haunt neurological diagnoses, which employ expressions such as *functional*, *organic*, and *psychogenic* (Hustvedt, “Philosophy Matters in Brain Matters” 169-70). By means of “demonstrat[ing] dual proficiencies in the languages of neurosciences and psychoanalysis” (Deshauer 1), Hustvedt’s narrative aims to take a personal journey into the twilight zone between mind and body. In her illness narrative she brings in philosophical explorations of what somatic symptoms denote, and explores the mind-body dichotomy in terms of various theories of medical history and philosophy. The core issues she examines include: “Who are we, anyway?” and “What do I actually know about myself?” (SW 69). Hustvedt finds that “tracking [her] pathology turns out to be an adventure in the history of experience and perception,” and one that she undertakes in order to answer to various questions about the basis of a sense of selfhood (SW 69). She keeps asking “who owns the self? Is it the ‘I’? What does it mean to be integrated and not in pieces” (SW 47).

### **Mind and Body: Are You Your Brain?**

The relationship between the mind and the body, also known as “mind-body” dualism, is a long-standing, complicated issue in the study of philosophy and literature, which has not yet achieved a convincing solution, or even a plausible exposition of what an ultimate explanation may look like. Issues related to the mind-body problem include those of consciousness, intentionality, and the perception of selfhood. In a general but not thorough categorization, materialist views suggest that mental states are merely reflections of physical states. Functionalism, behaviorism, the computational theory of mind, and mind-brain identity are materialist examples of how perceptions, consciousness and the identity are formed, explaining the essential function of the mind and consciousness in terms of their ability to implicitly

or explicitly modify behavior. In contrast, idealist views argue that physical states are actually mental in reality, claiming that the physical world serves as an empirical world within which the intersubjective product of our collective experience is created. Between these two opposing camps, dualist views claim that the mental and physical are both real and de facto levels of existence which cannot be assimilated into each other. On the whole, such debates surrounding the mind-body problem arise because the perceptions of both consciousness and sense of self appear very disparate from anything physical, and so far no convincing consensus has been reached with regard to how to establish a satisfactorily unified picture that converges the two.<sup>1</sup>

However, neuroscience has advanced rapidly in recent years, and started to address and even enhance the mind-body problem, including proposing new ways of interpreting and understanding its original formulation. Given the potential to complicate and even destabilize previous assumptions about the nature of the thinking subject and the dynamics of consciousness, twenty-first century neuroscience has been challenging the fundamental conventions about the structure and continuity of the mind, body and self, trying to further explore the cornerstone ideas of what and who individual subjects are to be defined. In particular, advances in neurobiology with regard to subjective experience, both in theoretical and experimental works, have led to a new age of so-called “neuroscience hype,” in which it is boldly proclaimed that “we are our brains.” While the emerging field of the neuroscience of the self is based on laboratory data, as yet it has only served to broaden the debate instead of providing any solutions as to how self-identity is formed. The field that has emerged from combining work in neuroscience with efforts on the philosophy of mind, epistemology, theories of self-identity, and metaphysics is called “neurophilosophy,” and this attempts to assert the relevance of

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<sup>1</sup> Current debates on the mind-body division can be traced back to the late 1950s and early 1960s, while arguably the mind-body problem as we now know it had its origin in two classic papers published one year apart: Herbert Feigl’s “The ‘Mental’ and the ‘Physical’” in 1958 and J. J. C. Smart’s “Sensations and Brain Processes” in 1959. In related research, Smart and Feigl independently proposed an approach to the nature of mind that has come to be called the mind-body identity theory, central-state materialism, the brain state theory, or type physicalism (*Mind in a Physical World* 1).

applying “cognitive neurobiology [to] ... longstanding philosophical problems” and adopts an “[optimistic] view of the role of neuroscience in the advancement of philosophy” (Churchland 3-6). Generally defined, neurophilosophy encompasses two dimensions. On the one hand, it approaches philosophy by means of empirical neuroscientific studies of cognitive or mental phenomena; on the other hand, it deploys philosophical analyses of mental phenomena and the study of these in the context of neuroscience. This context thus provides a site for dialogues between neurology and philosophy concerning the existence of “the self.”

Along with the trend of neurophilosophy, the literature on the neurology of the self has also grown rapidly in recent years. Such works aim at unpacking the mystery of the relationships among the body, the brain it contains, and the mind, with the latter component referring to the sense of self. These studies apply laboratory research in the hope that fMRI or PET scans, among other tools, can clarify the mind-body problem. Cognitive neuroscience and the empirical discoveries that have been made with regard to the brain’s organic structure and function are, in many ways, infringing on issues that have traditionally been addressed within the humanities, such as the nature of consciousness, knowledge, and self-perception. In addition to Hustvedt’s own study of neurobiological discussions on mind and consciousness, carried out on the basis of the arguments proposed by the neurobiologist Antonio Damasio, there are also other major dialogues on consciousness among neuroscientists and philosophers. These include V.S. Ramachandran’s theories of how mirror neurons deal with conscious experiences and shape the sense of self, John R. Searle’s concept of associating free will with neurobiology, Thomas Nagel’s critique of reductionist accounts of the mind, which opposes the idea of reducing mental and consciousness activities to merely tangible interpretations, Daniel Dennett’s Multiple Drafts Model of consciousness as information processing, based upon cognitivism, David Rose’s consciousness and neural theories, and Merlin Donald’s ideas on art and cognitive evolution, only to

name a few.<sup>2</sup>

For the humanities, a number of approaches reveal a bias toward treating the material brain as the complete cause for engendering selfhood, a “neural self” (Tougaw 177) determined by the output of neuronal and cerebral activities. To a certain extent, the notion of a “neural self,” within which consciousness is attributed to the brain as a generator of the sense of self based on brain neurons, presents an extreme case of how self-identity may be defined. The argument “you are your brain,” with the implication that the relationships among the body, mind, brain and the self have been decrypted by laboratory science, in some ways challenges the legacy of Descartes’ “cogito ergo sum.” Even so, Hustvedt still tries to find a possibility of integrating the mind and body discourses, while searching for an explanation for her own physical symptoms.

Neuroscience has been rapidly developing the mechanical as well as conceptual where-withal needed to reveal the detailed neurobiological substrates of the mind and consciousness. However, in contrast to the optimistic views of some that neurobiology can be used to explain the generation of the self, there is also a growing critique of this form neuroscientific reductionism emerging from the humanities and social sciences.<sup>3</sup> “Neuroscience hype” is thus a concern to certain philosophers, who worry that this trend might leave many of the philosophical connotations of such studies either overlooked or neglected, distorted or exaggerated. Such humanists critique neuroscience with regard to its biases in understanding and explaining the self, with the latter claiming that being a living self can simply be construed in neural

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<sup>2</sup> In addition to the scholars and their works mentioned above, some other influential works include: Ansermet and Magistretti’s *The Biology of Freedom*, Broks’s, *Into the Silent Land*, Edelman’s *Wider than the Sky*, Edelman and Tononi’s *A Universe of Consciousness*, Keenan’s *The Face in the Mirror*, LeDoux’s *The Synaptic Self*, Panksepp’s *Affective Neuroscience*, Ramachandran’s *The Tell-Tale Brain*, Ramachandran and Blakeslee’s *Phantoms in the Brain*, and Solms and Turnbull’s *The Brain and the Inner World*.

<sup>3</sup> Some strong critiques of this notion include: Johnson’s “How Do You Know Unless You Look?: Brain Imaging, Biopower, and Practical Neuroscience,” Jordan-Young’s *Brain Storm: The Flaws in the Science of Sex Research*, Martin’s “Mind-Body Problems,” Pitts-Taylor’s “Social Brains, Embodiment, and Neurointeractionism,” and, from within the sciences, Roy’s “Asking Different Questions: Feminist Practices for the Natural Sciences.”

terms alone (Noë xii). In sum, this camp opposed to the grand claims of neuroscience propose instead that humans must be seen as whole bodies with life histories who interact with environments in complicated ways, and it is thus impossible that brains contain the whole mechanism of selfhood and identity formation.<sup>4</sup> It is unfortunate that these two sides of the debate do not often refer to or interact with each other in order to find a middle ground in terms of methodology. However, while these camps either emphasize the brain and physiology, or focus on the environmental as well as “social contexts of an organism’s brain and body,” they both address the same key issues with regard to consciousness: “What roles do our brains play in making us who we are?” and “How do particular brain functions, regions, and systems contribute to the shaping and development of identity, personality, and disposition?” (Tougaw 179).

At first, Hustvedt cannot obtain a reasonable explanation for her shaking from solely pragmatic science. She writes that “[m]any, if not most doctors have little grasp of what came before their own contemporary frames of diagnosis. They are incapable of drawing parallels with the past” (76), and thus she is “wary of the doctors in charge of investigating nervous systems” (9). For that reason she seems to fuse the humanities with neuroscience to reach an integration. Later on, she consults the history of medicine as well as philosophy, turning to earlier theories and experiences that may explain her illness. Hustvedt revisits thinkers such as Descartes, William James, Ludwig Wittgenstein and Edmund Husserl, who established their philosophical arguments based mainly on the linguistic properties of the mind and consciousness, based on Descartes’ foundational postulate – “cogito ergo sum.” After reading many works drawing on this legacy of mind/body dualism, she perceived that according to the psychologists’ analyses her shaking might be hysterical, in the way proposed by Freud, and which is now termed “conversion disorder” in

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<sup>4</sup> For further details, please see Noë’s work *Out of Our Heads: Why You Are Not Your Brain and Other Lessons from the Biology of Consciousness* (2010) which critiques the bias of neuroscience in representing “self.”

neurological diagnosis. However, Hustvedt feels frustrated when given the diagnosis that her uncontrollable “shaking” is “hysterical,” as not only is “hysteria” insufficient in explaining her symptoms but also the term itself represents the gender bias inherent in Western medical discourse.

Without any unequivocal explanations for her condition, Hustvedt turns to explore neuroscience through the lens of its philosophical implications. Through her illness, the author seems to return to the traditional philosophical problem – the apparently paradoxical mind-body difference, and also examines the problematic relations between concrete materiality/the brain, and consciousness/the mind. In the book Hustvedt describes how she researches the literature, pays visits to psychiatrists and neurologists, submits to tests like fMRIs of her brain, volunteers to teach psychiatric patients how to write literary works, tries anti-shaking medications, such as lorazepam, and even analyzes her dreams, all of which show her eagerness to seek answers to her condition, as well as her desire to better understand the relationship between the materiality of the brain and the abstract concept of the mind, between her usual self and other self, the shaking woman.

At first Hustvedt describes this shaking as a punishment, writing “[i]t appeared that some unknown force had suddenly taken over my body and decided I needed a good, sustained jolting” (SW 4), as if her sober mind has been betrayed by her shaking body. This sense of a split is common among people who suffer an illness, and is part of their subjective experience. Hustvedt also notes that such an “subjective experience” often “includes a self that observes illness, even though the very idea of the self remains a philosophical and scientific conundrum” (“Philosophy Matters in Brain Matters” 169). This sense of a mind-body split is reinforced when her friend reads about one of the episodes: “it [was] like watching a doctor and a patient in the same body” (SW 30). Indeed, the whole memoir shows Hustvedt’s dual role as doctor and patient, just like her sober self examining her “shaking self” and trying to figure out a diagnosis.

All of these actions are interpreted as, in Hustvedt’s own terms, “theories and

thoughts that are built on various ways of seeing the world” (69). The deeper Hustvedt delves into medical history, literature, psychology and other disciplines, the more fractured the possibilities of an explanation for her disorder appear. Human subjectivity and self-identity cannot be established from either abstract mind/consciousness or material cerebral activities, while sometimes individuals’ consciousness and cognizance are not about the world but instead about the tangible brain, and in such phenomena the human mind is nothing but a physiochemical brain. In this aspect, Hustvedt seems to be in agreement with the notion of “plasticity” that is proposed by Catherine Malabou, whose claims indicate that an individual can be considered a neural self who takes charge of their own brain, or their own subjectivity, and from this their own society and world (Vahanian 13). The results of Hustvedt’s investigation show that “the self” has many facets denoting the existence of a dynamic conscious. In the process of examining what happened to her, the sense of self associated with the illness actually exhibits some kind of affiliation towards the “writing” itself, as “such famous victims of migraine, epilepsy and bipolar disorder as Dostoyevsky and Flaubert have been documented both in the history of medicine and literature” (162-65).

### **Writing as a Strategy to Obtain a Cure: Brain Memoirs and Illness Narratives**

Brain memoirs can be considered as a new form of autobiographical writing. According to Sidonie Smith, “autobiography” is now the most commonly used term for life writing (2), with such texts being produced within a particular historical context. The practices of self-representation in these works are specifically situated in time and place, and may enable the writers, or narrators in some cases, to engage their lived experiences and situate their social identities through telling their own personal stories. Writers or narrators are at the same time carrying on a dialogue with themselves, based on their memories and the expectations of disparate others.

Different from traditional memoirs, which see selfhood as having an inherent



existence, brain memoirs first interrogate the validity of consciousness and selfhood, investigating how mind, brain, body, and culture interact to generate self-identity or perform selfhood, with such explorations having social, scientific, and philosophical implications. Brain memoirs raise more nuanced questions than traditional memoirs, in addition to explorations of a set of concepts like memory, experience, identity and space. According to Tougaw, the majority of the brain memoirs are concerned with how our brains contribute to particular aspects of the self in the context of a specific life and environment (174). Oliver Sacks' *The Man Who Mistook His Wife for a Hat* can be considered as an early successful example of a nonfiction neurological narrative. Since then, the number of publications concerning how brains have shaped individuals' selves and the lives of memoirists has increased, along with the development of brain scanning technologies like PET or fMRI. One common feature these memoirists share is the attempt to reveal a person's conscious experience in terms of cognitive science.

For Hustvedt, the questions, medical examinations, various diagnoses, and grand theories she encounters provide a new context for her to explore long-standing issues about selfhood. In addition to philosophy, Hustvedt navigates science and medicine in order to re-set her life so that she can better comprehend the relationship between the brain and self, and thus cope with her own brain. As Noë indicates that individuals are not their brains, although their brains will certainly shape their experiences in a fundamental way (8), the process of writing helped Hustvedt to co-exist with her altered circumstances.

Living with uncertainty is Hustvedt's daily experience, as shown in her memoir, with the author investing much effort to look for and identify the woman, her other self, who shakes. However, at the end of her memoir none of the various fields and disciplines she has consulted seem to offer any satisfactory answers. Still, while neurology, psychiatry, psychology and psychoanalysis are all unable to effectively explain Hustvedt's disorder, it is the chemical, or perhaps placebo, effects of Propanolol that are able to stop her mysterious shaking. The author aims to penetrate

the core component of selfhood, and finds that maybe the chemistry of the shaking woman's brain makes her who she was and is, albeit how and why remain obscure. As Tougaw notes, the expression of this kind of sentiment is common in brain memoirs or autobiographical works about the brain, "which tend to suggest an implicit, though unstable, dualism" (181). The brains in such works are characterized as entities or forces that are part of and simultaneously separated from the self or subject. The sense of split and alienation between her brain and self haunts Hustvedt: "Every sickness has an alien quality, a feeling of invasion and loss of control that is evident in the language we use about it" (SW 6). Hustvedt's shaking or shuddering feels alien partially due to their sudden onset and apparent willfulness, while the individual will in question is not equivalent to her own conscious will. From Hustvedt's secular position, it seems as though there is a hidden force with a will of its own somewhere inside her body or brain.

Hustvedt's relationship with her shaking body could almost be describing we can conceptualize as two integrated aspects of the self, with a view to comprehending the characteristics of cognition in the formation of self-identity. Damasio terms this correlation the "self-as-object" and the "self-as-subject" (8-9). The shaking woman is Hustvedt's object self, while the individual who has been writing about the various possible causes of her condition is her subject self. For Hustvedt, the object self is "a dynamic collection of integrated neural processes, centered on the representation of the living body, that finds expression in a dynamic collection of integrated mental processes" (Damasio 9). By contrast, "the self-as-subject, as knower, as the 'I,' is a more elusive presence" (Damasio 9). In other words, the thinking ego is not able to function independently. The brain also plays a part in mapping the corporeal activities, forging an "object self" out of these, for the purpose of maintaining the preconscious activities necessary for a body to live.

Toward the end of the memoir Hustvedt still has not obtained a definitive answer or diagnosis with regard to her "shaking." Living with this uncertainty, she asks: "[c]an I say that the shaking woman is a repeatedly activated pattern of firing

neurons and stress hormones released in an involuntary response, which is then dampened as I keep my cool, continue to talk, convinced that I'm not really in any danger? Is that all there is to the story?" (SW 116). By saying this, Hustvedt intends to suggest that "the origins of the shaking are beyond the will, arising from the body's ongoing, involuntary processes that maintain homeostasis and keep our systems operating" (Tougaw 181). Though without any firm diagnosis, the process of her exploration is essential to the questions she raises with regard to how the conscious and unconscious interact with or collide inside a body, within which a sense of selfhood is thus catalyzed.

However, the subject self is another issue that can be seen as "dispersed," meaning that it involves a vast array of brain processes, cognitive traits, and mental functions: perception, memory, thought, emotion, and so on (SW 9). Brain research is not currently in a position to imagine offering an account of the physiology involved in Hustvedt's evolving feelings and knowledge about her condition, not to mention the ways this condition has changed her sense of self as she evolves into "the shaking woman." This suggests that "the self-as-subject-and-knower is stacked ... on top of the self-as-object, as an additional layer of neural processes that gives rise to yet another layer of mental processing" (Damasio 9-10). This layering, in other words, reveals that "there is no dichotomy between self-as-object and self-as-knower; there is, rather, a continuity and progression" (Damasio 10). So in Hustvedt's case the shaking someone and the normal subject have no lines of demarcation, but instead the two selves represented by mind and body act as an organic whole and continuum. A memoir like Hustvedt's thus challenges brain science to acknowledge its current limitations, as well as to push back the boundaries of mind/body dualism.

A cross-disciplinary dialogue on the brain, body, self, and culture may offer memoirists like Hustvedt more insight in dealing with illness, because no general or single theory can encompass the particular life experience of an individual. Moreover, neurological experiences motivate brain memoirists like Hustvedt to examine the existence of the self. Such experiences ensure that selfhood cannot be taken for

granted, and neither can the research of a neuroscientist or philosopher of mind. The self, as suggested by Hustvedt's work, is by no means a monolithic entity, and instead should be viewed as the product of everyday experiences of synthesis that emerges from a conglomeration of neurological, physiological, mental, familial, and social components. The complexity of the resulting conglomerate is humbling and awe-inspiring. While there are many hasty or reductive claims that we are on the brink of understanding how the brain generates selfhood, the significance of recent decades of brain research relies on the spectacular complexity of the brain's collaborative role in generating the self. Hustvedt thus has to construct a form which can capture and understand the complexities of the various brain anomalies which encompass the symptoms which alter her identity. This form of memoir then offers the author an escape from affliction via writing.

“Brain memoirs” can also be seen as a relatively new sub-genre of illness narratives that help the writing subjects to deal with their ill selves and figure out new identities to better suit their new situations. Within illness narratives various stories will proliferate, interpenetrate, intersect, and reproduce themselves, and so a single incident of pain, death, and loss appears to be negligible. Within this genre the objective shifts from assigning meaning to the text to assigning it instead to those lived experiences that intersect with the text, and the reader's experiences are both partially and mutually implicated in this process (Charon and Spiegel 136). In illness narratives, pain, suffering or critical moments find meaning and purpose in writing, which is a vital process in making sense of the inter-relationships between the self and body, and the mind and brain, as seen in the case of Siri Hustvedt as the writing subject. According to Rita Charon, who has worked to make “illness narratives” more widely known, “[s]ick persons and those who care for them become obligatory story-tellers and story-listeners. Hippocrates knew this, Chekhov knew this, Freud knew this, and yet knowledge of the centrality of storytelling was obscured in medicine throughout much of the last century” (261).

The “writing” and “making of the self” are thus entangled with each other in

*The Shaking Woman*. The writing of a memoir involves a full-scale autobiographical awareness, or the so-called “core consciousness” and “core self.” In neuroscientific terms, this process is viewed as when “an organism interacts with – and is changed by – the objects perceived in its immediate environment” (Tougaw 192). Ironically, the autobiographical awareness that is a key part of the writing process enables the memoirist to achieve a sense of agency and self-assertion. Hustvedt thus embraces and gradually becomes the shaking woman through her writing. She articulates the process of writing as a vehicle for synthesizing her sense of self with the “alien” force in her body that makes her shake. Moreover, she also notes that most of her writing is unconsciously generated, as follows:

I feel beneath my words a preconscious world from which I draw them, thoughts not yet articulated but potentially there, and when I find them, I believe in their rightness or wrongness. Yes, that’s what I wanted to say. Against what do I measure this? It is not outside me. I don’t have some externalized notion of the perfect sentence that best expresses what I want to say. The knowledge lives inside me, and yet, isn’t that verbal interior made from the exterior, from all the books I’ve read, the conversations I’ve had and their mnemonic traces? (SW 88)

In a way Hustvedt draws on her unconsciousness to establish a sense of agency via the activity of writing itself. At this point Hustvedt understands that selfhood is neither completely derived from “synaptic neuron connections” based on neurological indications, or solely from mental consciousness. The sense of self is instead shaped and internalized by both, as well as “all the books [she’s] read, the conversations [she’s] had” (SW 88). The act of writing, represented as her monologue narrative, thus serves as a product output of this integration.

Writing foregrounds the dynamic interplay between body and mind, between margin and center, fringe and intention, in a traditional epistemological view, and this is the core reason why brain memoirs are considered important for people who are compelled by neurobiological circumstances to forge a new identity. With Hustvedt,

for example, her deeply personal narrative reads like a case study in medical history as well as a neuroscientific review. In a way, she keeps the reader engaged in the science of medicine by drawing connections to her own mysterious case study from the medical literature. Through writing she finds a way to accommodate the disorders in her brain and body whose existence cannot be denied. Her memoir of her impenetrable shaking chronicles and witnesses the perplexing entanglements of brain, body, and sense of selfhood that defy the common-ground understanding of medical science and cognitive capacities. Her book thus embodies the complicated interconnections of brain, body, self, and outer world that require us to re-learn and re-define the nature of epistemology, of thinking and subjectivity, in terms of science and the humanities.

### Conclusion

Illness narratives share certain features with novels, biographies, and histories. They can project multiple histories – of selfhood, communities, families, nations, and movements, that maintain their distinctive relationships to the referential world in its temporality. Furthermore, Hustvedt's life writing can be read for what it does, not what it is, because her work joins the form to human agency. As opposed to being solely about an individual life, Hustvedt's narrative "encode[s] or reinforce[s] particular values in ways that may shape culture and history" (Couser 129-30). Hustvedt unconsciously defines *The Shaking Woman* as a "neurological memoir," which acts both as "a personal account of [her] experience as a patient and an exploration of the ambiguities of diagnosis through the lenses of medical history, neurology, psychiatry, psychoanalysis, and philosophy" ("Siri Hustvedt: A Biography"). In a way, *The Shaking Woman* takes the form of a quest not only for innovative knowledge, but also adaptation, seeking reconciliation among scientific theory, medical practice and the author's lived experience as a patient. At this shared intersection of understanding brain science and human emotional experiences, humanists and neuroscientists are actually explorers and codiagnosers of the human

condition (Michelson 231). Hustvedt attempts to make sense of her unknown ailment and live with the disorders or anomalies in her brain and her nervous system as a whole. While writing a memoir of the critical moments in her life, segueing smoothly into a wonderful section on an integrative theory of her mind, body and self-identity, Hustvedt concludes that she and her symptoms are holistic components in forming her self; her mind and body are not separate entities: “Ambiguity does not obey logic” as she states plainly (SW 199). It can be anticipated that, by the end of the memoir, Hustvedt has still not figured out an authoritative or definitive scientific explanation of her shaking symptoms. Some medical treatments have improved her situation, but her trembling has not been cured, and thus she has to live with this uncertainty in a peaceful way, to experience and identify herself as The Shaking Woman.

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## Agency, Brain Memoir, and Writing Cure in *The Shaking Woman, or a History of My Nerves*\*

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### Abstract

Recent explorations in cognitive science have re-written the restrictions of behaviorism and spawned an emergent subgenre of contemporary fiction – neurological narratives, or “neuronovels,” wherein the mind in conventional psychoanalysis becomes the brain. Through analyzing Siri Hustvedt’s brain memoir *The Shaking Woman, or a History of My Nerves*, this paper aims to integrate and critically assess the discourses of the complicated interconnections of brain science, body, and self-identity. Serving as a neurological narrative, *The Shaking Woman* takes the form of pushing back the boundary of Mind-Body knowledge, adaptation, and reconciliation among neuroscience, philosophy, medical practice, and the writer’s lived experience. Hustvedt recounts her attempts to make sense of and to live with a profound change to her life that arises from neurological disorders or anomalies in the brain/nerve system as a whole. This paper will first investigate the notions of mind, consciousness, body and materiality through the lens of the mind-body problem, in order to provide explanatory notes to help examine the writer’s lived experience. The second part of this paper will elucidate how agency and sense of selfhood are gradually established or achieved by the act of writing. With its

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thorough examination of neurological illness and consciousness via a process of autobiographical awareness, *The Shaking Woman* thus serves as the product of a writing cure in which the author draws upon her unconsciousness to forge a sense of agency via writing. Hustvedt thus articulates the daily process of writing as a strategy for compounding her sense of self with the foreign adventitious force in her body that leads to her shaking. In this brain memoir writing is a powerful tool that can be used to confront neurological anomalies and so craft an agency or identity. Through writing, Hustvedt can accommodate changes in her brain, body and identity formation.

**Keywords:** Siri Hustvedt, *The Shaking Woman, or a History of My Nerves*, brain memoir, agency, writing cure