

CHINESE WRITING DISTURBANCE

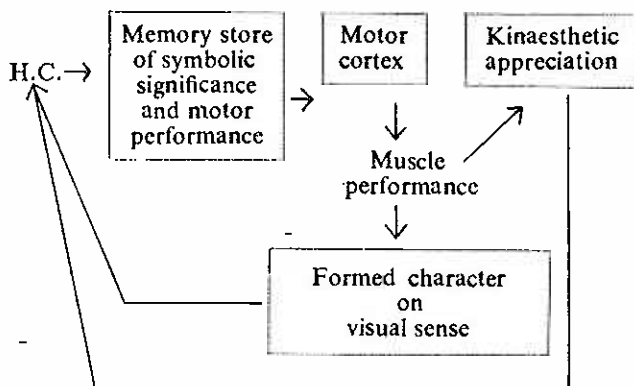
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Disturbance of the motor system results in a loss of motor power and performance. Whereas the former in terms of strength is easy to appreciate and measure, the latter presents difficulties in diagnosis at times. Writing is a form of developed motor skill, and simultaneously a part of speech function. It lends itself readily to testing. However, western writing employs relatively few symbols, and is by and large carelessly executed by the average person, because calligraphy has not become an established art at popular levels. In the case of the Chinese language, the words are pictorial symbols with many variations, and calligraphy has been a popular art form for many centuries. Hence it can readily become an index of motor disturbance manifesting as a disturbance of skilled performance (Gwee and Tan, 1958).

To appreciate disturbance of Chinese writing, however, it is necessary first of all to appreciate that writing a Chinese character is in many ways like drawing a picture. There is the same exactitude regarding the deftness in stroke execution and symmetry in design. Also, since the effort is literally a reproduction of a word-picture, there is involved the mechanism of speech affecting recall and appreciation of effort. In writing a character, there must be at first the integrity of the learnt memory about the character both as regards to its recall and recognition, and also the pattern of motor activity required to execute the tasks. Having written, there must be the ability to identify and verify the results in order that the final product is correct.

Hence the process involved in writing is a complex one, and may be simplified and represented as follows:—



Therefore there can be the following theoretical disturbances of writings:—

1. Inability to initiate memory equivalent to ideational apraxia resulting in a total failure of writing.
2. Defective memory and recall resulting in faulty reproduction or mistaken usage.
3. Defective performance resulting in poor execution of strokes or defect in arrangement.
4. Defective recognition pertaining to the lack of appreciation of kinaesthetic performance or knowledge of written symbols such as is seen in sensory aphasia.

Chinese writing being pictorial symbols and art, the deftness of execution and the symmetry in design would be of greater value as indices of disorder than western writing. To appreciate such disturbance, it is necessary to understand some basic features of Chinese calligraphy. These are:—

1. Characters of strokes as illustrated by the 8 basic stroke techniques of the word “永”.
2. Character formation.
3. Character use so that lapsus scriptorae of any kind can be readily seen.

Classically, there are 8 basic strokes as represented consisting of the dot, the transverse, the vertical, the hook, the up slant and down slant on the left, and the up and down slants on the right. The general stroke technique is the use of a greater force at the beginning and end of every stroke, so that a particular shape will be formed. As regards the character in toto, there is usually a basic concept of symmetry, so that the right will balance with the left and the top will balance with the bottom, basing on a rectangular design divided into 9 smaller areas (Fig. 1).

Regarding 2 and 3, it is necessary to appreciate that being one of art forms, certain licenses are normally permitted, and hence care must be exercised to distinguish between purposive deviation from the norm purely to satisfy a point in art, and the involuntary departures from the standard appearance as a result of disease processes.

The following illustrate the various organic lapsus. Legend for each case:—

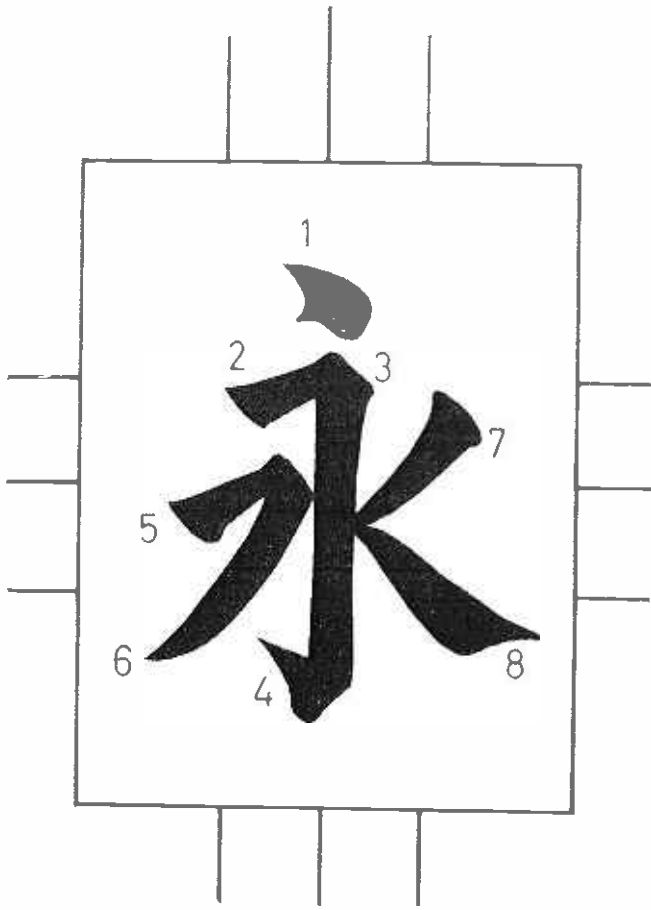


Fig. 1.

Age 50
 4/6/55 Case of @ hemiparesis
 10 yrs ago. Good
 motor power
 8/10 of writing
 with @ hand

鍾文雨

中華民國四十四年

Fig. 3.

陳德凱 (K) ^①
 ① infallible handwriting

陳德凱 (L)

Fig. 2.

2/4/62
 In admission
 Mental Incompetence with AF. Sudden onset
 of anisognosia (B and R) holding of speech &
 weakness. Anisoch. & Mental Incompetence
 Abdomen reflex absent @ side

陳碧珍

陳碧珍
 陳碧珍

4/4/62 No anisognosia. Abdom reflex absent

陳碧珍

Fig. 4(a).

42a

5/10/62 Abdominal reflex present

陳碧珍

4/4/62 Recovered completely apart from subjective
 paraesthesia of affected side chiefly hand.

Fig. 4(b).

5/10/65 Mr. Wee Keng Suan.
 75
 錦源

Fig. 5(a).

2/11/65 78
 錦源

18/1/66 錦源
 新加坡

11/1/66 錦源公司
 新加坡

Fig. 5(b).

1/3/66. K01234
 錦源公司

82

17/1/67 錦源公司 錦源公司

24/8/67 錦源公司

Fig. 5(c).

110444

No. 110444 MEDICAL UNIT #

Name Mr. CHAN KUN M. Race Ch. Occupation

Address P.O. Box 101 Casualty Officer

Diploma Administration Time

Date	Diagnosis	
24.9.69	Discharged 12/9/67	17
	Bright Has some	17
	giddiness off +	17
	100% normal	17
	condition good	17
	Sens. intact	17
	M.D. Singson	17
	hesitant speech	17
	but no definite	17
	aphasia.	17
	Res. No. 31805	Nicotine aspirin
		Serum + test

Fig. 6.

11/1/67 錦源公司
 新加坡

Fig. 7.

20/8/63 C.T. Hsing Age 58 M.
 A.A. Parkinson 55
 千山鳥飛絕
 千山鳥飛絕
 千山鳥飛絕
 Polymyoma
 Polymyoma
 Polymyoma

Oct 62 sudden
 pri: @ am
 with tremulous
 hirtup
 2 day weakness
 of @ leg.
 No loss of
 power. PKU
 Reflex normal.
 Coma brain
 into brady-
 kusia.

Fig. 8.

21/3/68 N1742 Chung Yeh Yen Age 58 (Ting + weak trem
 with generalised weakness of reflexes)
 (Parkinsonism)
 莊煥倫
 烏節街 272

Fig. 9.

15/4/64 115817 Ong Hock Siang Age 51 M. (Hsing)
 of speech and weakness of all limbs
 of some disturbance of cerebellar func-
 tion. No incontinence.

ONG Hock Siang
 莊煥倫 (中華民國)
 烏節街 272

17/4/64 Ong Hock Siang
 中華民國

15/4/65
 中華民國
 ONG Hock Siang

Fig. 11(a).

K00418 Ting Seng Sang 41 M
 Olivio pontis cerebelli atrophy 71

方序松



Fig. 10.

ONG Hock Siang
 中華民國 8/5/64
 ONG Hock Siang
 中華民國
 15/6/64
 中華民國
 ONG HOCK SIANG

Fig. 11(b).

K03085 28/2/67 91
 Linc Ping Age 40 F.
 Post traumatic difficulty - walking &
 writing. No physical sign of loss
 of power Babinski ↓ ↓. Reflexes brisk
 & normal.

Antia Lim Bay
 林萍

林萍 30-c

Seas - spruces

Find: MRI - brain - pres. appearance geriatric atrophy.

Fig. 12.

N 20409

Adults Male 51 @
 ? possible lesion 35

Org jin Cai

一 二 三 四 五 六 七
 走 女 考 暑 日 任 陸 牙 行

Car

一 0 2 6

日月星水

山大小星

天 下 解

三 4 = 3

三 4 = 3

月

○ □

Fig. 14.

22

劉雲淡小坡勿首歌谷街

9 months gradual onset of hemiparesis
 M. 59 Goldville
 etc. Geriatric trans including hand
 as limb. No dystonia and focal
 changes. New hyperkalemia NAD
 ? Sanku trans.

Fig. 13.

26

Tha Lia Sang 41 M

17/5/68 Began with difficulty in walking
 + slowly progressed to involve
 all limbs - ? e myoclonus.
 Also said to have epilepsy, and
 had induced attack with
 2.5 cc. of heptazole (twice, ago)
 No family history, no mental
 defect. Educated to std VI
 Not working for 20 yrs since
 onset at age 21.
 Bedridden for 10 yrs.

葉良生
 新加坡

Fig. 15.

Fig. 2—A case of right infantile hemiplegia who trained himself to write with his left hand. Note the generalised difficulty in symmetry representing apraxia.

Fig. 3—A case of C.V.A. with right hemiparesis. Note the difficulty in symmetry suggesting apraxia.

Figs. 4(a) and (b)—A case of cerebral embolism following atrial fibrillation and mitral incompetence. Note impairment in stroke execution which improved as the deficit became less.

Figs. 5(a), (b) and (c)—A case of basi-vertebral deficiency with acute cerebellar deficit. Note the tremulous strokes, and integrity of symmetry and note improvement with time.

Fig. 6—A case of arteriosclerotic brain disease with right-sided weakness. Note the impaired stroke execution and symmetry.

Fig. 7—A case of Parkinson's disease. Note the relatively good quality in symmetry and stroke execution. The slow tremor is detectable in some of the strokes.

Fig. 8—A case of post-hemiplegic Parkinsonism. Note how macrographia improves the quality of writing in Chinese whereas it is micrographia that improves in western writing.

Fig. 9—A case of severe generalised Parkinsonian Tremor. Note preservation of symmetry but tremulous strokes of penmanship.

Fig. 10—A case of olivo-ponto-cerebellar atrophy. Note preservation of symmetry with ataxia shown in irregular strokes of the pen.

Figs. 11(a) and (b)—A case of cerebellar degeneration. Note irregular writing which improves as the condition gets compensated. The writing in bracket was a sample for him to copy.

Fig. 12—A case of post-concussion cerebral atrophy. Note omission of whole words even though the symmetry and stroke execution remained intact.

Fig. 13—A case of senile tremor. Note irregularity in sizes as patient tried to adapt his writing to the tremor. The symmetry, pattern and strokes are relatively intact.

蔡再興現年任案件
 蔡再興書記
 Diagnosis Recovered

Fig. 16.

Before	After lippen	ENG 87, 25
新嘉坡	新嘉坡	新嘉坡
新嘉坡	新嘉坡	新嘉坡
新嘉坡	新嘉坡	新嘉坡
新嘉坡	新嘉坡	新嘉坡

10/1/66
 新嘉坡

Fig. 17.

Ang Siang Siew
 I
 MOPD 15052 Ng Siang Siew Age 17 yr.
 HD. Talking nonsense for 6/12. No
 hereditary signs. Schizophrenia

Fig. 18.

Fig. 14—A case of Parietal tremor. Note impairment of concept of words with omission of strokes, disturbance of pattern and loss of configuration suggesting gross apraxia, and speech defect.

Fig. 15—A case of epilepsy with persistent myoclonus. Note relatively intact handwriting showing how adaptation can be effectively made to counter involuntary movements.

Fig. 16—A case of hysterical myoclonus. Note in contrast to Fig. XV, how the myoclonus is accentuated in the writing—"out to impress".

Fig. 17—A case of writer's cramp. Note the marked difference in ability before and after

hypnosis, and the normal writing a year later when he is cured.

Fig. 18—A case of schizophrēnia. Note the disorganised formation and new configuration—a form of neologism.

CONCLUSION

Writing or graphology can be useful in the detection of neurological disturbance, and disturbance of handwriting in Chinese is shown to be of value as an aid to diagnosis.

REFERENCE

Gwee, A. L. and Tan, K. K. (1958): "A Case of Parietal Tumour with Dysgraphia." *Proc. Alumni Ass. Malaya*, Vol. 11, No. 4.