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# Psychiatric Aspects of Writer's Cramp

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**Summary.** Although its aetiopathogenesis is still unknown, writer's cramp is meanwhile regarded essentially an organically induced disorder. However, as shown by this interdisciplinary study, psychodynamic factors should not be neglected. Special attention should be given to the patients' experience of the syndrome and secondary psychoreactive processes.

**Key words:** Writer's cramp – Neurotic disorder – Focal dystonia

## Introduction

Writer's cramp is an enigmatic disorder, not only for the patient. The medical world is still not able to provide a convincing answer to the questions of aetiology and pathogenesis, except in those relatively rare cases in which graphospasm manifests itself as a symptom of another localised disorder of the peripheral or central nervous system, nor has a solution been found to the substantial therapeutic problems.

The nosology is also a matter of dispute. Until a few years ago, most authors regarded writer's cramp as a neurotic symptom; however, since the publication of the study by Sheehy and Marsden [22] it is being increasingly understood as a focal dystonia [cf. 7]. In the latest edition of "Psychiatrie der Gegenwart", the leading psychiatric manual in the German-speaking world, writer's cramp is no longer mentioned in volume I (neuroses, psychosomatic disorders, psychotherapy) but dealt with in the volume on organic psychoses [8]. Surprisingly, the results published by Sheehy and Marsden [22] appear to be ignored and neither followed up nor questioned by representatives of a psychodynamically orientat approach [cf. 26].

The low prevalence of the symptom may explain why there has been virtually no productive discussion on interaction between psychodynamic and organic factors in writer's cramp and the two attitudes run unrelated alongside each other. This situation is aggravated by methodological shortcomings of many publications, which often restrict themselves to casuistic data and above all subtly pursue either the neurological or the psychiatric approach, neglecting the other one. The dichotomising procedure may, however, reflect something of the attitude of patients towards their disorder. This point will also be taken up in this report on an interdisciplinary study of writer's cramp. Whilst this publication focuses on the psychiatric aspect, the neurological findings are presented in greater detail elsewhere [15].

## Method

The sample comprised 22 patients who had been referred in a 5-year period (1984–1989) to the neurological ($n = 19$) or psychiatric ($n = 3$) department of the University of Münster and who were diagnosed as suffering from "writer's cramp". During this period, a total of 26 hospitalised patients or outpatients suffering from graphospasm were examined and treated; four of them could not be included in the study, however, for extraneous reasons. Patients whose writer's cramp symptoms could be allocated to another primary neurological disorder were not included.

The previous neurological history and the biographical case history were recorded, with special orientation towards psychodynamically relevant aspects. The velocity of the sensori-motor conduction of the median nerves in a side-to-side comparison and the distal latency of the anterior interosseus nerve were determined. We also performed an electromyography (EMG) of the extensor digitorum communis muscle and of the flexor digitorum communis muscle with surface electrodes, both at rest and during the writing process.

Neuroradiological examinations – cranial computed tomography or nuclear magnetic resonance – were carried out on 10 patients; in 3 individuals, the central motor latency was determined in a side-to-side comparison following electrical stimulation of the motor cortex. Central and peripheral latencies were normal in all patients.

Psychological findings and depth psychology-based case histories were supplemented by the Giessen test [1] and the Freiburg personality inventory (FPI) [10]. These are two personality questionnaires in standard use in German-speaking countries, whose items are evaluated with respect to 6 or 10 bipolar standard scales respectively.

Assessment of the personality structure was based (1) on depth-psychological history, (2) on mental status, and (3) on two standardised test methods, the Giessen test and the FPI. With reference to ICD 9 and DSM III, a character neurosis or personality disturbance was diagnosed only "when a personality structure is so accentuated by the strong expression of specific features as to result in serious disturbances and/or conflicts" [24]. Personality disorders

and character neuroses were classified according to DSM III and ICD 9, but symptom neuroses according to ICD 9 only.

## Patients

Our sample had a clear majority of male (17) compared with female (10) patients, a phenomenon frequently described in the literature. Sixteen of the 22 patients had to do clerical work as the main or as a substantial part of their professional employment.

On initial manifestation of the disorder, the patients were between 15 and 58 years old; the mean age was 38.6 years (SD 11.8 years; median 38.5 years; quartiles $Q_1$ 31.75; $Q_2$ 38.5; $Q_3$ 48.25 years). Some uncertainty exists about these figures, as the early symptoms of writer's cramp are often insidious, with distinct deterioration occurring only in the course of time. Patients with a longer case history must therefore be expected to give inaccurate assessments of the duration of their disorder. The mean duration was 6.3 years (range 1–21 years, SD 5.2 years; median 5.0 years; quartiles $Q_1$2.75; $Q_2$ 5.0; $Q_3$ 7.5 years): In approximately one third of the probands the disorder had been manifest for not more than 3 years (7 patients), but 4 of the 22 had been suffering from the disorder for 10 years or more.

Sixteen patients reported an insidious development of the disorder, two a subacute, and three a comparatively acute onset of symptoms. One patient was unable to make any definite statement on this point. In most cases the further course of the disorder manifested itself in gradual progression or in progression with relatively sudden periods of deterioration. An intermittent course with a symptom-free interval lasting several months was described by only two patients. Sustained improvements were not reported.

## Neurological Findings and Subjective Symptoms

All probands (regardless of original handedness) had learned to write with their right hands and accordingly developed the disorder on that side. Nine of the 22 displayed a tremor. In 16 patients, the disorder which had initially occurred as isolated writer's cramp had spread to other, mainly manual movements (with the tremor not being referred to here). Slow, involuntary movements of the finger or hand were making it increasingly difficult for patients to brush their teeth, to shave with a razor or to eat with a knife and fork.

Sporadic reports were also made of dystonic movements of muscles supplied by cranial nerves; one female patient developed – initially transitorily, then permanently – spasmodic torticollis. This spreading of the dystonic movements was independent of manifestation age as well as of the duration of writer's cramp symptoms. Seven patients who were initially affected only by the writing process meanwhile had the impression that the tone of the forearm muscles was constantly increased.

Electromyography performed during the writing process revealed increased muscular activity by the flexors in 9 patients, and by the extensors in 6. The innervation pattern of 5 patients was classified as a mixed type (with the extensor activity being relatively predominant in 3 instances and the flexor activity in 2), while the EMG findings failed to provide any classification for 2 patients. An activity occurring in arrhythmic phases was recorded mainly with flexor type graphospasm. So-called co-contractions, as described by Cohen and Hallett [4] and associated by them with athetoid and dystonic motor disturbances, also occurred to a varying extent. The neurological and electrophysiological findings are presented in a separate paper [15]. With regard to the results of studies of the peripheral nervous system, we cannot confirm the view expressed by Kómár and Szegvári [14], that "there is a peripheroneurological cause behind writer's cramp".

## Situational Stress

It is not only psychoanalytically orientated authors who draw attention to situational stress at the onset of the manifestation; even Gowers [12], rightly quoted by Sheehy and Marsden [22] as an early advocate of an organic genesis, stated:

"Whatever lowers the general tone of the nervous system may doubtless act as a predisposing cause, but no influence is met with so frequently as to deserve special mention, except anxiety. It is remarkable how many patients, at the time of the onset of the affection, were enduring anxiety from family trouble, business worry, or weighty responsibilities."

More than half the patients examined by us – 12 of the 22 – developed the disorder in a situation in which they were confronted with extreme stress. Profession, family relationships and partnerships were the spheres of life involved; changes in external circumstances were taken into account, however, only when a special subjective significance was due to them in the patient's experience, too.

### *Case 1*

A female patient, aged 46 years (depressively structured but not neurotically ill in the clinical sense) developed typical, gradually progressing writer's cramp 9 years previously. The disorder became manifest in a phase of permanently excessive professional stress: On being awarded her elementary school leaving certificate and successfully completing an apprenticeship as a shop assistant, she had worked in this profession for many years with great personal commitment and to the complete satisfaction of her superiors. A job with a distinctly higher rating was then assigned to her in the administrative department of the concern with reference to her good achievements. The patient herself saw this activity, which involved a considerable amount of clerical work, as "social advancement", and the satisfying professional activity was a matter of importance to her for many years. On changing to a "half-time" job to give herself more time for family and other interests, she found that there was only a negligible reduction in the work assigned to her. Drawing discreet attention to this untenable situation, she met with understanding but was always put off. In particular the comment "You'll manage that all right!" spurred her on again and again to try even harder, and made it impossible for her to take active steps to have her workload reduced. The insidious

onset of symptoms of writer's cramp made it increasingly difficult for her to meet the demands, so that she eventually had to give up her job – much to the regret of her superiors and not without their spontaneous assurance that she could return to that department at any time. However, the disorder spread so persistently, despite the stress having been relieved, that even eating with a knife and fork, for instance, became problematic for the patient.

As in this example, it is generally *sustained* stress that preceded the manifestation of symptoms; only in exceptional cases did the writer's cramp develop in a temporal connection with *acute* stress situations [19]. No conflict constellations specific to writer's cramp were found, but this can hardly be surprising. One conspicuous fact, however, was that the situations concerned were mostly associated with disappointment: professional discrimination or increased demands despite at least subjectively committed performances, failure to gain recognition or gratitude from the partner or the children. Yet the patients had neither explicitly expressed their expectations nor perceived them in any way as such. They became perceptible to those concerned only indirectly, as it were, through their experiencing of the disappointment which now for its part remained unspoken. This constellation suggests that aggressive impulses were experienced as problematic by many of our patients.

## Personality Structure and Neurotic Disorders

Depressive, anancastic, sensitive and hysteric personality traits were predominant, being determined clinically with roughly the same frequency; marked asthenic or schizoid personality structures were an exception, each of them being confined to only one patient.

Personality diagnosis based on psychological tests also revealed in many cases a control or suppression of aggressive instinctual needs. If, for instance, the number of probands giving themselves comparably extreme in the six standard scales of the Giessen test is counted up and the direction of the deviations taken into account (Fig. 1), the outcome is: about one third to one half of the patients respectively scored significant values in the individual scales, with – in accordance with the bipolar scale construction – deviations occurring in both directions of trait intensity. It is only in the "control" scale reflecting the different intensities of drive regulation that deviations were registered to only one pole. Ten patients described themselves as "compulsively" and excessively controlled, but none as "undercontrolled". Comparable findings, though somewhat less marked, were recorded in the FPI (where 6 patients where characterised by excessive retention of aggressive impulses).

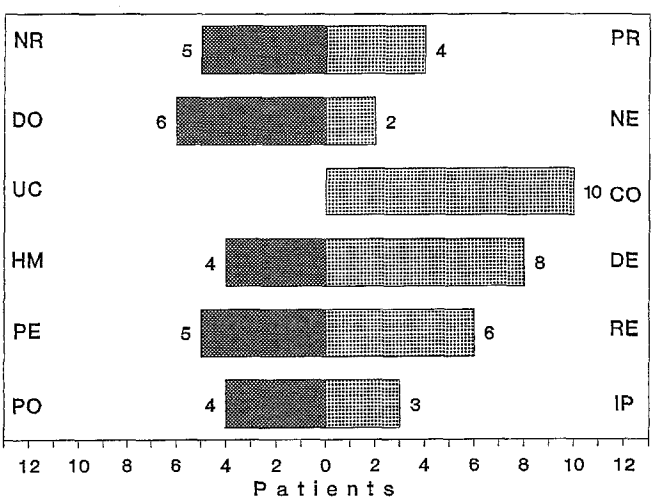


**Fig. 1.** Giessen Test on 22 patients with writer's cramp. The chart shows the number of patients with high values in the 6 standard scales: with negative social resonance *(NR)*/with positive social resonance *(PR)*; dominant *(DO)*/negligible *(NE)*; undercontrolled *(UC)*/compulsive *(CO)*; hypomanic *(HM)*/depressive *(DE)*; permeable *(PE)*/retentive *(RE)*; socially potent *(PO)*/socially impotent *(IP)*

In only a minority of the probands were the psychological peculiarities so marked as to provoke the clinical diagnosis of a neurosis or personality disturbance: Five patients (2 with markedly severe character neuroses) were to be regarded in the clinical sense as neurotically ill and in urgent need of psychotherapeutic treatment. Two of these 5 had a case history of the neurotic disorder being complicated by definite alcoholism or polytoxicomania but had been abstinent for a long period at the time of the study, whereas a third was still drinking.

Apart from these 5 patients, there were 2 who were to be rated as having a slight neurotic disorder (without systematic psychotherapy being necessary), and 3 displayed discreet neurotic traits to which, however, no "pathological value" in the narrower sense was to be attributed.

A comparison between the neurotic patients and the others with respect to frequency of stress situations in the initial period of symptom manifestation reveals that, if patients with relatively mild neurotic symptoms are included in the group of neurotics, i.e. 7 patients are assumed to be neurotic, stress was a somewhat less frequent factor than among the non-neurotics. If only the clinically relevant neuroses ($n = 5$) are taken into account, then situational stress was somewhat more frequent than with the others. An unequivocal correlation between stress-dependent manifestation of writer's cramp and neurotic disorders is accordingly detectable in individual cases but not demonstrable in statistical terms.

## Biographical Data

Five patients grew up in incomplete families, either because their real father had left their mother before or shortly after the birth of the child (3 patients) or because one parent had died within the first 2 years of the patient's life. One third described their upbringing as extremely strict, rigid and constricting. In one patient, the obstruction of her expansivity and active liveliness was expressed not only in her being strictly forbidden by her reclusive parents to bring friends home to play because of the noise involved, but assumed concrete form in the father's instructions concerning her homework "A girl's handwriting isn't so large, a girl's handwriting is small!"

We learned from 6 patients that they had always attached special value to the appearance of their handwriting. It must be borne in mind, however, that these are retrospective data; it is quite conceivable that the patient attaches greater significance to the outward appearance of the handwriting when he himself is hardly able to write legibly any more and that in this situation he sees his handwriting from earlier days as neat, attractive and easy to read.

All 22 patients had been awarded a school leaving certificate, 5 of them at high school. Only 3 patients had no vocational training; 5 had completed university studies. Of the 5 patients who initially learned a trade, only one remained in this occupation while 4 were promoted to higher-grade positions in administration. Activities in the administrative departments of public or private institutions were altogether exceptionally well represented. (It has already been pointed out that clerical work accounted for a substantial part of the professional functions of 16 of the patients.)

Bearing in mind the often problematic situation of the family of origin, these data on professional socialisation reflect the high-pitched ideals, objectives and self-set demands of our patients. Their lives are characterised by unspoken ambition and unassuming persistence, with promotion and professional advancement generally being achieved without direct competition from other applicants. Without registering any claims, they tended rather to wait until their superiors considered them suitable for the post.

In summary, almost two thirds of our patients were suffering from clinically relevant neurotic disorders and/or had been confronted with a special, conflictual personal situation at the onset of the manifestation of writer's cramp. On the other hand, neither a neurosis in the clinical sense (or any other psychological disorder) nor exceptional situational factors could be determined in more than one third of the probands ($n = 8$).

## The Attitude of Patients to Their Symptoms

If we ask not only how writer's cramp originates but also how the patient experiences it, then the pathic aspect is addressed. "Some observers", according to Bräutigam and Christian [3], "had the impression that writer's cramp entails not so much psychological suffering as other neurotic symptoms." "Their complacent acceptance of a level of disability ("la belle indifference") which would be catastrophic if it were organic, reveals the new adjustment among the patient, the illness and the expectations of secondary gain from it" [16].

In general, the patients reported numerous frustrating consultations and therapeutic trials (most of them not with neurologists) that they had undergone up to the time of our study. The type of description suggested as a rule neither resignation nor triumph over the failure of medical efforts. The impression gained was rather that the patients develop towards writer's cramp the same persistence and uncomplaining patience that characterises their whole lifestyle. Although they have to endure considerable difficulties in practising their occupation, for instance, as a result of the graphospasm, most of them did not ask for any reduction in workload or for consideration. On the contrary, they tried to compensate, by working longer hours, for what they are no longer able to achieve within the normal time as a result of their problems in writing [cf. 11]. This is typified by a statement made by one patient, who characterised her mother and herself with the words: "We aren't so fussy... we try to cope with life. We don't complain so easily."

In the subjective experience of 16 of the patients, the symptom furthermore assumed a significance beyond that suggested by the objective everyday disability. The disorder was experienced at least as an embarrassing stigma, and efforts were made to conceal it from the environment and not infrequently even from the patients' own children or partner. The statement made by one patient: "You feel such a fool, not even being able to write properly" is characteristic of many.

Those patients suffering from neurotic disorders integrated the writer's cramp regularly into their conflictual experience, whether as a perfidious sign of tabooed drive instincts (which then led to exceptionally complex efforts to conceal the disorder from the environment) or as an integral part of neurotic conflict-solving efforts.

*Case 2*

The situation at the parental home of the now 43-year-old patient was characterised by the strict moral demands and strong drive instincts converging contradictorily in the father. For instance, the long-admired father held a high office in a religious sect and continually urged his son towards achievements of which the patient himself was incapable. However, numerous extramarital relationships and increasing alcohol-related problems on the father's part led first to his demotion in the religious community and then to the loss of his job. The first symptoms of writer's cramp became manifest in the patient in the year when he married; the marriage was under the strain of sexual conflicts, repeated extramaritial sexual contacts on the part of the patient, and his polytoxicomanic behaviour – despite the religious community also playing a central role in his life. Because his lifestyle was in conflict with the strict dogma, not only in sexual but also in material aspects, he was "really shocked" when he was appointed to an important church office. His functions now included listing those present at church meetings and recording the offerings made by the members of the sect. He felt repeatedly exposed to the community by the religious leaders, whose demand for "absolute obedience" was against the grain. "I have been accused of writing frivolously!" He was reproached with: there are no limits to what one can do if one really sets one's mind to it. "But when I do set my mind to it, it just doesn't work." (It is pointed out at this juncture that the patient's sense of substantial impairments in his professional endeavours has resulted in an absence of further conflicts with the religious community, which also accuses the patient of being too strongly orientated towards secular objectives.)

## Discussion

Writer's cramp is a distinctly rare disorder. Whilst prevalence figures for the population in general are unknown, the incidence rate for Rochester is quoted by Nutt et al. [17] at 3 per $10^6$ person years. Yet it has long been accepted that it can occur, as it were, as an initial symptom

of other, well-defined neurological disorders such as Parkinson's syndrome. (One of our patients, for instance, who initially appeared to have typical writer's cramp, proved on further examination within the framework of this study to have distinct Parkinson's syndrome, so that he was then omitted from the study.)

When writer's cramp occurs in isolation, however, no aetiologically relevant morphological changes (e.g. in the extrapyramidal-motor brain centres) can be detected in most patients; this is another reason for its having been regarded, until some years ago, as an essentially neurotic symptom. With the publication by Sheehy and Marsden [22], however, the concept of writer's cramp as a focal dystonia began to assert itself. Eight out of 29 patients examined by those authors also displayed dystonic motor disturbances in other manual activities, and another 8 developed motor disturbances during the course of the illness, whereas it was only the handwriting that had been affected initially. The rate of psychiatric abnormalities was no higher in patients with writer's cramp than in a control population. The assessments were confirmed in a larger sample comprising 91 patients [23].

As far as the development of physical symptoms and clinico-neurological findings is concerned, there are marked conformities between our results and those of the studies referred to. Especially the spread of movements classified as dystonic, as found by us in 16 of the 22 patients, suggests the presence of extrapyramidal damage. The EMG findings are also open to this same interpretation. In line with frequent reports in earlier and in more recent literature [e.g. 18, 20, 22], there was a history of writer's cramp in the family of one of our patients, with an elder brother, the dizygotic twin brother and (possibly) the father also suffering from the disorder.

Outside our sample, we know another case of writer's cramp occurring in several members of one family, with not only the index patient but at least two relatives (brother, cousin, possibly also father and paternal uncle) being affected. No psychiatric examination has been possible as yet for other reasons.

The repeatedly reported preponderance of clerical professions is hardly surprising, as the symptoms in these cases result in substantial reductions and handicaps in performance. In contrast, patients who are suffering from graphospasm but whose characteristic professional activities do not include writing are probably not always noted in medical records. Whether pathogenic significance is to be attributed beyond this to extensive clerical activity – not in the sense of mere excessive stress and exhaustion, as formerly believed, but at most in the sense of kindling processes with repetitive activation of dysfunctional innervation patterns – is conceivable but has, to our knowledge, yet to be investigated.

In view of the high prevalence of neuroses in the general public and the relatively small sample covered in this study, interpretations deducing nosologic consequences from the proportion of neurotic patients among our probands are erroneous. Observations on manifestation situation, personality structure and biography are, however, of value.

When evaluating the psychiatric findings, it has to be borne in mind that they are based on a very extensive and time-consuming but nonetheless (as a rule) one-off examination. Other conditions, such as are permitted by long-term psychotherapy founded on depth psychology, would probably allow more profound insight into psychodynamic interrelations. For this reason, the psychiatric and psychosomatic interrelations will certainly not be covered exhaustively by our results either.

Anancastic traits have repeatedly been detected in patients suffering from writer's cramp [2, 6, 11; cf. in particular 27], with special significance in the aetiology of graphospasm being attributed by some authors to lively but conscious-incompatible aggressive impulses. This seems quite feasible, since aggressive and captative impulses are accompanied by motor activity of the hands and arms, incidentally, even when the open expression of these impulses is to be avoided. The clenched fist is well known as a symbol of repressed aggression.

Shagass and Malmo [21] described a corresponding increase in electromyographically registered muscular activity in the forearm when the psychiatric interview turned to topics mobilizing feelings of hostility and aggression. Crisp and Moldofsky [6] viewed the upper extremities as the "major organ of expression of anger at the nonverbal musculo-skeletal level" and related the increased muscular tension in writer's cramp to the suppression of aggressive drive stimuli. Writer's cramp would thus have to be ultimately understood as a so-called *Bereitstellungserkrankung* in the sense of von Uexküll's [25] terminology. This fails, however, to explain why writer's cramp became manifest in the right hand of one of our patients who had originally been left-handed but had learned to write with her right hand; under these conditions, muscular tension as a physiological reaction resulting from sustained emotional, aggressively tinged tension would actually be expected to affect the originally "stronger" left arm. Above all, it remains unexplained why the cramp is initially manifested in the writing process in particular whilst other activities are unaffected for a long time, even permanently in some patients. For instance, one of our patients, a physician, is now incapable of writing even one short legible sentence, whereas he is able to perform complex surgical interventions with skill and with no difficulty whatsoever.

It is noteworthy that writer's cramp often occurs in the wake of situations experienced by the patient as disappointment over (mainly unspoken) expectations or failure to gain recognition. Even under the concept of an organic genesis, it is difficult to probe but quite conceivable "that it can be a matter of provocation, of premature manifestation and altogether of affectively induced accentuation of these very symptoms" [19]. It is well known that movement patterns not preformed phylogenetically, such as writing, are influenced very easily by emotional tension. (The same applies to other activities that may be disturbed by occupational neuroses).

High superego demands on the one hand and impaired experience or adequate expression of aggressive impulses on the other hand are characteristic of the majority of our patients, as is illustrated by the predominance of de-

pressive, sensitive and/or compulsive structural components. This is, however, no proof of a pathogenetic connection between personality trait and motor symptom (quite apart from the fact that other, in particular hysteric, character structures were found and that these patients also displayed the described spread of dystonic motor disturbances). After all, characteristics such as precision, conscientiousness, ambition and control of directly aggressive impulses are socially esteemed and pave the way to professions involving mainly clerical activities while abondoning physical work. For example, 4 of the 5 patients who originally served an apprenticeship in a trade managed, as already stated, to advance into clerical professions by taking further education courses. Whether the described peculiarities in personality structure are generally characteristic for the overall group of those active in these professions remains, as far as we know, to be investigated.

The question of whether the personality structure is indeed of predisposing significance in the motor disturbance or whether it is to be regarded as a selection factor for specific professional groups (that are especially impaired by writer's cramp and therefore predominant in clinical samples) is unanswered. In all events, it is an essential determinant in the subjective experience of the symptom by those affected.

The fact that the neurotic patients ($n = 5$ according to ICD 9 classification; $n = 7$ with "mild" forms included) among our probands incorporated the motor disturbance into compromising conflict-solving efforts is hardly surprising and fails to prove the thesis of graphospasm as a neurotic symptom [cf. 9]. But even patients without distinct neurotic signs were found to give writer's cramp an evaluation not to be explained by the extent of objective handicap alone. Those affected writer's cramp initially as a purely physical disorder. They repeatedly experience, however, that the physician is unable to find any organic cause that would account for their inability. There is no apparent reason for their failing at such a simple task as writing. They experience their failure most directly at work, where they actually endeavour to attain their high-pitched objectives.

Failure is especially threatening to patients with an ambivalent attitude towards high-pitched professional objectives (and thus perhaps towards writing itself). They have to make desperate efforts to eventually succeed and not to give up.

Handwriting is not only a cultural technique for transmitting linguistic symbols in material terms but also a personal characteristic – this often in a thoroughly positive sense. Take, for example, the widespread demand for a handwritten curriculum vitae in job applications and the endeavours of graphology. Handwriting is believed to give a deeper, undisguised insight into the personality of the writer.

"The handwriting is suited to studies of expressive movements not only because of its continuous nature which stands up to thorough examination but also because of the minor role played by its being disguised. Most people put on an act to some degree in other forms of mimicry. From gestures of uneasiness (scratching one's head, plucking at one's clothing) which, like certain laughter, are merely a cover-up for something else, to mimetic movements of everyday life that have become customary and natural as a result of frequent practice but have no meaning at all, man builds around himself a wall of fake expression, behind which he hides or with which he deludes others. In handwriting this plays a much less significant role" (Jaspers 1953) [13].

It is then understandable that writer's cramp not only puts the high-pitched objectives at risk but that the distorted writing also becomes a perfidious sign of ambivalent, conflictual demands to the sufferer, who does his utmost to conceal it. The polarised scientific concept of graphospasm ("pure" organo-neurological disorder versus neurosis) corresponds to a split attitude of many patients towards the symptom that they (wish to) regard on the one hand as a physical handicap, and therefore "present" as such to the physician, but, on the other hand, experience as a stigma and an expression of failure. Depending on the methodological orientation of a scientific study, the results will reflect one or the other aspect more clearly.

## Conclusions

The experience of the patient, his intrapsychic and interpersonal conflicts have previously been considered primarily in connection with the question of a psychogenesis of graphospasm. However, as is shown by the studies published by Sheehy et al. [22, 23] and by our findings, the symptoms are generally governed by the laws controlling the functioning of the extrapyramidal motor system and not by the unconscious imagination of the patient. As a rule, writer's cramp is a symptom with an essentially organically determined genesis,with the cerebral aetiology still unknown in detail. As with other physical disorders, however, imitation within the framework of conversion reaction may occur.

The search for the organic factors involved in the aetiology of graphospasm is to be welcomed also from the psychosomatic perspective. It may induce the psychodynamically thinking investigator to take the subjectivity of the patient into account, not only with regard to the question of aetiopathogenesis. How does the patient himself experience the symptom? What does it represent to him, and what subjective significance does he attach to it? What coping strategies does the patient develop, and which avoidance behaviour? The secondary psychoreactive processes, as it were, of writer's cramp that are addressed by these questions gain more significance. The clinical picture and progression are determined not only by the presumably organically induced functional disturbance but also by the subjective attitudes of those concerned to their disorder. For this reason, it is to be recommended that recourse should be taken to both neurological and neuroradiological as well as to psychiatric-psychosomatic methods in further research.

The same applies to therapy, which has offered very few convincing results to date. Progress in the treatment of other extrapyramidal motor disorders should stimu-

late the search for suitable drug-based (and other) therapies [cf. 5].

Attention should, however, also be paid to psychotherapy, which occasionally succeeds in resolving sustained conflict tensions and thus relieves writer's cramp, which, like other dystonic motor disturbances, depends in its intensity on emotional tension. Furthermore, the prevention of psychoreactive false processing of the writing impairment, from which many patients secretly suffer, is also a meaningful objective of psychotherapeutic prevention.

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