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Psychosomatic aspects of Alzheimer's disease

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This case study pertains to the little regard often given to scientific observations concerning the psychosomatic aspects of Alzheimer's disease. It presents clinical investigations, based on the treatment of three patients hospitalised in a psychoanalytically oriented facility. The psychodynamics and group dynamics involved in the treatment program are described in detail. Of the three patients featured in the article, the unconscious personality structures are specifically identified. Reference is also made to the possible psychosomatic aspects of the disease. Psychodynamic findings are commensurate with the neurobiology of the disease and contribute to the understanding of how personal factors and neurodegenerative changes might be linked. The paper concludes with a discussion on the findings and implications for future research.

Key words: Alzheimer's disease, psychosomatics,
personality structure, psychodynamics, neurobiology

Introduction

Alzheimer's disease has often dramatically changed the life styles of those inflicted. Patients often lose their independence, become unable to communicate with others, and require increasingly greater aid with the mundane tasks of daily living. At the very least, the manner in which patients experience and behave is similar to those of healthy individuals [1]. Even in the middle and late stages of the disease, one's awareness of self and the human experience is still intact [2]. Although it has long been known that the course of Alzheimer's disease is influenced by psychological and social factors, current research on dementia largely follows a purely neurobiological path. If this approach appears dubious, criticism will likely be directed toward the neglect of the patients' perspective and of the subjective experience of the disease [1, 2, 3, 4]. Even reliable observations that stress psychosomatic aspects in Alzheimer's disease [5, 6, 7] have been given little significance in the mainstream scientific research. This is despite the fact that it was indicated almost sixty years ago that personal factors need to be considered with Alzheimer's patients if neurodegenerative changes are to lead to a manifestation of the disease [8, 9]. Thus, for example, mental abnormalities are described as predating the outbreak of the first neuropsychological symptoms by

many years, as are reports of extremely stressful external circumstances experienced by subsequent victims. Furthermore, it has been found for many years that patients with insecurity and dependent personality characteristics have, to a great extent, been based on their dominant partners prior to the onset of the disorder (5, 6).

The following study attempts to uncover the type of subjective experiences that might entail the course of decompensation during brain activity. Therefore, it appears appropriate to examine the premorbid personality structure of individuals suffering from Alzheimer's disease, the group dynamics of their environment and their unconscious psychodynamics. In order to defend the empirical findings against the reproach of being pure speculations, results are discussed within the literature and what is related to the neurobiology of the disease. If the findings, gained from clinical investigations, are accurate, they should not be inconsistent with the neurobiology of the disease.

Method

Three Alzheimer patients were admitted to a treatment facility that espoused to a psychodynamic orientation. The cases were diagnosed according to ICD-10 as suffering from senile dementia, Alzheimer type (F 00.1), all of them being in a severe stage of the disease at the time of admission. For an average period of six months the patients were treated with psychoanalytic milieu therapy and modified individual therapy, in which special attention was given to non-verbal and emotional communication. To understand the patients' behaviour in the therapeutically controlled situations, their actions were defined as an unconscious display, according to the basic tenet of psychoanalytic treatment of patients with severe psychiatric disorders. The adequacy and meaningfulness of this approach is supported by observations from group psychotherapy with demented individuals, in which the processes observed corresponded to group psychotherapies with a different patient population [10]. Psychoanalytic milieu therapy, in particular, encourages the acting-out of unconscious dynamics and therefore allows an individual´s unconscious dimensions to be observed even if they cannot be verbalised through dream content or free association [11, 12]. Since patients could hardly speak about themselves in a conscious and self-reflecting manner, third party references on the biography, protocols on discussions with the relatives, mirroring phenomena in the supervision groups of the therapeutic staff and countertransference feelings of the therapists involved were all taken into account. Vignettes, extrapolated from the case studies, illustrate the findings, which are provided in the results section. The three patients are referred to anonymously as Mr. T., Mr. L. and Mrs. S. In a previous study Mr. T.´s case was presented in detail [13].

To expose the premorbid personality structure in its unconscious dimensions, we decided to introduce the human structure model of personality [14]. It allows for a holistic description of the manifold findings on Alzheimer's disease as it differentiates the unconscious personality structure into human functions (ego functions) such as identity, ego-autonomy, inner and outer ego-demarcation, anxiety, aggression, narcissism and sexuality and relates them to the group dynamics and brain anatomy. In further specification, the human functions can be described by their main quality,

which is differentiated by "constructive", "destructive" and "deficient", according to the quality of the internalised group dynamics. Constructive is defined as the respective human function that has developed in a way that enhances the growth of the person and its identity. Destructive is defined as the human functioning that has developed in a way which is harmful for the person and its identity. Lastly, deficient refers to the human function that has not been developed at all.

Results

Premorbid Personality Structure

Identity: All three patients shared the same characteristic of having an underdeveloped personal identity. They rarely acted out of their own initiative during their lifetimes and instead attempted to fulfil external expectations as best they could. They were driven more by external circumstances or led by others as opposed to determining the directions of their lives for themselves. At significant turning points in their lives, the subjects all abandoned their own ideas and conformed to the wishes of others. For example: Mrs. S. was not permitted to pursue a paediatric nursing profession, as her family did not consider it to be enough of a distinguished career. Her father, particularly, had expressed his misgivings about the prospect of her caring for the offspring of others. In her marriage, she bowed to her husband's opposition to the idea of having many children, and even consented to his demand for an abortion during one of her pregnancies. When he was a young man, the company by which he was employed sent Mr. L. to South Africa. When he returned home after residing abroad for many years, he was once again sent to another town for business affairs. Mr. T. gave into the pressure exerted by his father to continue the family tradition of studying law even though he was more attracted to fields of medicine and drama. He did not care for his job, but he tried to do his best, and for a long time was highly respected by his co-workers. His career was a profession that he had not chosen for himself, but was pressured by the desire to live up to his wife's expectations who, in turn, had altered her own identity wishes for his benefit.

Ego-autonomy: All of the patients in this study had been dependent on an individual who was a dominant reference source long before the outbreak of their illness: Mrs. S. had never managed to separate from her mother even after marrying. She entered into an enmeshed relationship with her mother after divorcing her husband. Mr. L. and Mr. T. allowed themselves to be led by their wives who consented to the wish for dependency from their professionally successful and recognised husbands in order to fortify their own sense of self-worth. Mr. T.´s wife believed that it was her task to support her husband's career and to care for him devotionally by not challenging him whenever he immersed himself in his work. The same held true for Mrs. L.

Outer ego-demarcation: Instead of identity, there was adjustment to other people´s will and a pronounced commitment to external tasks among the patients. Since, personal relationships received little significance, Mr. L. thrived on his professional activity and dedicated himself fully to his work. Even when he managed to spend an occasional weekend at home, he failed to find the time for his family. He became engrossed in preparing himself for his next public appearance and spent his free time composing

speeches. A leisure life was virtually unknown to Mr. L, so much so that he encouraged his wife to spend their annual vacation alone with the children. Mr. L. happily accepted tasks that would take him away from home on long business trips. Mr. T. was also heavily involved with his job. He liked to help other people, and his private life came second to his professional duties.

Inner ego-demarcation: None of the aforementioned patients were in touch with their inner worlds, even prior to the onset of their illness. They had forfeited their own feelings and wishes, as well as their fantasies and dreams. They had no friends and avoided talking to their closest relatives about their subjective experiences. In the words of her son, Mrs. S. "only came into contact with her feelings through her illness, while it was impossible to imagine what had occupied her previously." Mr. L. was regarded as an introvert and spoke very little, even when at home. It was only through letters that he was able to express his sympathy to his wife. He appeared to lack any emotional ties to broad facets of his life, such as his difficult childhood, failed relationships and his own illegitimate children. Mr. T., in turn, could not tolerate emotions and punished his own children for expressing their emotions. He was jealous of the relationship between his wife and their first born child, but they did not speak about these feelings. To remedy the situation, the couple gave birth to a second child who was referred to as "father´s child". For years, he also had no affinity to his brothers and sisters. This unspoken jealousy, and the fear of it, served as a hindrance to the relationships in his life.

Anxiety: The patients themselves were especially unable to admit to and experience anxiety. This was the case even prior to their illness. None of them were instructed to be anxious. Quite the reverse, at first glance they seemed to be courageous in a peculiar way. For instance, as a young woman, Mrs. S. went unaccompanied to officers of the Soviet army and convinced them to release her father from imprisonment. During the 1950's, she travelled through isolated areas of Morocco, accompanied only by her two young children. Correspondingly, Mr. T who was not very muscular, lie alone, waiting to confront a burglar in his house. Whereas these situations are marked by the absence of fear and threat, in others the anxiety remained unconscious and was acted-out. For example Mr. T. suddenly disappeared as soon he received a promotion at work, and his wife had to repeatedly do all the work when the family relocated because he had admitted himself to a sanatorium.

Aggression: In contrast to the facade of a well-ordered life all three patients were described as peremptory in personal relations. Mr. L. was feared by his subordinates, Mr. T. was a strict father, and Mrs. S. fought with her mother and her children frequently. But in general, their aggression was denied, especially by the wives of the male patients. During the inpatient treatment Mrs. S. and Mr. T. were very often furious about the therapists and their fellow-patients, whereas Mr. L. became stubborn in such a way that the nurses reacted angrily or resigned from their positions.

Narcissism: The three patients did not seem to be in accord with themselves. Although they maintained upstanding reputations in their respective communities, they could not accept themselves for who they were. With great success they devoted themselves to their work, but they were not truly proud of what they had accomplished.

Mr. L. was always looking elsewhere for greener pastures. All three patients had difficulty with their individual identities in close relationships. They maintained high expectations of their families and would abandon them at the slightest violation of their expectations. All of them had at least one child with whom they felt disenchanted with because of the child's desire to follow his/her own path in life.

Sexuality: During the therapists´ discussions with relatives, the topic of sexuality was avoided, whereas the patients acted-out their needs within the therapeutic milieu. Released from social conventions, demented Mr. T. flirted with the nurses on the clinic unit. In opposition to his manifest desire, his wife served as a maternal figure, but it seemed to be impossible to maintain a sexual relationship with her for reasons unknown. Incidental remarks by the wives of Mr. T.and Mr. L. suggested an absence of sexual difficulties, however, jealousy and fears of disloyalty frequently arose. The denial of sexuality was most noticeable in the case of Mrs. S. In her son's opinion, she had always had many admirers, yet she viewed sexual relations with men as purely for reproductive purposes. She preferred to cuddle with her son rather than her husband. Following her divorce, she refused to look at another man. She once commented on the advances made by a suitor during her younger years by stating "He must be crazy to muck around like that". Nevertheless, in the clinic she appeared to demonstrate erotic interest in younger men.

Group Dynamics

Neither in their professions nor in their family life, could the patients surround themselves with groups, which were open for needs and emotions. Although they had been dealing with many individuals, they were inwardly lonesome. Long before they felt ill, the group dynamics around them were characterised by rigidity and an absence of liveliness. There was a gap that could not be filled between outer appearance and inner reality. For an outsider, their families seemed to be prim and proper, but within the groups, tensions had been existing over years without any resolve. Externally, the subsequent patients seemed to be strong, and it appeared as though they had the say in the family, but internally they were dependent on a dominant partner, either their wives (Mr. L. and Mr. T.) or their mothers (Mrs. S.). The dependency was mutual and to the advantage of both. The subsequent patients were protected against their unconscious anxiety, developing an emotionally deeper relationship with other people, and by their successful career they gave their partners societal acceptance. Within the family unit, the subsequent patients were rarely present, relinquishing the social responsibilities to their spouses. Typically, the patients' and their partners' relations to their children were divided: One of them was the "good child" who met all expectations and was seemingly loyal towards the parents, and another was the "bad child" who was accused of severely disappointing the parents. When Mr. T.'s son decided to carry out a creative profession, after first having studied law like his father, he, unfortunately, fell from grace with his father. Being disappointed, Mr. T. broke off relations with his son, as did his wife, since his son no longer fulfilled their unexpressed wishes to remain in accordance with family tradition.

In general, conflicts were minimal. Emotions were also avoided and hardly displayed; instead diligence, work and good manners were the most appreciated values in the family. The subsequent patients were willed to fulfil them, they were engaged in successful careers. The family groups that they lived in appeared superficially to be in good working condition, however, they were not integrated with any depth. The disease became apparent, when the partners´ mutual dependency deteriorated. In the case of our patients, we also noted substantial life events that required revision of the habitual way of dealing with life. Thus, Mrs. S´s mother died, Mr. L. voluntarily relinquished further public duties and suffered from a serious illness, and Mr. T. retired from his employment.

In discussions with the patients' relatives, it was repeatedly obvious, despite the severity of the disease, that they were incapable of emotional contact. It appeared as if they wanted to keep the patients dependent and in need of help in order to avoid dealing with their own feelings. When we addressed the loneliness of Mr. T. and his wife, a vicious jealousy emerged among the children. They argued about who would be best suited to care for the needs of their father. This obscured an understanding of his personhood and even directly prevented an open discussion about the relationships of the single-family members to him, and about the expectations and disappointments arising from their shared life with him and with each other. Just as in his prior family life, the family was unable to allow emotions to surface. In the end, the oldest son who was still viewed as the "bad child" broke off the dialogue among the relatives. Mrs. T. who had quietly advocated the transfer to a nursing home but had been reticent in voicing her opinion, rejected our proposal of providing care in the family home by external aid, since she - as she openly declared - did not want to deal with her jealousy in face of the possibility that Mr. T. might establish an erotically tinged relationship with the young nurses.

In many aspects, group dynamics arising from the patients in the therapeutic milieu were similar to the dynamics of their biographies. As previously, when Mr. T. was dependent on his wife, he now related to nurses who organised his everyday life and who were outraged by his erotic desire towards them. The acting-out of his unconscious dynamics seemed to prevent him from becoming part of a patients´ group. He was once again in the presence of a number of people, while at the same time remaining in minimal contact with them. On the other hand, in the therapeutic milieu it was also clear that he was missing something in his life: Mr. T., who sometimes was very boisterous, always relaxed when the group argued over its members´ needs and called for their individual identity.

Unconscious Psychodynamics

We know from our patients' biographies that they experienced great difficulty in initiating separation and handling the related identity tasks. Separation represented desertion to them and was tied to such intense fear that they invested great efforts during their lives to avoid experiencing separation by forming close ties to a partner. Thus, the separation from their partners became necessary following stationary treat-

ment and consequently evoked strong feelings of fear or anger or a depressive reaction from other patients. Of the few sentences that Mr. T. was able to speak, they consisted mostly of disparaging statements about his wife. In his helplessness, not knowing what to do, he asked repeatedly for her in a stereotypical fashion that was unbearable to his fellow-patients. Mrs. S., in turn, commanded her absent daughter or her long deceased mother to her bedside in a resounding voice. Mr. L. gave way to apathy once his wife left and nothing could move him to leave the room, where he waited for her return.

Unfortunately, we have only very little knowledge of our patients' childhood. Thus we cannot speculate to what extent the earliest experiences with the first reference persons were repeated in this setting. Indicators for an early trauma are most apparent for Mr. L., whose natural mother left him immediately after birth. Yet it is striking that all of our patients repeatedly managed to instil feelings of desertion in their children. It is suspected that our patients' unconsciously repeated patterns of relationships they themselves had experienced during their childhoods and had failed to overcome. Mrs. S. was regularly away for several weeks each year on business trips, even after her divorce, and gave her children to the little beloved grandmother for care. Mr. L. left for South Africa for several years following the birth of his illegitimate child, and later on was also unavailable to his legitimate children. Mr T., who was absent from his children during the first years of their lives due to war, re-established a bond with them later primarily by demanding good academic performance and excellent manners.

Discussion

Even though the sample of patients in this study is small (n=3), the results seem to allow for enough speculation to form a hypothesis about the psychosomatic aspects of Alzheimer's disease. Till now, there has been no other study published, describing Alzheimer's disease in psychodynamic and group dynamic terms.

Regarding the personality structure of Alzheimer patients, the study allows us to assume that pathology may have existed prior to the onset of the disease. According to the human structure model, a personality profile can be charted for the three Alzheimer patients characterised by the following human functions: destructive identity, deficient ego-autonomy, deficient outer ego-demarcation, destructive inner ego-demarcation, deficient anxiety, destructive aggression, destructive narcissism, and destructive sexuality. The assumption of an impaired premorbid personality structure is confirmed by qualitative interviews with relatives [5, 6]: It was demonstrated that, even during healthy periods, the patients had no self-reliance and lived in extreme dependency on their partners. It was also found that a relationship between premorbid personality and anxiety and depressive symptoms existed in subsequent Alzheimer patients [7].

Thus the personality structure largely corresponds to one that is typical of psychosomatic illnesses [15]. Also alexithymia, being part of an another concept of psychosomatic medicine [16], might be found with Alzheimer's disease, as it was shown that in comparison with elderly normal control subjects Alzheimer patients demonstrate an inability to communicate emotional messages [17].

The group dynamics revolving around our three Alzheimer patients are similar to those, known from the support groups for the family caregivers. Out of these obser-

vations some striking factors should be mentioned: A surprising degree of agreement exists on the observation that relatives frequently deny the disease for a long time after its outbreak [18, 19, 20], or that, in the case this is no longer possible, they completely give up on themselves and their own needs [21, 22] in order to avoid a separation, such as having to bring the patient to a nursing home. There is a strong willingness to help the patient and to do for him what he can no longer do for himself. In the majority of cases, the nursing relative, usually a female, is totally isolated [19, 22, 23, 24]; all relationships apart from the one to the patient have faded. Although the isolation is bemoaned, care of the sick is in reality seldom left to third parties. This devoted behaviour of the care-taking relatives is frequently accompanied by fantasies of violence and death wishes for the patient who is experienced as being demanding [25, 26, 27]. The relatives experience the disease with such feelings as helplessness and powerlessness [28, 29], but defend it against their own emotions and the necessity for finding support for themselves by escaping into the care they provide for the patient [19, 30]. It is remarkable how little the relatives speak of their own future perspective following the anticipated death of the patient [31]. On the other hand, unrealistic expectations are attached to the ill person by relatives [26], which are transferred to the physicians or medication prescribed [19].

The described denial of the illness, the devoted care as well as the intense feelings of anger directed at the patients, all equally appear to indicate that the patients play a special role in their immediate groups in which high expectations are invested, and that all people involved are interested in maintaining a mental balance. Thus in group dynamic terms, the meaning attached to dementia conditions is that relatives are faced with a situation in which they can avoid perceiving their own boundaries and own needs.

As stated in the findings of our study, the group dynamics surrounding Alzheimer patients correspond to the psychodynamics of the patients: feelings such as a fear of death, grief following separation and parting are not communicated. Although anything that creates distance between the patient and the relatives is experienced as relief, it seems that a taboo extends over discussing the break-up, that lastly also includes death, in groups surrounding a patient suffering from Alzheimer's disease. At the same time, it is to suppose that these special group dynamics have not been caused by the disease, but in reverse, that within a family group the disease makes conflicts topical again which have pre-existed for a long time [32].

It may be asked why a severe manifest disorder has not appeared earlier among the three Alzheimer patients despite their pronounced human structural deficits. Probably it can be traced to the supportive collusion of the reference person who managed to fill the "hole in the ego"[15] of the subsequent patients by providing their missing human functions, thereby placing their impaired personality structure on a more stable footing for a long time. The disease does not break out until a collapse in the viability of the symbiotic union of the mutually dependent partners cannot be averted any longer. Incisive experiences of separation and major conflicts within the relationship predate the appearance of first neuropsychological symptoms by months or years [5, 6]. These events, which are not uncommon and which occur in every life that is drawing to a

close, befall persons who have shown odd traits before. Because of these, faced with the encroachment of old age and death, they cannot use the opportunity for confronting the issue of how to structure the last phase of their lives, including thoughts about death and reflections on the past. As the compensating effects of a vivid group are missing, too, the subsequent patients are left alone with their feelings. They are overwhelmed by their unconscious anxiety and stop relating their current experiences to memories. Finally, they live in their own world with their own time. By experiencing themselves much younger than their stated age, they no longer have to suffer from fear of death so much.

Indicators of psychosomatic aspects in Alzheimer's disease are also given by findings of neurobiological research. Of the many structural changes found in the brains of Alzheimer patients, the synaptic deterioration in the neocortex presents severity that corresponds most closely to the clinical picture with its cognitive impairments [29, 33, 34]. This synaptic deterioration is most pronounced in the hippocampal region, so that the degeneration of the hippocampus can also constitute part of the diagnosis for Alzheimer's disease [35, 36, 37]. It has been demonstrated that the volumetric loss of the hippocampus is caused by a decrease in the total number of neurones [38, 39]. But the question remains, why the loss of synapses and why is the hippocampus most frequently effected?

The pathological changes begin in the entorhinal cortex (Brodmann Area 28) [40] where the largest number of positive plaques was found [41]. This area represents a complex supramodal field of association where a multitude of information converges. For example, information originating from uni- and multimodal fields of association and the temporal amygdala are passed on to the hippocampus. The hippocampus itself derives most of its afferents from the entorhinal cortex and the contralateral hippocampus. Its main task seems to consist in integrating incoming information with a pre-existing space-time continuum and to enable conscious recall of earlier experience [42, 43, 44]. An essential role in experiencing emotion is ascribed to the temporal amygdala, a component of the limbic system. Apparently, it stores emotional memories and determines the emotional quality of the process of knowing [45, 46]. Very likely, the amygdala is a component of a neuronal system noted for triggering physiological states related to stimuli that signal threat or danger [47].

The interruption of the projections between entorhinal cortex, hippocampus and temporal amygdala may be viewed as the neuropathological substratum of the clinical picture of Alzheimer's disease, according to which these patients either cannot at all or cannot appropriately co-ordinate current experience and emotions with earlier memories. This functional disjunction of entorhinal cortex, hippocampus and temporal amygdala [48] deserves further significance, if one considers that a loss of synapses is supposed to occur wherever synapses are no longer used, and that a deafferentiation occurs primarily in the neurones of the hippocampus. In the preclinical state of Alzheimer's disease, the brains of the subsequent patients are affected, selectively and predominantly, in medial temporal structures [49, 50]. Thus, one could say that dementia means a disuse of the hippocampal function [51]. For whatever reason, current experience is no longer related to earlier experience and the hippocampus

atrophies. Based on our empirical findings and the references discussed, we suspect, that this reason might be found in the personality structure and in the psychodynamics of Alzheimer patients.

Furthermore, possible indications of relationships between psyche and soma in Alzheimer's disease is also related to a specific loss of synaptic transfer. This loss implies a dysfunctional neuronal brain plasticity. In other words, the restructuring process within the brain that normally accompanies every functional change in activity throughout a person's life is severely impaired. While the normal ageing process on a neuronal level is characterised by a loss of nerve cells and a „blooming" of the remaining dendrites to a dense plexus of neuronal connections, among Alzheimer patients the terminal parts of the dendrite trees wither away to short stubs, so that the interconnection of individual nerve cells is no longer reliably given to the extent needed to integrate the personal experience [52]. It is known that neuronal plasticity may be impaired by psychosocial stress. Pyramidal dendrites in the hippocampus that are treated with glucocorticoids, i.e. hormones released during stress, have significantly shortened and less ramified apical ends than those in the untreated control condition [53]. Similarly, the production levels of the body-produced immunological messenger substance Interleukin-6 rise with increasing levels of stress and result in substantive neurodegenerative changes [54].

Conclusion

In reviewing the neurobiological findings, two other questions remain: Why is the hippocampal function not used effectively, and what kind of stress effects the brain? For a hypothetical answer that has to be tested in another study, one should take into consideration that Alzheimer's disease normally occurs in an age when an individual is facing the end of his/her life. The special kind of the premorbid psychodynamic patterns and personality structure we found in the three Alzheimer patients suggests the hypothesis that perhaps mental confusion is a marker for avoiding the unconscious fear of death and desertion as one's life comes to a close. The inescapable separation that one experiences as the near death may present at times with such stress that it leads them to withdraw from their personal narrative. Due to their premorbid personality deficit, they are unable to integrate the unconscious anxiety they experience in this special challenge of identity. Since they do not receive enough support from their partners and from the groups around them as they themselves attempt to avoid this theme, the later-on patients are increasingly overpowered by their unconscious fear of death and identity in this final stage of life until they are finally unable to co-ordinate current experience and emotions with earlier memories. While this may be a tremendous conclusion we dare to take the opinion that not using the hippocampal function of memory because of unconscious fear of death may be the basis for synaptic atrophy. Additionally, it may be that in advanced age, the precious trauma of separation, experienced during childhood with the dissociation of fear of death, unavoidably become relevant again, so that finally the cerebral activity disintegrates. Thus, the shared recall of the past

and the planning of the future fail to integrate in a harmonious way. Removed from the given time-space-continuum, the patients no longer have to feel their tormentous fear of death.

It should also be considered that an individual's course of dementia occurs against a societal backdrop marked by an increase in the number of individuals reaching an old age. Nevertheless residential communities spawning several generations represent an exception today, and the elderly are left to themselves in their confrontation with death. Additionally, socially shared and meaningful rituals at life's end that were once practised by religion and found expression in culture, music and art are no longer the norm. It seems as if the perplexity of the modern industrial society that no longer knows how to approach death and that denies it as long as possible hands its helplessness over to the individual. But the task to find one's own answers to the last questions of life will ask too much of a single individuum, if a person has not managed to develop a sturdy identity and has not surrounded him-/herself with healthy social groups. Accordingly, societies with a traditional way of living demonstrate a low incidence of Alzheimer's disease, compared with the more industrialised nations [55, 56].

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