

Understanding and Supporting the Activities of Autistic Patients

--Based on the Fundamentals of Cognitive Science and the Science of the Brain

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The targets of the study in this research paper are autistic patients (including autistic children), which even among children with disorders that I have encountered in educational settings up to now, have mysterious worlds that are difficult to understand particularly in speech and conduct.

Even though we just say autism, the breadth of their intellectual capacity is very great, such that the term autistic spectrum has become pervasive recently, and the mental and behavioral states vary, making a clear definition of autism difficult. Even in the Ministry of Education, Culture, Sports, Science and Technology "Position of Future Specially Funded Education (Final Report)" and elsewhere, high functioning autism and Asperger syndrome have become targets of specially supported education, but even with their high functioning autism, there are few that become independent and are successful in terms of employment. At present, support aimed at making them independent is an important element that cannot be left out. In addition to clarifying the psychological and behavioral characteristics, inclusive of highly capable autistic patients, methods for supporting them in the future are considered. Specifically, as an on-site teacher

continuing to be involved with them in the future, I have, in Chapter I, arranged the behavioral characteristics of autistic patients from the standpoint of the field of symptomatology.

Since 1980, many autistic patients, starting with Temple Grandin, have published autobiographies telling about their backgrounds and inner lives, but in Chapter II, I have brought together material related to what I call the theory of autism and the heart with reference to these. In Chapter III, I summarize the currently known facts about the causes of autism, which is also said to involve genetic factors, from the standpoint of brain science. Furthermore, in Chapter IV, I add a consideration of manner in which autistic patients are supported based on the knowledge up to this point. The following gives overviews of each of the chapters.

Chapter I Understanding the Behavior of Autistic Patients

It is widely known at present that autism is a developmental disorder based on a brain disorder.

However, there is currently no uniform general concept or definition of the developmental disorder. Therefore, this research paper handles it as a disorder belonging to "Pervasive Developmental Disorders" classified under "Psychological Developmental Disorders" in the World Health Organization (WHO) International Classification of Diseases (ICD-10). According to this, infantile autism [autism] is a pervasive developmental disorder defined by the appearance of three conditions, (1) a qualitative disorder in social interaction, (2) a disorder of communication faculties and (3) a disorder of imaginative faculties and repetitive, stereotypic behavioral patterns, appearing before the age of three. This chapter arranges behavioral characteristics according to various aspects of these three disorders. In particular, an explanation of (1) is given using Lorna Wing's four classes. (2) is discussed by dividing communication into prelinguistic, nonverbal and spoken language and the accompanying characteristics. In (3), I touch upon the persistence of repetitive routines, stereotypic behavior, keenness of sensory perception and, further, solitary islands of ability.

Chapter II Understanding the Mind of Autistic Patients

The "theory of the mind" is a person's ability to grasp the intentions and beliefs of others. From the results of a variety of research, it has become known that autistic patients have a disorder in the "theory of the mind." In this chapter, along with discussing the "Sally Ann problem" and "Smarties problem," which are representative tests for the "theory of the mind," the conclusion is drawn that acquisition of a "theory of the heart" through "the obstruction and deception problem"

is not just caused on the level of linguistic ability. Furthermore, problems for a second level of testing for the "theory of the heart" have been implemented for high functioning autistic patients and Asperger syndrome patients that pass the "theory of the mind" tests. The following facts have come to the surface through the results of experiments on the communications problems known as the "ice cream shop problem" and "white lies." In other words, there is a contradiction in that passing the tests for a "theory of the mind" does not always mean the acquisition of a "theory of the heart," and there is a possibility that these patients use a strategy that is different from normal, healthy children. This chapter concludes that these are important research themes for the future.

In the items that follow, the parts related to the heart in the writings of Temple Grandin are extracted, and there is a discussion of the difficulty of overcoming disorders in the theory of the heart, no matter how high functioning autistic patients are.

Chapter III Autism as Viewed from the Field of Brain Science

At present, it is thought that the cause of autism is some biological disorder in the brain. There is no definitive conclusion concerning either causes or treatment, but in this chapter, I bring together the causes of autism derived from recent research and the relationships between the brain and autism that have been made clear in the field of "brain science." Among the expected biological causes are genetic factors, viral infections, complications in birth or pregnancy, etc., and it is said that there is a possibility that any of these could cause minute brain damage that could be thought of as a

cause for autism.

In terms of the relationship to genetics, a great deal of genetic research has been published recently by groups studying the genetics of autism in Great Britain. Even in identical twins, which are genetically the same, the concordance rate for autism is not 100%, and for example, it is known that even if both twins are autistic, there are large variations in the characteristics of the symptoms, while at the same time, the great majority of siblings of those with autism are healthy and normal. Therefore, a summary of the involvement of genetic factors would conclude that "a series of genetic problems may bring about autism, but it is difficult to explain the causes of autism as a whole by these alone." It is the same concerning the involvement of viral infections and complications in birth or pregnancy, and they may be partial factors in autism, but it can be said that autism does not come about solely because of them. Thus, all of these biological factors have the characteristic of bringing about damage to areas of the brain, and it can be assumed that developmental disorders, including autism and mental disabilities, are brought about by them. This idea has been brought together in the "final common vehicle." From the field of brain science, I take up the research results that have become clear from brain imaging diagnostics using the newest scanning technology known as PET and MRI. Sorting out the afflicted regions, there is a theory on the cerebral limbic system and cerebellum, a frontal lobe theory and a theory of disorders in both the frontal and temporal lobes and language regions. In addition, progress is being made in research on the relationship with neurotransmitters. At any rate, however, research in this field has just begun, so we must await future research.

Chapter IV Considerations and Recommendations for the Manner in which Autistic Patients Should Be Supported

In this chapter, along with discussing the changes in the treatment and education for autism in Japan at various age levels, I have added considerations. In particular, I emphasize that there is a need for supporting their being able to move around in a self-sustaining manner with a view toward their future lifestyles in the education of autistic patients in early adolescence and adolescence. For autistic patients from adulthood on, the viewpoint is how we can improve the quality of life (QOL improvement), and I discuss the importance of a "top-down approach" that makes it possible for those with disabilities to live locally just as they are. Along with the permeation of the normalization concept, integration is being implemented in educational settings. However, in integration, only the aspects of amalgamation, reconciliation, symbiosis and coexistence have been emphasized, and there is the criticism that this has moved forward with insufficient accommodation for individual needs. Thus there have been developments in the idea of integration.

As a background for these concepts, emphasis has been placed on the necessity of the so-called environmental adjustment approach in "Manner of Support for Autistic Patients." In support for student life, support for leisure activities, support for life in the home, support for local living and support for employment independence, we must align many areas, such as medicine, education, welfare and labor. I think these problems organically bind the aid system for them.

For autistic patients to be able to live fully in local society, a comprehensive support system must be

created to include direct support for them and support from the environment surrounding them (the people around them).