The history of autism in the first half century of the 20th century: new and revised

Michael M. FITZGERALD
Department of Psychiatry, Trinity College, Dublin 2, Ireland

Abstract
This paper examines the prehistory and history of autism in the first half of the 20th century. The prehistory focuses on Heller’s dementia Infantilis and Bleuler’s autism and schizophrenia. The more formal history begins with Tramer (1924), and continues with Ssucharewa (1926), which still contains some of the best descriptions of autism, although she called the condition schizoid psychopaths or schizoid personality disorders. There is still debate about when and whether Asperger and Kanner read Ssucharewa (1926), but the paper was republished in German in 1932 and quoted by Kanner, post his 1943 paper. The point is that Ssucharewa publication has precedents. George Frankl, the predecessor of Hans Asperger by many years, in the Heilpadogik Clinic was therefore a key figure in the description of autism in Vienna and later he went to America and worked under Leo Kanner, whom he described autism to.

Key Words: Asperger syndrome, history, autism, origins

Citation: Fitzgerald, MM. The history of autism in the first half century of the 20th century: new and revised. Journal for ReAttach Therapy and Developmental Diversities. https://doi.org/10.26407/2018jrtdd.1.13

Copyright ©2018 Fitzgerald, MM. This is an open-access article distributed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (CC BY-NC 4.0)
Fitzgerald, MM. The history of autism in the first half century of the 20th century: new and revised

Introduction
The history of autism is very complicated. It has changed hugely in recent years. This is what the paper is about. In the past, there have been many errors in the history of autism which this paper elucidates. Recent scholarship has brought to light a much more accurate and truthful history of autism. This paper focuses mostly on the pre and early history of autism in the 20th century.

There are unanswered questions about whether Kanner knew about Suchareva’s (1926), paper on schizoid personality disorder/schizoid psychopaths which was published in German in 1932. Sucharewa described what Kanner called, “infantile autism” in 1926 and 1932. Could Kanner whom most professionals believe originated autism have known about Hans Asperger’s paper, a later description of autism, which he called autistic psychopathy published in 1938 before the Second World War? Could Hans Asperger have known about Suchareva’s paper, published in German in 1932 having been published in Russian in 1926? These are critical questions in relation to the precedence in the discovery of autism. Final proof is not available.

First decade of the 20th Century:
In Heller’s disease, (1908), the patients regressed during the third or fourth year, became restless, angry, whined, showed anxiety, showed loss of acquired functions, which in a few months, led to mutism and dementia. Speech became impoverished and words became unclear. Some of these may have had autism.

Kanner (1937) pointed out that, “dementia infantilis or Heller’s disease is an illness sui generis”. Kanner was incorrect about this. It is on the neurodevelopmental spectrum. The same can be said about autism. Kanner also emphasised that autism was, “sui generis”. Indeed, these conditions are not specific but are part of broader neurodevelopmental spectrums. Indeed, they are the opposite of sui generis.

Second decade of the 20th Century:
Bleuler, (1911), goes on to state, “even in those cases where autism is not obvious at first glance, it can be seen that the patients always went their own way and did not allow anybody to approach them”. This is typical of autism.

Bleuler (1911), points out that, “autism is almost the same thing that Freud calls autoeroticism”. Bleuler says that they, “limit as far as possible, their contact with the outside world. They cut themselves off.

Third decade of the 20th Century:
In 1924, Tramer wrote a paper on one-sidedly talented and gifted imbeciles (Lyons, 2018). Lyons, (2018) states that the cases described, “might warrant a diagnosis of autism spectrum disorder”. Interestingly, this is before the Sukhareva (1926) paper. Tramer (1924), describes one patient specialising in painting cats. This patient reminds me of Louis Wain, (Fitzgerald, 2002), who also had autism. Tramer, (1934) stated that cats, “were his companions from early childhood”. “He had an extraordinary memory, possibly photographic, and his pictures of cats were very sought after. His drawing is described as compulsive, his whole life force, his whole primitive will power was focused on drawing”.

Many of the cases described by Tramer (1924) possessed, “very idiosyncratic language”. Many of them focused on drawings. One, “produced amazing drawings of trains, houses, towns from memory and did his drawings with amazing speed”. Some of them spent time in psychiatric hospitals. Some of them painted completely original works, while others engaged mainly in, “producing copies”. Another child had, “difficulty sitting still in school, had his own fixed ideas, worked with great intensity, was idiosyncratic, oppositional/contradictory. He had very good memory, both auditory and visual and great talent for drawing. Also he had many various special interests, including plants, shells, house animals, lamps, clocks etc. He was very interested in mathematics which kept him awake at night”. He had, “calendar, calculating skills”, (Tramer, 1926). Another, “ignored the corrections made by his teachers, had monotonous voice. His strength was in mathematics and he used his own methods to find solutions and was unable to do it in writing as instructed by his teacher”. He had idiosyncratic ways of solving maths problems”. He has, “an
excellent memory”. He liked, “order, he appeared stiff and monotonous, is generally extremely calm, however if challenged, he becomes violent, only then to revert back to his cold calmness”, (Tramer, 1924).

Another, “enjoyed torturing animals; has a sadistic component; suffers from constant, almost daily mood changes, has temper tantrums, throws himself to the ground, pulls his hair out. He is extraordinarily musical, has absolute pitch and great memory”. Today, this would be described as criminal autistic psychopathy, (Fitzgerald, 2010). Another produces, “astonishing technical/architectural drawings without having had previous training. He insists that his drawings are the product of his own imagination and not copies”, (Tramer, 1926).

The same could be said of so-called dementia praecocissima by De Sanchez Sanctis (1925). Some of these children would overlap with so-called Heller’s disease. Again, you have regression around the fourth year, with catatonic symptoms, stereotypical outbursts of anger, echolalia and emotional blunting.

In terms of classic descriptions of autism, the story begins in 1926 when Sucharewa, a Russian psychiatrist wrote her paper on schizoid psychopaths in children. This is a paper and contains the best descriptions of high functioning autism, surpassing Leo Kanner and Hans Asperger. She starts out with a discussion of schizoid personality disorders of childhood, which would now be called high functioning autism. She mentions this by an, “artificial construct”, if one were to believe Bumke, (1924). In actual fact, Bumke was wrong to describe it as an artificial concept. Sucharewa, (1926), discusses the relationship between schizoid personality and schizoid in a very modern sense, which is still an issue to this day. She points out that, “clinical research into the prepsychotic personality of people with schizophrenia, has shown this to be similar to the picture of schizoid personality disorder”.

She goes on to describe classic case histories of high functioning autism which she calls schizoid personality. These case histories have family histories which are very commonly found in autism today. Some of the issues in the family histories include, “outbursts of anger, pathologically suspicious”, obsessive states”, “poor adaptive capacities”, “anxiously passive, afraid of empty rooms”. Other features in the family histories of these patients were, “odd thought processes”, schizophrenia, eccentric and irritable. Also included in the family histories are comments like, “extremely shy, only sociable within a small intimate circle, colourless personality, with heightened suggestibility and poor adaptive capacities”, dominating, quarrelsome, suspicious and miserly, intelligent, obstinate, quarrelsome, egocentric, children preferring adult company, dominating and despotic, eccentric, played alone and thought up his own games, mathematically gifted, stubborn, clumsy. These features in the family histories of the patients with high functioning autism/schizoid personality that she describes would be part of a broad spectrum of neurodevelopmental disorders; the typical kind of family histories we see in our patients with autism today. We are very familiar in our histories today of persons with autism having family histories of persons with schizophrenia, bipolar disorder, autism etc.

In terms of etiology of the schizoid conditions she mentions, “inborn abnormality of certain brain regions, (cerebellum, basal ganglia, frontal lobes)”, even though this was written in 1926. The case histories show evidence of meeting some of the criteria for autism spectrum disorder DSM 5 (APA 2013). Children were, “shy, easily frightened and suspicious… shunned the company of other children”. She describes one having, “unusual interest in death”, and death anxiety is very common in children with autism today, who are able to speak and tell us about it. Things that she described include repetitive language, restless sleep, being very good at music, having concentration problems, basically today these would be described as attention deficit disorder DSM 5 (APA 2013). Motor descriptions were described by her in detail and she described motor movements as being, “clumsy and awkward”, “gait clumsy and awkward”, being avid readers, having, “droopy and lax joints”. The social relationship difficulties she described would be typical of autism. She described wandering aimlessly. She also described, “playing the joker, and becoming the butt of peers”. She describes talking and behaving like an adult. She
Fitzgerald, MM. The history of autism in the first half century of the 20th century: new and revised

describes one patient as being nick-named, “the talking machine”. She describes the hypersensitivity of the children to any criticism. She describes their preservation of sameness, and their intense persistence in activity. She describes their heightened suggestibility and their clowning and their impulsive odd behaviour. She describes the children reared in orphanages who came out with a very similar phenotype to the one that she has described and which we are very familiar now from the psychological studies of children in orphanages, (Rutter, 1998). She describes no intellectual decline as compared to schizophrenia. Some of the language problems she described include talking incessantly, rhyming, endless questioning, monotonous tone of voice. She describes talking like an adult. She describes attraction to abstract ideas, to philosophy. She goes on at great length looking at the relationship between autism and schizophrenia which we still haven’t sorted out today and the comments that she made about that relationship, and are still being debated today, (Fitzgerald, 2012).

In 1941, Bradley purchased probably the only book on Kanner’s subject childhood schizophrenia in America. It is very likely that Kanner read it since it was the only book published in America on his topic, in that particular year. This book contains references to Sukhareva, (Ssucharewa). This is a critical piece of information on the origins of autism. Leo Kanner does quote this second publication in 1932 in his article in 1949 (Kanner, 1949). He quotes it again in his text book; “Child Psychiatry”, (Kanner, 1972). The big question which is unresolved is whether he was aware of the Russian paper, published in 1926. This would have antedated his meetings with Frankl, who gave him the autistic profile from his clinic in Vienna where he worked with Hans Asperger. It is likely he did read it because he was a linguist and knew the literature in extraordinary detail. He described the children in the Russian paper, (Ssucharewa, 1926) also uses the phrase, “an autistic attitude”. She also has a very good discussion on the boundaries between psychiatric conditions and between, “sick and healthy people”, which is very modern sounding. This paper (1926/1932) should be on the essential reading list of every psychiatrist in training. Manouilenko and Bejerot (2015), pointed out that Sukhareva (1959) replaced the term, “schizoid psychopathy”, with, “autistic (pathological avoidant) psychopathy”. Clearly, she was influenced by Hans Asperger in the change of name, but the names are simply synonyms. Of course, Frankl, Weiss and Zak taught Hans Asperger about autistic psychopathy. Manouilenko et al, (2015), pointed out that, “Asperger, (1944), specifically stated that his aim was to report on a personality disorder already manifest in childhood, which to his knowledge had not yet been described”. This is remarkably similar to Kanner’s description of autism, making the same claim that it had not yet been described. It is very puzzling to know why Asperger hadn’t referenced Sukhareva since it was in the German literature which he was very familiar with. Most of the people that he quoted of course in his article in 1944 had Nazi leanings or were members of the Nazi party. In addition, Russia was at war with Germany at this time, which might explain his reluctance to reference a Russian. The Gestapo, if they read his papers, wouldn’t have appreciated a Russian citation. Asperger was held in the highest regard by the Gestapo during the Second World War and this has been documented many times (Sheefer, 2018).

What is extraordinary is that Gerhard Bosch’s book published in 1962 in German makes no reference to Sukhareva, when she had published in German. Possibly this gives us a warning about how easily publications can be missed, even if they’re in the person’s own language. This book, by Bosch, was re-published in 1970. Georg Frankl started working in the Heilpedagogical clinic in 1927 and Silberman (2015) states that, “Frankl became Asperger’s chief diagnostician”. Indeed, it’s quite different from this. It was Frankl who basically mentored and taught Asperger about child psychiatry and about autism. Frankl taught Asperger when he arrived at the Heilpedagogik Clinic and later taught
Kanner when he went to work with him in the United States. In 1928, Sister Viktorine Zak, who was the chief nurse in the Heilpedagogical Clinic, in an article described the method that led to the diagnosis of autism. Sheefer, (2018) in translation noted that Zak, “urged caregivers to recognise uniqueness of all children through evaluation of their “characters”, because, “the personality shows itself in small things”, and, “staff should focus on minute observations and, “minute diagnosis”, and, “to experience the child’s thought processes empathically”. This is how autism came to be discovered. The 1928 (Zak) article was published in The International Council of Nurses (Sheefer, 2018).

Further relevant comments in the literature include Gruhle (1929) who describes an, “extreme feeling of loneliness” and, “inability of the patients to adjust themselves emotionally to their surroundings or to project themselves into the emotional lives of others”, (Bosch, 1970). Binder, (1930) notes that in persons with schizoid autism there was a tendency, “to cling to self”, and to “shrivel up”.

Asperger arrived in the clinic in 1932. He was very inexperienced and really a trainee, (Sheefer, 2018). It was shortly after graduation. Because Asperger was a, “good Natural Socialist”, he was appointed director of the clinic in 1934. This was over Frankl, who was Jewish, (Sheefer, 2018).

Psychosis, 1937:
Kanner, (1937) described a classic case of autism as major psychosis over ten years after Sukhareva described the classic profile. Kanner was mistaken here with his psychosis diagnosis when he described the child who was, “throwing his hands about”, in a peculiar fashion, very fretful as a baby, always crying, severe temper tantrums, throwing knives and scissors at his sister. He twitched his shoulders with a crowd and had other tics. He was inattentive, restless and preoccupied in school. He failed in the third and fifth grades. It took him a great deal of time to put his clothes on in the morning. He required a great deal of independent support, despite being intelligent. He had feeding problems and would dawdle over his meals. He was scared by the reflection of the street lights on the ceiling. He was a reclusive youngster who preferred to play alone. He liked to read, “deep books”. He had major narrow interests. He was very irritable. Kanner’s book was published in 1937 and clearly, he knew nothing about autism at that time. One assumes that he wrote it during 1935/1936 for publication in 1937. His introduction to autism was going to come from Frankl and Weiss who came from Aspergers’ department in Vienna to work with Kanner just after this time. Frankl arrived in 1938 to Kanner’s clinic.

In 1935, Anni Weiss published a paper in the American Journal of Orthopsychiatry on, “qualitative intelligence testing as a means of diagnosis in the examination of psychopathic children”. Kanner had his textbook of child psychiatry written at this time. At that time, autism would have been included under the label, “psychopathic” in Vienna. She describes a classic autism case which Kanner didn’t reference in 1943. Kanner tended to avoid any references to precedents before his 1943 paper. The case she describes is a classic case of autism and of course, Weiss did also work with Kanner before the Second World War. This child was strange and one-sided in his behaviour. He had huge social interactional skills deficits. Weiss (1935) describes his, “extreme nervousness and his queer and helpless behaviour in his intercourse with other children”. He was, “afraid of children”. He was afraid of, “loud noises”, and was, “very clumsy and helpless”. Disturbances of routine upset him. Children called him, “the fool”. His grandmother, who was looking after him, thought that he was clever. Of course, his huge problem was his autistic social interactional skills difficulties. His, “muscular system (was) weak”. He, “held himself badly, his arms dangling and his head generally hanging forward. His movements were awkward and without vigour”. He had, “a monotonous way of speaking”. He lacked the ability for, “self-preservation and self-defence”, (Weiss, 1935). There is no reference to this paper (Weiss, 1935) in Kanner’s (1973) collected papers on Childhood Psychology or in his 1943 paper.

In 1935, Joseph Michaels published an important paper in relation to the history of autism. It was published in the American Journal of Orthopsychiatry, one of the journals that Kanner
published in (Kanner, 1949). It was called The Heilpedagogical Station of the Children’s Clinic at the University of Vienna. What was particularly interesting about that paper is that Hans Asperger who was there in a very minor role at the clinic at that time, so minor that he wasn’t even mentioned. He was a trainee. The only two people mentioned in relation to the work there at that time was Anni Weiss and Georg Frankl. Sheefer (2018), makes a very important comment on that paper in relation to the word, “autistic”. She states that, “Michaels also suggested the staff’s casual and shared use of the term, “autistic”. He, (Michaels, 1935), described their concept of, “artistic children”. Assuming, “artistic”, is an English mistranslation of, “autistic” since art is nowhere near his reference – Michael describes how, “artistic children may require special personal guidance”, because they have difficulties joining the, “group”, as frequently their attention and feelings are elsewhere”. I believe Sheefer is correct and it’s impossible to believe that Leo Kanner never read this paper, since it was on one of his regular journals, where he published. Sheefer describes, “in 1934, Frankl describes those who, when, “surrounded in a group of children”, do not sense the atmosphere and so cannot adapt”. This is classic autism. Sheefer points out that, “Frankl believed this was due to the youth’s “poor understanding of the emotional content of the spoken word”. (Translation Sheffer 2018).

In 1937, Frankl (Sheefer, 2018, page 56), noted that, “the youth’s detachment and disobedience did not represent their true emotions behind their, “mask-like faces” – which could, “frequently lead to severe misunderstandings”. According to Sheefer (2018), Frankl listed several conditions that might lead to milder social idiosyncrasies and that, “he distinguished the children he was describing from those he saw as much more impaired, who had, “extreme autism”, (Autismus; emphasis in the original), and were, “autistically locked”. It’s very clear where Asperger would have got his training in autism and it was from Frankl, Weiss and Zak and his ideas on autistic psychopathy when he gave his lecture in 1938. Shortly after both of those publications, Leo Kanner had Weiss and Frankl working for him and training him in “Autismus”. Desperet (1938), described children who showed, “unsociability, withdrawal, a tendency to dreaming, fearfulness of new affective context, irritability, sometimes hyperactivity or aggressiveness, a tendency to live in their own world”, which she called schizophrenia. Georg Frankl arrived in Kanner’s clinic in 1938 and evaluated one of the first patients that Kanner used in his 1943 paper in that year. I assume this is what Kanner means by 1938 in his 1943 paper. Georg Frankl was a senior psychiatrist in the Heilpedagogical Station of the Children’s Clinic in 1932 when Hans Asperger arrived and was a rather minor figure there, really little more than a psychiatric resident in psychiatry. Asperger, because of his commitment to national socialism and not being a Jew was promoted as director of the clinic over Georg Frankl in 1934. This was Asperger’s first major benefit from national socialism and was the beginning of the slippery slope for him, which led to the referral of patients for euthanasia, (Sheefer, 2018).

Fourth decade of the 20th century:
Bender and Schilder’s (1940), description of impulsions: a specific disorder of behaviour of children were describing autism spectrum disorder before Kanner. They describe these children as, “preoccupied with certain activities such as continuously looking at and handling an object, counting and talking about numbers, turning door knobs, drawing specific objects or excessive walking … hoarding, stubbornly fighting any interference with poor adjustments at school, (Kanner, 1972).

Kretschmer (1942), points out that, “the characteristics chiefly responsible for the development of autism are to be found in the area of temperament. For him, autism was, “a schizoid type of temperament”, and he describes two types; (1) where there is, “a painful contraction into oneself”, while the other is an, “inactive and contemplative dream life, type”. For Kretschmer, “the patient is cramped and numb at the same time”.

In 1942, Frankl sent Kanner his paper on children with problems with affective contact, a key event in the understanding of the origins of autism. This was mentioned in a letter by Kanner, (Robinson, 2016). Kanner sent this letter to the publisher of
the Journal Nervous Child which Kanner was editing. Kanner stated that he had received a paper from Georg Frankl (1942), about children with affective contact problems and that he was going to write a paper on the same topic himself and this became the 1943 paper. Of course, Frankl had trained Kanner on autism from 1938 to 1943 and indeed, some of Frankl’s cases are documented by Kanner in his 1943 paper. There needs to be no more mystery about the year 1938 which was the year that Frankl arrived to work with Kanner in Baltimore or where Kanner got his idea of autism from.

There is wide knowledge about Kanner’s 1943 paper. It was only since Van Krevelen (1962, 1971), and Lorna Wing, (1981), brought Asperger’s 1944 paper to the attention of the English-speaking world. Indeed, one of Van Krevelen’s papers was published in Kanner’s journal, the Journal of Autism and Childhood Schizophrenia, as it was called at that time. This shows that Kanner knew of Asperger’s 1944 paper because he was the editor of the journal.

In the fourth edition of Kanner’s (1972) textbook on child psychiatry, he quotes over twelve hundred authors from all over the world. One thing is certain; he was a linguist and was vastly knowledgeable about the literature on child psychiatry and because he spoke many languages, more knowledgeable about the literature in child psychiatry than any other child psychiatrist at the time, or possibly since. Frankl and Weiss are absent from this vast author list as are their papers. Silberman (2015), has elaborated on these historical issues in his book, “Neurotribes”. This paper here extends historical knowledge beyond “Neurotribes” and provides further historical information.

**Conflict of interests**

Author declares no conflict of interests.

**References**

American Psychiatric Association (2013). DSM 5, Washington: APA.

Asperger, H. (1938). Das Psychisch Abnormale Kind Wiener. Klinische Wochenschrift 51, 13, 13-14.

Asperger, H. (1944). Die Autischen Psychopathen in Kinsulter Archive Psychiatrie und Nervenkrankheiten 117, 76-136.

Bender, L., Schilder, P. (1940). Impulsions: A specific disorder of behaviour of children. Arch Neurol Psychiat 44: 190/108.

Bosch, G. (1970). Infantile Autism. New York: Springer/Verlag.

Bradley, C. (1941). Schizophrenia in Childhood. New York: Macmillan.

Burnke, O. (1924). Explaining Dementia Praecox. Klinische Wochenschrift 3: 437-440.

De Sanctis, S. (1925). Neuropsychiatria Infantale Roma, Stock 623-661.

Desperet, J.L. (1938). Schizophrenia in children. Psychiatric Quarterly, 12, 2, 366-371.

Fitzgerald, M. (2002). Louis Wain and Asperger Syndrome. Irish Journal of Psychological Medicine, 19, 3, 101.

Fitzgerald, M. (2002). Schizophrenia and Autism/Aspergers syndrome. Overlap and differences. Clinical Neuropsychiatry, 9, 4, 171-176.

Fitzgerald, M. (2010). Young, Violent and Dangerous to Know. New York: Nova.

Frankl, G. (1934). Zeitschrift für Kindepsychiatrie 42, 463-478. Befehlen und Gehorchen.

Frankl, G. (1937). Triebhandlungen Bei Dissozialitat nach encephalitis epidemica und anderen psychopathischen storungen im kindesalter. ZfK 46, 3, 401-448.

Frankl, G. (1932). Language of Affective Contact Nervous Child 2, 3, 251-262.

Gruhle, H. (1929). Psychologie der Schizophrenie. Monographiem aus dem Gesamtgebiete der Neurologie und Psychiatrie. 55 Berlin: Springer.

Heller, T. (1908). Über Dementia Infantalis. Zerforschung Behandlung Jugendl Schwachwinns, 2: 17-28.

Kanner, L. (1943). Autistic Disorders of Affective Contact Nervous Child 2, 217-250.

Kanner, L. (1949). “Problems of Nosology and Psychodynamics in Early Infantile Autism”, Journal of the American Journal Orthopsychiatry, 19, 416/426

Kretschmer, E. (1942). E. Korperbau und Charakter. 16, Aufl. Berlin: Springer.

Lyons, V. (2018). Personal communication.
Manouilenko, I., Bejerot, S. (1959). Sukhareva - Prior to Asperger and Kanner. Nordic Journal of Psychiatry. (2015). 69: 6, 1761-1764.
Michaels, J. (1935). The Heil Pedagogical Station of the Children’s Clinic at the University of Vienna. American Journal Orthopsychiatry 5, 3, 266-275.
Robison, J. (2016). Kanner, Asperger and Frankl. The Third Man at the Genesis of the Autistic Diagnosis, Autism 1-10.
Rutter, M. (1998). Developmental catch-up and deficit following adoption after severe global privation. Journal of Child Psychology & Psychiatry and Allied Professions, 39, 460-476.
Sheefer, E. (2018). Aspergers Children. New York: Norton.
Silberman, S. (2015). Neurotribes. Crow’s Nest. Allen & Unwin.
Ssucharewa, G.E. (1926). Die Schizoiden Psychopathien im Kindesalter. Monatschrift fur Psychiatrie und Neurologie 60: 235-261. Translated by the “Hospital School of the Psychoneuro-logical Department for Children, Moscow, (Director Professor M. O. Gurewitsch) and this was published by Wolf S., (1996). The First Account of the Syndrome Asperger Described? European Child & Adolescent Psychiatry, 5: 119-132.
Ssucharewa, G.E. (1932). Uber den Verlauf der Schizophrenien im Kindesalter. Zges Neurol Psychiat 142: 309-321.
Sukareva, G.E. (1925). Schizoid Personality Disorders of Childhood in Questions of Biology and Child Psychoneurology. Volume 2, Moscow, 157-87.
Sukhareva, G. (1959). Clinical Lectures in Child Psychiatry. Volume 2. T2: Moskow.
Tramer, V.M. (1924). Trans Lyons, (2018). Einseitig Talentierte und Begabte Schwachsinnige. Schweizerische Zeit- schrift fur Gesundheitspflege 4, 173-207.
Van Krevelen, D. Am & Kuipers C. (1962). The Psychopathology of Autistic Psychopathy. Acta Paed Psychiatrca 29, 22-31.
Van Krevelen, D. Am (1971). Early Infantile Autism and Autistic Psychopathy. Journal of Autism Developmental Disorders 1, 1, 82-86.
Weiss, A. (1935). American Journal of Orthopsychiatry, Volume 5, No. 2, page 154-179.
Wing, L. (1981). Aspergers syndrome. A clinical account. Psychological medicine 11, 1, 115-130.
Zak, V. (1932). Die heil-pädagogische abteilung unter Lazar. Zfh 24, 38-40.