The Russian Concept of Schizophrenia: A Review of the Literature

by Helen Lavretsky

Abstract

The focus of this article is a comprehensive review of the Russian-Soviet conceptualization of schizophrenia, which can be understood only in the broader historical and cultural context of Russian-Soviet psychiatry. Because of multiple barriers and the political abuse of psychiatry in the former Soviet Union, international psychiatric literature has lacked unbiased data about the scientific merit and historical logic of the Russian-Soviet concept of schizophrenia. This article represents an attempt to examine phenomenology, nosology, and some biological theories of schizophrenia developed in the former U.S.S.R. from historical and scientific points of view and to compare them to the Western theories. The article also addresses historical and cultural antecedents of the abuse of psychiatry. The author suggests that the lack of a democratic tradition in Russia, a totalitarian regime, and oppression and "extermination" of the best psychiatrists during the 1930–50 period prepared the ground for the abuse of psychiatry and Russian-Soviet concept of schizophrenia. Perspectives on the potential changes in the Russian concept of schizophrenia in changing historical conditions are discussed.

Key words: Russian-Soviet psychiatry, abuse of psychiatry.

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Despite extensive research on the part of the international psychiatric community, schizophrenia remains an enigma in terms of diagnostic precision, etiology, underlying pathophysiology, clinical course, and outcome. Disputes over concepts and appropriate models of mental disorders extend back to classical times. Two main approaches follow two philosophical schools: the Platonic tradition, which viewed medical disorder as a disease entity, and the Aristotelian tradition, which emphasized the natural history in individual patients (Kerr and McClelland 1991). A third approach, established by Russian psychiatry, acknowledges the presence of dimensional and categorical components within a single framework.

The focus of this article is to explore the key components of the Russian-Soviet concept of schizophrenia, to review some historical and political aspects of Russian psychiatry as applied to the concept formation, and to compare the concept to the European and American classifications. This article is not intended to be a comprehensive overview of Russian-Soviet schizophrenia research.

A concept of an illness is based on the definitions of the disease boundaries. The recent introduction of *DSM–IV* (American Psychiatric Association 1994) and *International Classification of Diseases* (*ICD–10*; World Health Organization 1992) has provoked further questions about theoretical models and concepts implicit in these diagnostic systems. Discussion of "the changing concepts of schizophrenia" and their effect on the estimation of outcome have become especially relevant (Andreasen 1994). This discussion brought up the issue of artificial boundaries between different nosologies and how they change our clinical perception and prognosis. Since *DSM–III* (American Psychiatric Association 1980), American psychiatry has followed the narrower definitions of schizophrenia based on core symptoms with the worst prognosis (Hegarty et al. 1994). By contrast, the Russian-Soviet model of schizophrenia remains unique, based on broad definitions and a genetic "spectrum concept" (Reich 1975).

Because of numerous barriers, including political, cultural, conceptual, scientific, and linguistic, Western psychiatric literature is virtually devoid of references to Russian work except for the highly politically charged papers published in the 1960s and 1970s (Muchnik 1968;

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Wing 1974; Corson and O'Leary-Corson 1976; Bloch 1978; Bloch and Reddaway 1984) and some more recent publications of the same nature (Miller 1985; Joravsky 1989; Kabanov et al. 1991; Kanas 1992; Zharikov et al. 1997). Only a few "neutral" publications attempt to examine the roots of the political abuse of psychiatry in the former Soviet Union (Brown 1981, 1994; Calloway 1993; Fulford et al. 1993). Unfortunately, the political misuse of psychiatry and the "schizophrenia concept" in the former Union of Soviet Socialist Republics (U.S.S.R.) has led to a virtual cessation of interaction between Russian and international psychiatry, depriving all of mutual enrichment. In the past several years, as a result of the political changes, Russian-Soviet psychiatrists have begun to show signs of interest in learning from Western psychiatry in the areas of clinical care and psychiatric research (Kanas 1992). Their participation increased in the Tenth World Congress of Psychiatry (Madrid, Spain, August 1996) and the Sixth World Congress of Biological Psychiatry (Nice, France, June 1997).

The time has come to reestablish channels of meaningful communication. An improved understanding of the Russian-Soviet concept of schizophrenia and its historical and political roots, as provided in this article, may help the process of scientific exchange between psychiatrists of the former Soviet Republics and psychiatrists worldwide.

The History of Russian-Soviet Psychiatry: Development of the Schizophrenia Concept

Historical research on mental disorders is difficult to follow because of the differences in terminology and concepts of mental illness throughout various historical epochs. It gets even more complicated if translation is needed to grasp the linguistic and cultural content of the concepts in the context of a historical period. But a deeper understanding of the origins of the Russian concept of schizophrenia is very much associated with the history of psychiatry in Russia and the former Soviet Union. The historiography of Russian and Soviet psychiatry illustrates the extent to which the social construction of history is influenced by extraneous factors (Brown 1994).

Russian Psychiatry in Ancient and Medieval Times. Yudin (1951) indicated that the first description and classification of mental illnesses was mentioned in documents from the 9th and 10th centuries. Mental illness was explained by demonic possession. At that time the mentally ill were treated by shamans and witch doctors with herbs and curses. After the arrival of Christianity in Russia in the13th century, mental illness was regarded as God's punishment. The mentally ill were taken care of by monks in the monasteries and were divided into two large groups—"odd" and "mad." The main principles of care applied by the Russian Orthodox Church were humane treatment and rehabilitative measures such as gardening and other jobs at the monasteries. The general public sometimes idealized the mentally ill as holy—God's creation—and provided some financial support for the "fools." In the medieval period, descriptions of epilepsy, mental retardation, and schizophrenia-like illness, as well as alcoholism and alcoholic psychosis were documented (Fedotov 1983). Various herbal preparations (pepper, caraway, mustard, mint, nuts), alcoholic tinctures, sedating teas and oils, and honey were used to treat mental disorders.

The 18th and Early 19th Centuries. At the beginning of the 18th century, the Russian Government attempted to create mental hospitals. In 1762, the Senate passed a law indicating that treatment for the insane should be provided in special asylums, "dolhause." The first asylum under direction of a physician was created in 1771 in St. Petersburg, and by 1814, Russia had 14 asylums (Anikin and Shereshevsky 1992). In 1775 local governments, "zemstvo," became responsible for the organization and provision of psychiatric care for the general population by servicing catchment areas. At the same time, the first theoretical and practical concepts of psychiatry were developed. New concepts and terms, such as hereditary predisposition, and the impact of head trauma, cerebral edema, and hydrocephalus as causes of mental illness were discussed. Various treatments of mental disorders included bloodletting, medicinal leeches applied to the back of the head and anal area, use of purgatives and cathartics, emetics, mustard plaster applied to feet and head, bromate camphor, and electrotherapy. Initial principles of occupational therapy, the role of meditation and prayers, and "kind treatment" by the physicians and monks were applied to the treatment of psychosis, agitation, and melancholia (Anikin and Shereshevsky 1992).

In the beginning of the 19th century, new kinds of treatments, such as light therapy for the "maniacs and melancholiacs," and fasting and special diets were developed for psychotic and agitated patients. In 1837, the first all-Russian registry for the mentally ill showed the prevalence of mental illness to be 0.68 per 1,000. That increased 3.5-fold toward the end of the century (Anikin and Shereshevsky 1992). A great interest in the etiology, pathology, and pathophysiology of mental illness was already growing among Russian physicians and became a tradition for the national school of psychiatry later on. The models and classifications of mental illness incorporated new findings and ideas.

The Russian psychiatry of the 17th to the early 19th centuries experienced strong German influence, because German professors, supported by the Russian tsars, taught in the Russian universities. However, abundant national talents had always promoted independent development of Russian psychiatry (Fedotov 1983). In 1841 Verchatsky proposed a descriptive classification that included mania, mania with excitement, periodic mania with agitation, hypochondria, melancholy, epilepsy with mania, epilepsy with dementia, dementia, and amentia (Fedotov 1983). In 1843 Diadkovsky classified mental disorders as five levels of nervous and mental illness (see Fedotov 1983). He tried to group disorders not on the basis of descriptive phenomenology, but by mental function into disorders of sensory functions and perception, cognition, volition, and motor and energetic functioning. This approach remained popular among the Russian-Soviet nosologists (Snezhnevsky 1983).

The 19th and 20th Centuries in Psychiatry. The second half of the 19th century became the most important period for the emergence of Russian psychiatry and the concept of schizophrenia. Many authors described the symptomatology of the illness (Kandinsky 1890), but, by tradition, they kept it under the diagnosis of mania or melancholia. Only at the beginning of the 20th century did the term dementia praecox begin to be used in Russia (Kannabikh 1929).

Prior to the middle of the 19th century, there were only a few isolated physicians in Russia who cared for the mentally ill. The emergence of a professional psychiatric community occurred primarily as a result of reforms in medical education initiated by the tsarist government (Brown 1994). The Russian psychiatric profession was more or less a creation of the state, and many of its early leaders were intimately involved in the creation of state policies with respect to the mentally ill. This tradition of psychiatrists' involvement in politics and government continued later in the Soviet time. Two main centers of the Russian psychiatric community, always competing for the leadership, were located in St. Petersburg and Moscow throughout the late 19th and early 20th centuries. I.M. Balinski, the first head of the Department of Psychiatry at the Military-Medical Academy in St. Petersburg, and S.S. Korsakov, the first head of the Department of Psychiatry at the Moscow University, both were called "the father of Russian psychiatry" and the "Russian Pinel," depending on what school a particular historian belonged to (Kanas 1992).

The Bolshevik Revolution of 1917 changed the power struggle within the psychiatric profession. Psychiatrists were one of the first professional groups to offer their support to the new regime, and some of them acquired positions of power in the new administration (Brown 1994). With the move of the capital to Moscow, the "Moscow school" assumed leadership of the profession along with strategic control over policymaking and journal publishing. Of the numerous psychiatric journals published before the Revolution, only one survived and became an official journal of Russian-Soviet psychiatry, the journal that had been established by the Moscow psychiatric community in 1901 shortly after Korsakov's death and named in his memory—*Zhurnal Nevropatologii i Psikhiatrii im. Korsakova (Korsakov Journal of Neurology and Psychiatry)* (Brown 1994). Other publications, including materials of the regional psychiatric conferences or those sponsored by the local academic institutions (some are very respected, like ones published by the Bekhterev Psychoneurologic Institute in St. Petersburg) served as outlets for alternative views of psychiatry. However, they never became "official." The dominant Moscow school of psychiatry also influenced the writing of the history of psychiatry at least as much as the dramatic governmental transformations experienced by Russia in the 20th century (Ponomareff 1989).

In the early 1930s some heterogeneity of views on schizophrenia stimulated scientific discussions. For example, P.B. Gannushkin (1857–1933), one of the leaders of the Moscow psychiatric school, was best known for his work in the field of "borderline" (i.e., on the border between health and psychosis) psychiatry studying personality disorders and neuroses. His monograph, *The Clinical Aspects of Psychopathies, Symptomatics, Dynamics, Systematization* (Gannushkin 1931), was one of the best clinical descriptions of various personality types. Its description of schizoid psychopathy is close to the modern description of schizoid and schizotypal personality disorder. He also believed in the continuum between neuroses, personality disorders, and psychoses, like one expressed in the "schizophrenic constitution." V.P. Osipov (1871–1947) devoted his work to the differential diagnosis of schizophrenia by studying organic and affective psychoses. In his *Handbook of Psychiatry* (Osipov 1931) he emphasized the necessity of applying the strictest criteria to the diagnosis of schizophrenia. The Second All-Union Congress of Neurologists and Psychiatrists (1936) drew the attention of psychiatrists to the precise delineation of the borders of schizophrenia and condemned the concept of "mild schizophrenia." However, it required several generations of psychiatrists (S. Korsakov, V. Kandinsky, V. Osipov, S. Sukhanov, P. Gannushkin, V. Gilyarovsky, O. Kerbikov, and A. Snezhnevsky) to develop a concept of schizophrenia close to what it became in the 1960s to the 1980s (Babayan 1985).

Gradually, the political regime tightly controlled all alternative schools of thought and ideological diversity of

Russian psychiatry. Those who had the courage to disagree with the party line were dismissed from positions of power or "eliminated." Many brilliant psychiatrists lost their positions and ability to voice their opinions during the 1930s through the 1950s (Popov and Lichko 1991). Some differences in theoretical opinions with respect to schizophrenia still remained in the Leningrad and other national schools of psychiatry, and even within the Moscow school (Calloway 1993), but they have been minor and inconsequential for general clinical practice and psychiatric training.

The most somber event in the history of Russian-Soviet psychiatry took place in October 1951 (Popov and Lichko 1991). The so-called "Joint Session" of the Academy of Medical Sciences of the U.S.S.R. and the Board of the All-Union Neurologic and Psychiatric Association, conducted in the name of Pavlov, considered the matter of several leading psychiatrists and neuroscientists of the time (e.g., Gurevich, Shmaryan, Golant, Gilyarovsky, Sukhareva) who were accused of practicing "anti-Pavlovian, anti-Marxist, idealistic, reactionary" science damaging for Soviet psychiatry. These talented psychiatrists had to acknowledge publicly their mistakes and wrong beliefs and promise to profess *only* Pavlov's teaching (Popov and Lichko 1991). The liquidation of the scientific school of brain pathology and neuropsychiatry established by the distinguished psychiatrist A.S. Shmaryan led to the practical cessation of research in neuropsychiatry for decades to come (Kostandov 1990). This neurobehavioral direction was based on the phenomenology of neurosurgical lesions and war-related head and neck injuries, and resulted in major neuropsychological findings of higher cortical functions localized in the brain, reported by A.R. Luria. Shmaryan expressed his views on the relationship between cortex and subcortical structures with the detailed description of symptomatology and localization of lesions in two monographs "Brain Pathology and Psychiatry" and "Psychopathological Syndromes of Temporal Lobe Epilepsy," that received positive reviews in *American Journal of Psychiatry* in 1941. Most likely, it was these reviews that attracted the officials' negative reaction. This entire scientific direction was labeled as "localizationalistic, psychomorphologic, fantastic," and misleading psychiatry and was shut down.

The Joint Session also affected neuroscience (Lange 1990). The best neuroscientists of the time, such as academicians Orbeli, Beritashvili, Stern, Speransky, and Anokhin, who headed different directions in science at the time, were labeled as reactionaries, anti-materialist, and anti-Pavlov, and dismissed from their positions. They lost their laboratories, and some were tortured in prisons (Fanardzhian et al. 1990). The scientists' basic human rights were violated. The Moscow, Leningrad, Armenian, Georgian, and Ukrainian schools of neurophysiology and neuroscience were damaged, at least temporarily. The Joint Session destroyed productive research in psychiatry and neurosciences for years to come. Pseudoscience took over.

In recent years, several Russian publications have been devoted to analysis of the consequences of the Joint Session for Soviet psychiatry. Preceding the Joint Session was a period of political manipulation of science that began in the early 1930s (Grekova 1990). Similar to the process in Fascist Germany, it was a profoundly deviant and destructive era for Soviet science. Massive arrests of scientists led to extinction of Russian intellectuals. Many of them disappeared and died in prisons or labor camps. Students at the universities were encouraged to spy on their professors. For the first time in the history of science, nonprofessional politicians started telling scientists how to do the "right kind of science," and anything other than the right kind was pronounced wrong. Fear and paranoia affected even very sophisticated minds and ruled the behavior of the accusers and those accused. Out of fear, scientists abandoned their beliefs and falsely admitted their "wrongdoings" during the Joint Session. It is also likely that the accusers' fear and less than noble ambitions made them (A. Snezhnevsky, O. Kerbikov, V. Banshchikov, I. Strelchuk) serve in the role of inquisitors (Popov and Lichko 1991). Not surprisingly, many of them were promoted and took leadership positions shortly after the session.

The Joint Session was a precursor of later abuses in psychiatry in the U.S.S.R. An invisible moral line was crossed once and for all (Popov and Lichko 1991); anything became possible.

The 1940s to the 1990s: The Influence of the Moscow School of Psychiatry on Development of the Schizophrenia Concept. From the late 1940s, control by the political system and the associated Moscow school of psychiatry was established and perpetuated throughout the following five decades, determining the direction of Soviet psychiatry and psychiatric research, education and training, as well as the allocation of research funds. It just so happened that the Moscow school, under the leadership of A.V. Snezhnevsky and colleagues, was primarily interested in and devoted a significant effort toward the development of the concept and classification of schizophrenia.

The clinical research experience of the Moscow Institute of Clinical Psychiatry may be unique. For about five decades, multidisciplinary research teams combined their efforts in trying to solve the puzzle of schizophrenia and find a cure for the disease. They carefully identified, described, and followed up on thousands of patients (Nadzharov 1983). For the past 50 years, the Moscow

school has concentrated its clinical and research resources on the clinico-biological study of schizophrenia. It sought a diagnostic framework that would encompass and categorize the symptoms of the illness. The goal was to produce a model of schizophrenia that could explain both etiology and outcome. The emphasis has been twofold: elaborating phenomenologic features in children, adults, and the elderly and trying to create homogeneous subgroups suitable for the study of their biological interconnectedness (Snezhnevsky and Vartanyan 1970). This goal was often lost in the enormous descriptive effort devoted to the large populations of patients. Despite its complexity, the Russian classification of schizophrenia is still widely used in Russia and the states of the former Soviet Union (Holland and Schakhmatova-Pavlova 1977). Snezhnevsky, who attempted to identify some general "spectrum" trends among mental illnesses, also developed and popularized the theory of general psychopathology (Snezhnevsky 1983) through his students, followers, the Moscow Central Institute of Postgraduate Training, and the only central publication, *Korsakov' Journal of Neurology and Psychiatry* (Miller 1985).

However, Soviet psychiatry was not monolithic: Other points of view existed. Ponomareff (1986) stated that psychiatry in Moscow tended to be formal, biomedically oriented, and loose in its understanding of schizophrenia, whereas psychiatry in Leningrad was more interpersonally oriented, interested in psychotherapy, and tighter in its conceptualization of schizophrenia. The Leningrad approach led to the view that schizophrenia should be a last resort diagnosis of exclusion. Another distinguishing feature of the Leningrad school of psychiatry is its emphasis on psychosocial factors in relation to etiology and outcome and, consequently, on psychotherapy and rehabilitation. The Ukrainian school of psychiatry, which did not use the Snezhnevsky classification, describes slow-flow schizophrenia as a variant of paranoid schizophrenia. Alternative schools of thought, like those in Leningrad and the Ukraine, have been less influential nationwide (Miller 1985).

The situation in Soviet psychiatry has changed in the past few years, since the demise of the Soviet Union. Recently, Soviet psychiatry has shown a renewed interest in Freudian principles and psychodynamically oriented psychiatry (Kanas 1992). New publications on psychodynamic theories of schizophrenia (Volkov 1993) have emerged and new legislation has been enacted in recent years. The first Russian law on psychiatric care and patients' rights protection became operational in January 1993. In 1994, the Russian Society of Psychiatrists approved the Ethical Code for Psychiatry. Humanization of psychiatry has been proclaimed to be a priority for Russian psychiatrists (Dmitrieva 1996). In 1997 Russian President Boris Yeltsin signed a declaration about development of psychoanalysis in Russia. As a result of some positive changes, the Soviet Association of Psychiatrists was conditionally readmitted to the World Psychiatric Association in October 1989 (Kanas 1992). The national schools of psychiatry are no longer controlled centrally and should have more freedom to develop their own lines of research. However, this process will take more than just a few years and require adherence to a change by the Russian psychiatrists. At this time we can only guess how it will affect the current concept of schizophrenia.

A review of the abstracts presented by psychiatrists from Russia and the former Soviet Republics at the 10th World Psychiatric Congress in Madrid, Spain (August 1996), reveals that the line of research on schizophrenia has not changed very much in recent years. Researchers from Moscow still submitted a majority of the abstracts, although psychiatrists from St. Petersburg, Tomsk, Novosibirsk, Kaluga, Kemerovo, and other cities and from some former Soviet republics (Ukraine, Kazakhstan, Azerbaijan) were represented. The studies of schizophrenia presented mainly continued to elaborate phenomenology and course (Alimkhanov 1996; Ismailov and Ismailov 1996; Mazaeva and Abramova 1996; Panteleeva and Dikaya 1996; Platonova 1996; Tiganov 1996; Zaltsman 1996), although some other topics included neuropsychological, immunologic, neuroimaging (computed tomography [CT], group therapy, rehabilitation, psychopharmacology, genetic, and family studies (Alfimova and Trubnikov 1996; Golovina and Mazaeva 1996; Govorin et al. 1996; Loginovich 1996; Nuller 1996; Semke 1996; Vasil'eva et al. 1996*a*; Zhankov 1996). New topics for Russian psychiatry covered in the abstracts included the economics of care, statistics, legal issues, analysis of risk and benefit of care, quality assurance of psychiatric care, and analysis of trends in current Russian psychiatry in relation to the history of abuses of psychiatry (Dmitrieva 1996; Gluzman 1996; Kazakovtsev 1996; Prokudin 1996; Rytik 1996; Savenko 1996; Shevchenko 1996; Solokhina 1996; Yastrebov et al. 1996). The Independent Psychiatric Association of Russia (Bataev 1996; Prokudin 1996; Savenko 1996) appears to be very active in its attempt to communicate to Western psychiatry their views on the past and current abuses of psychiatry in Russia. One report from the Ukraine (Gluzman) outlined general difficulties in developing new psychiatric services in the former Soviet republics: (1) current major financial constraints; (2) lack of legal regulations of psychiatry; (3) lack of scientific information from the West; (4) lack of research programs and an uneven geographic distribution of existing ones; (5) an archaic system of psychiatric training; (6) lack of clinical psychologists and social workers; and (7) an inefficient centralized system for

delivery of care concentrated in the large freestanding psychiatric hospitals.

Review of Soviet Concepts of Psychopathology and Nosologic Strategies

According to the Russian tradition, Snezhnevsky (1960, 1983) based his descriptive definition of schizophrenia on the general theory of psychopathology that emphasizes a continuum of all psychiatric disorders. According to this theory, all symptoms are organized into three groups. By analogy with the reflex arc they are divided into (1) the affexor or sensory symptoms, which occur with "senestopathic" or unpleasant somatic sensations (e.g., irritation, burning, pressure, metamorphopsy, and derealization); (2) the intrapsychic phenomena, which include disorientation, depersonalization, affective disorders, thought disorders, obsessive-compulsive symptoms, delusions and hallucinations, and amnestic syndromes; and (3) the effexor symptoms, which describe volitional, motoric, attentional, impulse-control, sexual, gender identity, and sleep disorders. All symptoms may occur in clusters or be present as a syndrome that carries diagnostic significance. The syndromes may be either positive (e.g., productive) or negative depending on their effect on mental functioning. This concept also embodies various levels and sequences of unfolding positive and negative syndromes in different psychiatric nosologies.

The Russian understanding of the negative and positive syndromes dates back to J. Hughlings Jackson (1931), who believed that negative symptoms were clinically undetectable but necessary for the development of positive syndromes. Negative syndromes in relation to general psychopathology, rather than to schizophrenia alone, meant "lack of function" that could lead to functional deterioration and "secondary dementia" due to the disease process. Snezhnevsky (1983) described ten levels of positive and negative syndromes ranked according to their severity (see table 1).

According to this hypothesis, the negative syndromes at a given level predispose patients to developing the positive syndromes of the corresponding level. Moreover, certain nosologies can encompass only certain levels of psychopathology. For example, schizophrenia may contain levels I–V of the positive syndromes and I–VII of the negative ones, while bipolar disorder is allowed to include levels I and II (rarely III and IV) of the positive and levels I–III of the negative syndromes. Any extension to the next level of pathology requires revision of the assigned diagnosis.

Table 1. Relation of the common psychopathologic positive and negative syndromes and nosologic entities

Level	Positive syndromes	Negative syndromes
X	—	Marasmus
IX	Psychoorganic	Dementia
VIII	Epilepsy, seizures	Amnestic disorders
VII	Paramnestic	Regression of the personality
VI	Delirium	Decreased level of functioning
V	Catatonic, paraphrenia, paranoid	Decreased volition and energy
IV	Paranoia, verbal hallucinosis	Disharmony of the personality (including "schisis")
III	Neurotic (obsessive-compulsive, hysteria, depersonalization)	Objective personality change
II	Affective (depressive, manic)	Subjective personality change
I	Emotional hyperesthetic disorders	Asthenia (neurasthenia)

Another example of the hypothesis of a continuum of mental disorders was a triad of neuroses–personality disorders–endogenous psychoses that has been discussed extensively in Soviet psychiatry (Gannushkin 1931; Kerbikov 1971).

The Russian Concept of Schizophrenia

Phenomenology/Nosology.

Definition. In Russia, schizophrenia is regarded as one of the most important psychiatric illnesses, because of its high prevalence and the magnitude of disability it produces (Holland and Schakhmatova-Pavlova 1977). It is considered to be a lifelong genetically determined process that can be triggered by environmental stress (Zhislin 1965; Shchirina and Vartanyan 1968). Schizophrenia is defined as a progressive endogenous mental illness, characterized by the dissociation of mental functions with associated personality changes (increased introversion, emotional blunting, social withdrawal, apathy) and various positive symptoms, that leads to the development of the deficit syndrome.

Diagnostic criteria. Diagnosis of schizophrenia is based on the descriptive definitions of the general psychopathology presented above. Russian psychiatric clinical practice utilizes the ICD–10 coding system. During their training, psychiatrists are taught on the basis of

description in the psychiatric textbooks, but there is no consensus classification like *DSM* that quantitatively defines diagnostic categories. It is recognized that the clinical features of schizophrenia, its course, and outcomes are heterogeneous. The detailed description of psychopathology of schizophrenia subtypes is the primary focus in discussion of schizophrenia in psychiatric manuals and textbooks.

Types of schizophrenia. The Soviet model of schizophrenia is based on the idea that schizophrenia spectrum disorders are distinguished clinically by their longitudinal course, a single fundamental characteristic. According to this hypothesis (Nadzharov 1983), there are three main types of schizophrenia: (1) the continuous type, defined as unremitting, proceeding with either a rapid ("malignant") or a slow ("sluggish") progression, but in both instances having a poor prognosis; (2) the periodic or recurrent type, characterized by an acute attack followed by full remission with minimal progression, if any; and (3) the mixed, or shift-like, form ("schubweise"—in German "schub" means attack or phase), a mixture of both continuous and periodic forms that occurs periodically and is characterized by only partial remission and may or may not contain a mood component.

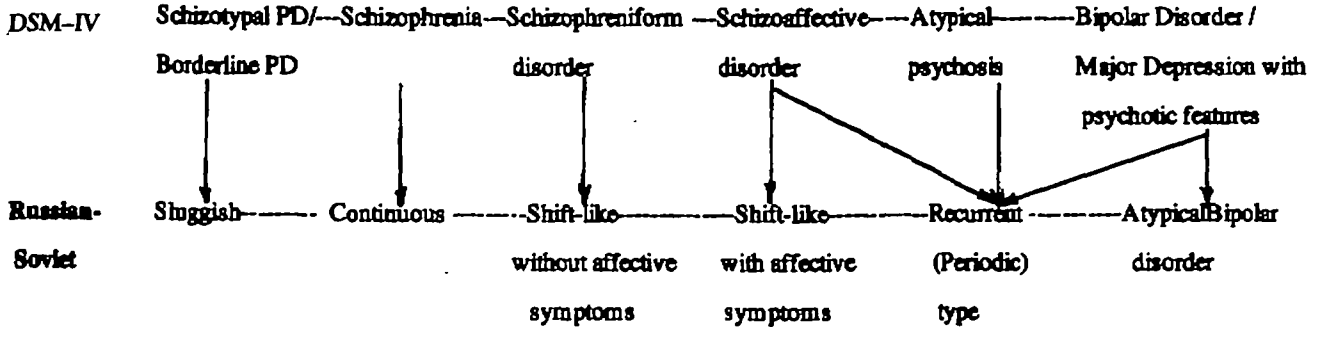
In addition to the three main types of schizophrenia (continuous, periodic, shift-like), there are a number of transitional forms that occupy intermediate positions. It is stressed that the type may predict other features of psychosis, such as genetic transmission, the rate of progression, and outcome (Nadzharov 1983).

There are no entities in the current Russian classification system comparable to the schizotypal or borderline personality disorders of the *DSM–IV*. It is believed instead that personality changes occur due to the disease process, whether slowly progressive, continuous, or shift-like. Historically, however, similar entities have been described as a part of a "continuum," "schizophrenic constitution," "latent schizophrenia," or schizoid psychopathy (Gannushkin 1931; Nadzharov and Smulevich 1983; Smulevich 1996).

Epidemiology. The prevalence of schizophrenia is reported to be 9.59 per 1,000 for all forms of schizophrenia (Zharikov 1983; Zharikov and Shumakov 1995) and for specific types as follows: sluggish type, 2.87 per 1,000; paranoid, 1.81; malignant, 0.49; shift-like, 3.32; recurrent, 1.05; and undifferentiated, 0.06. There are no gender differences in the overall incidence and prevalence of schizophrenia. However, men tend to have the malignant and sluggish subtypes, whereas women more frequently have the shift-like recurrent subtypes (i.e., schizoaffective disorder). In comparison, Jablensky (1986) reviewed epidemiologic studies in Europe claiming that prevalence of schizophrenia ranged from 2.5 to 5.3 per 1,000.

Severity. All three types may be present in different degrees of severity: mild (or sluggish for the continuous type), moderate, and severe (or malignant for the continuous type). According to Soviet psychiatrists, significant biological differences exist between the three types, but the notion of a continuum or a spectrum disorder is always present in the description. When compared to the *DSM–IV* disease entities, the continuous type of severe and moderate progression is identical to the core-symptom schizophrenia. There is no schizoaffective disorder in the Russian nomenclature. The recurrent and the shift-like types of schizophrenia represent two extremes of the schizoaffective spectrum disorders. The latter represents an overlap between an episodic form of schizophrenia with acute episodes and partial remissions and a more severe form of a schizoaffective disorder, akin to schizophrenia spectrum disorder and having a worse prognosis. The former is a more benign form of the schizoaffective spectrum, which overlaps with bipolar disorder, with complete remissions and a better prognosis and outcome (Nuller and Mykhalenko 1988). Figure 1 represents the

Figure 1. The Schizophrenia-"spectrum" disorders of the *DSM–IV* and the Russian-Soviet classification.



PD = personality disorder; *DSM–IV* = *Diagnostic and Statistical Manual of Mental Disorders*, 4th ed. (American Psychiatric Association 1994).

relationships of these various subtypes of the spectrum as they relate to the *DSM–IV* diagnostic entities.

More detailed discussion of nomenclature and classification is presented elsewhere (Reich 1975; Holland and Schakhmatova-Pavlova 1977). Ideally, clinicians using this diagnostic system should be able to make a diagnosis and accurately predict the prognosis.

In the Russian diagnostic classification the disorganized schizophrenia of *DSM–IV* would be diagnosed as the continuous (malignant) type. At the same time, schizoaffective disorder would be diagnosed as either shift-like or periodic and could be present in the mild, moderate, or severe degree of severity.

Syndromes. One of the main questions raised by Russian clinical psychiatry concerns the natural course of schizophrenia. A long-term followup study of a cohort of 5,000 patients lasted for four decades (Shchirina and Vartanyan 1968) and resulted in the delineation of nine main syndromes, defined as a constellation of symptoms, occurring in schizophrenia regardless of type or severity: (1) asthenic (e.g., low energy, impaired volition); (2) affective; (3) pseudoneurotic; (4) paranoid; (5) hallucinatory; (6) hallucinatory–paranoid; (7) paraphrenic; (8) catatonic; and (9) residual, polymorphic. Each of these syndromes represents a stage of the disease progression in this sequence.

Age-specific syndromes. Some symptoms within the nine syndromes described above are more typical of a particular age group. Another large cross-sectional study, involving 3,500 schizophrenic patients, addressed the influence of the age at onset on the clinical syndromes (Nadzharov and Sternberg 1975). The authors studied eight age-specific schizophrenic syndromes: (1) the paranoid syndrome of "Kandinsky-Clerambault"; (2) oneiroid–dream-like fantastic delusional state; (3) paraphrenic; (4) "reduced paranoid"–non-bizarre hallucinatory–paranoid state; (5) "delusional" depression; (6) hebephrenic; (7) anorectic; and (8) metaphysic intoxication or overintellectuallization. It was shown that the most common first-rank Schneiderian symptoms (Schneider 1959) were more frequent in adult-onset (i.e., onset at age 25–45), than in childhood- and late-onset schizophrenia. However, less typical syndromes tend to occur either in childhood and adolescence (hebephrenic, metaphysic intoxication, anorexia, simple or negative) (Vrono 1983) or late in life (reduced paranoid, paraphrenia) (Shachmatov 1976; Sternberg 1981, 1983*b*; Molchanova 1985; Staritsyn 1986).

It was also noted that, in combination, gender and age at onset influenced the type, course, and outcome of illness. Women had an older mean age at onset, more benign course, and better outcome (Sternberg 1981), which is consistent with the data reported by Western psychiatrists (Goldstein et al. 1990; McGlashan and Bardenstein 1990; Ring 1992).

Deficit syndromes. Another relevant concept is of the defect or deficit syndrome, first described in 1838 by Esquirol as a condition of "incomplete recovery" with deterioration of the social functioning and premorbid abilities (see Snezhnevsky 1983). This idea received close attention from Russian scientists, who studied it using phenomenological, neuropsychological, electrophysiological, and, recently, neuroimaging approaches (Smulevich and Vorobiev 1988; Vovin 1991*b*; Smulevich 1996). The definition of "defect" is somewhat obscure because of its overlap with other related concepts, such as negative symptoms, residual states, or any changes in functioning that remain stable (Suchareva 1933; Medvedev 1984). The main characteristics of defect symptomatology are fixation without progression, relative treatment resistance, and association with structural changes in the brain on neuroimaging or autopsy. A very similar concept of deficit syndrome was described by Carpenter et al. (1988). The main difference between negative and deficit symptoms is that negative symptoms can be transient, while deficit symptoms remain unchanged (Melekhov 1933).

Two different approaches to understanding this problem have emerged: a rather traditional phenomenologic description (Smulevich and Vorobiev 1988; Lukyanova 1989) that explains defect as a combination of schizoid and pseudo-organic changes at all levels of mental functioning ("pseudo" meaning functional, nonorganic in relation to psychoses). Two extreme forms of this continuum present either predominant personality changes (e.g., autism, emotional changes, bizarre behavior, motor peculiarities, oddities of interest and inclination) and decline in the level of social functioning, which is called "verschroben" (odd, eccentric) type; or with decreased mental functioning (e.g., bradyphrenia, alogia, impoverished speech and thought processes) and is called "pseudo-organic." Another approach to understanding defect investigates inhibition of mental activity by the disease process with associated impairment in information processing (Kostandov et al. 1990, 1995; Vovin 1991*b*), somewhat similar to the Western neuropsychological research orientation (Oltmans and Neale 1978; Green 1993).

Three separate aspects of deficit syndrome as described in Russian literature reflect changes in personality, energy level or volition, and intellectual functioning. Many authors have described "pseudopsychopathic defect" (personality changes) resulting from the disease process. Recognized subtypes of this defect are "verschroben"-type (Vorobiev and Nefediev 1987), dependent (Maximov and Zverkova 1986), and deficit and expansive schizoid (Smulevich and Vorobiev 1988). Subtypes of the deficit syndrome with energetic and volitional impairment

were described as asthenic, apathetic, apatho-abulic, and atonic (Suchareva 1933). Intellectual functioning deficit was described as pseudo-organic (Melekhov 1963), organic (Nadzharov and Smulevich 1983; Smulevich 1996); "pfropf-schizophrenia" ("pfropf" means a stopper or plug in German) or "oligophrenic" defect for childhood-onset schizophrenia (Vrono 1983). The third aspect also includes impairment of attention, memory, and language and total personality disintegration (Vovin 1991*b*).

Deficit syndrome develops during the first few episodes of schizophrenia (episodes 1–3) (Druzhinina et al. 1981; Medvedev 1984) and remains unchanged during the course of schizophrenia. In the final stages of schizophrenia, deficit syndrome becomes the main component of the clinical picture, free of previously florid psychotic symptomatology.

Clinical Features and the Course of Schizophrenia. Clinical features of schizophrenia, its course, and outcomes are described as polymorphous. Many factors contribute to the heterogeneity of the clinical symptomatology; some of them include age, gender, social and cultural factors, medical comorbidity, subtype of schizophrenia, and a stage of the illness.

Stages. A large retrospective study of a cohort (n = 1,064) of elderly schizophrenia patients affected the Russian concept of the natural course of schizophrenia and emphasized the heterogeneity of types, courses, stages, and outcomes of the schizophrenic process (Sternberg 1981, 1983*b*). The results of that study indicated that the disease progression is limited in time (Nadzharov 1983). In the majority of cases, the course followed six progressive stages: (1) initial; (2) active—manifest psychosis; (3) stabilization; (4) reduction of symptoms; (5) residual; (6) final—equivocal stage of consolidation of the deficit symptoms with a reduction in the positive symptoms. The length of each phase was related to the type of schizophrenia. For example, the active stage was shorter than 10 years in malignant (undifferentiated) schizophrenia and longer than 20 years in the paranoid type. The mean age at onset of the stabilization stage was less than 39 years for undifferentiated and more than 50 years for paranoid schizophrenia (Sternberg 1983*a*, 1983*b*).

The type of schizophrenia determines different symptom patterns. Various schizophrenia types may have a preponderance of a particular pattern of symptoms. For example, continuous type may include pseudoneurotic and pseudopsychopathic, delusional, hallucinatory, and catatonic syndromes in combination with negative and deficit symptoms, which would have a progressive wavelike course without remissions, but with occasional fluctuations in the intensity of symptomatology. Division into various forms by severity further specifies characteristic features of the illness. For example, the malignant type usually has an onset in adolescence and starts with the negative symptoms of increasing apathy, social withdrawal, personality changes, fragmented delusions, and hallucinations, often with themes of dysmorphophobia and depersonalizations. The active stage of the manifest-psychosis is characterized by polymorphous and fragmented affective, delusional, hallucinatory, hebephrenic, and catatonic syndromes. Remissions occur at the beginning of the disease process, but residual states develop about 4 years after onset (Nadzharov and Smulevich 1983).

Continuous paranoid schizophrenia usually follows another pattern: initial obsessive-compulsive, anxious, or hypochondriacal features and nonsystematized paranoid delusions. Personality changes include increased suspiciousness, rigidity, and restriction in affect and level of interests. The initial stage may take 5 to 20 years. Subsequently, delusional and hallucinatory delusional syndromes develop into a florid psychosis. A particular sequence of paranoia transforming into hallucinatory-paranoid and paraphrenic states has been described. The syndrome of Kandinsky-Clerambault ("syndrome of the psychic automatism") (Kandinsky 1890; Nadzharov and Smulevich 1983) is considered to be a typical feature of paranoid schizophrenia and is characterized by delusions of control, thought insertion and broadcasting, and "pseudohallucinations." The last term means that patients consider hallucinations as subjective and unreal, unlike "true" hallucinations, which are considered real by the patients (Nadzharov and Smulevich 1983).

Shift-like schizophrenia differs from the continuous type by more acute onset, fewer systematized delusions, presence of full or partial remissions, less prominent negative symptoms, and an affective component, which may or may not be present.

Recurrent schizophrenia is considered a schizoaffective disorder that may overlap atypical bipolar disorder or major depression with psychotic features. It has an onset in adolescence often with mixed or atypical affective, vegetative symptoms and sometimes depersonalization (Nadzharov and Smulevich 1983). Later in the course, affective and paranoid syndrome occur. They may transform into paraphrenic pictures with an acute fantastic hallucinatory-paranoid syndrome that may end with an acute "oneiroid catatonia" (a dreamlike fantastic delusional state with either catatonic stupor or excitement). Negative symptoms are less pronounced than in the continuous type, but may occur after a few episodes. In the residual stage of the recurrent type, transformation of the symptomatology occurs with decreased severity of psychosis, delusional systems, and rapid cycling. It is believed that single-

episode recurrent schizophrenia may occur. Women have a higher prevalence of recurrent schizophrenia.

Etiology: Neurobiologic Studies of Schizophrenia. Vigorous differentiation between numerous clinical subtypes of schizophrenia remained the guiding principle of Soviet psychiatry, although the ultimate goal of this complex disease model was to find correlations between biological markers and particular clinical syndromes (Shchirina and Vartanyan 1968). Historically, special emphasis has been placed on five different research approaches to schizophrenia: neurophysiological (Monachov 1983); genetic (Gindilis 1979; Vartanyan 1983*b*); psychoneuroimmunological, histochemical, and histopathological (Vartanyan 1983*a*); and neuropsychological (Polakov 1983).

Neurophysiological studies. Traditionally, Russian psychiatrists were interested in neurophysiological correlations of psychiatric symptoms. Nonspecific electroencephalogram (EEG) findings such as bilateral frontal slowing of the α-rhythm have been investigated through the use of photo and phonostimulation, evoked potentials, and, recently, quantitative EEG. Monachov (1983) reported that in 1948, Dzidzishvili found a lack of reactivity to photostimulation in patients with acute paranoid schizophrenia. In 1952, Roitback and Savanelly studied correlations between photostimulation-induced depression of the α-rhythm and various illness parameters and found changes in EEG to be correlated with the stage of the illness but not with the present symptoms (see Monachov 1983). In 1959, Lunz and Feigenberg studied 43 patients with schizophrenic deficit syndrome and found decrease in α-rhythm depression after photostimulation in patients with apatho-abulic syndrome compared with patients with paranoid type without deficit syndrome (see Monachov 1983). Several authors have used the method of intermittent photostimulation with increasing luminescence (see Monachov 1983). They found a general decrease in reactive threshold and paradoxic reaction with maximal response to lower luminescence, inadequate reaction in fronto-parietal areas, and lack of reaction in the occipital area. For the past 20 years quantitative EEG (QEEG) has been applied to the studies of schizophrenia. Monachov (1983) reported, that they were able to diagnose subtypes of schizophrenia in 83 percent of cases by using QEEG data. Kostandov et al. (1995) reported differences in patterns of the auditory-evoked potentials (P300 component latency and amplitude) response in patients with late-onset paranoia compared with the patients with early-onset paranoid schizophrenia.

Neuroimaging studies of schizophrenia are limited to date. They focus mainly on CT (Vovin 1989), primarily because of availability of the technology. Findings of some widening of cerebral ventricles, cisterns, Sylvian fissures, and retropineal space and atrophy of the lateral convexial surface were associated with higher scores on "anergia" and "thought disorder" Brief Psychiatric Rating Scale (BPRS; Overall and Gorham 1962) subscales, impaired higher cognitive functions, poor attention and learning, perseverative tendencies, movement disorders, and a history of perinatal injuries and severe somatic illnesses before age 12 (Vovin 1991*b*).

Genetics. Genetic studies of schizophrenia have employed various research methods including twin, family (genealogic), population or epidemiological, pharmacogenetic, and cytogenetic studies. Such studies are widely used to support the Russian concept of schizophrenia (Vartanyan 1983*b*). According to these studies, the prevalence of schizophrenia was estimated as 5 to 7 per 1,000 population (World Health Organization 1973). The risk of schizophrenia for first- and second-degree relatives of the schizophrenia probands was estimated as follows: parents, 14 percent; siblings, 15 to 16 percent; children, 10 to 12 percent; aunts and uncles, 5 to 6 percent (Vartanyan 1983*b*). Similar risks were reported from about 40 European family and twin studies conducted between 1920 and 1987, except for lower risk (6%) for parents (Prescott and Gottesman 1993).

These data could support the idea that the recurrent and the continuous types of schizophrenia may have a different genotype. Soviet geneticists address the issue of the clinical continuum within schizophrenia spectrum disorders by using genetic-correlational analysis (Gindilis 1979). They obtained estimates of the influence of genetic factors on the development of specific forms of schizophrenia. The heritability index for "endogenous psychoses" is estimated to be 50 to 74 percent. This method also allows for analyzing the genetic correlation between various forms in relatives. For example, the correlation coefficient (r) between the continuous and the recurrent types of schizophrenia is 0.13, suggesting minimal or no genetic relationship. At the same time, $r = 0.78$ for the recurrent type and bipolar disorder, suggesting a very close relationship between those two genotypes. Family studies of schizophrenia (Vartanyan 1983*b*) also described an "anticipation" phenomenon, that is, a decrease in the age at onset in children and grandchildren of probands with late- and early-onset schizophrenia. It was hypothesized that this effect may be the result of the increase in homozygosity in the schizophrenia families throughout three generations. Anticipation, as a genetic phenomenon wherein age of disease onset decreases and severity increases in successive generations, has been described in the Western literature for schizophrenia and other neuropsychiatric disorders (Ross et al. 1993) and explained by the underlying molecular mechanism of expanding trinucleotide repeats.

Gindilis (1979) analyzed genetic correlations between the early- and late-onset "functional psychosis" (i.e., schizophrenia, major depression, and bipolar disorder). They found that despite a high genetic correlation between the early- and late-onset forms of each disorder, genetic influence was more pronounced in early onset: an older age at onset was associated with less risk for the particular disorder.

More recent reports of genetic and family studies of schizophrenia focus on characteristics of the prevalent familial personality and cognitive traits (Trubnikov et al. 1995; Alfimova and Trubnikov 1996), structural brain changes on CT (Orlova et al. 1994), and molecular genetic analysis of the deoxyribonucleic acid (DNA) collected from the families and twins of patients with schizophrenia (Golimbet et al. 1995).

Psychoneuroimmunology. This field is relatively well developed in Russia and has been applied to the study of schizophrenia. Various hypotheses concerning the immunological origins of the schizophrenic process have been tested, starting from the infectious hypothesis and continuing with viral and autoimmune, but no significant differences between different types of schizophrenia and patient immunological status were found (Vartanyan 1983*a*). Those who studied the histocompatibility leukocyte system (HLA)-antigen system (Vartanyan 1983*a*) commented on the association of the HLA–A10 type with the continuous subtype, and the HLA–B1 type with the shift-like type of schizophrenia. Vasil'ieva et al. (1996*b*) reported improvement in the functional activity of natural killers (NK) and T-helper cells (TH) in response to treatment with neuroleptics in 25 patients with schizophrenia. At the 10th World Congress of Psychiatry (1996), Russian researchers were overrepresented in the section on psychoneuroimmunology focusing on immunological changes as an indicator of treatment response (Domashneva et al. 1996; Ismailov 1996), HLA-antigens as markers for various types of treatment resistance (Govorin et al. 1996), and immunological changes in different types and stages of schizophrenia (Ismailov 1996; Sekirina et al. 1996).

Histochemical-histopathological studies. Neuromorphologic description of the schizophrenic brain defines schizophrenia as an encephalopathy with diffuse dystrophic and toxic-hypoxic processes determined by metabolic changes in the brain (Orlovskaya 1983). Various histopathological changes in the neurocytes and glial cells have been described. These include atrophy; lipoid sclerosis; synaptic degeneration; polymorphism of the multiple involved areas; greatest involvement of cortex layers III and V, especially in the frontal and temporal areas; and decreased reactivity of glial cells (Orlovskaya 1983). It was observed that in the continuous forms of schizophrenia the pathological findings include evidence of chronic atrophy, lipoid sclerosis of the neurons, and decreased reaction of glial cells. The neuropathological findings in those suffering from the recurrent or shift-like subtypes of schizophrenia were heterogeneous with ischemic, degenerative, edematous changes of the neurons and both proliferative and degenerative changes of the neuroglia (Orlovskaya 1983).

Neuropsychological studies. Neuropsychological and psychological studies of schizophrenia are rather extensive in the Russian literature (Polakov 1983). Applications include studies of the psychopathology and differential diagnosis of psychiatric illnesses; psychological testing as applied to the determination of disabilities, forensic practice, and treatment efficacy; and psychiatric and neurorehabilitation. Interestingly, there have been relatively fewer studies addressing cognitive deficits in schizophrenia (Vovin 1991*b*) until recently (Kostandov et al. 1995; Yurieva and Yuriev 1996). Its review remains beyond the scope of this discussion.

Treatment.

Biological treatments. In brief, treatment options available to Russian psychiatrists are comparable to the ones used by Western psychiatrists (medications, electroconvulsive therapy [ECT], psychotherapy, etc.). Neuroleptics are used for the standard pharmacological treatment of schizophrenia. Chemical classes of neuroleptics include phenothiazines, butyrophenones, thioxanthines, and the atypical neuroleptics clozapine and sulpiride (Mashkovsky 1980; Avrutsky and Neduva 1981). However, the difference in treatment approaches is in the use of medications based on nosological diagnosis typical of Western psychiatry, and for certain syndromes characteristic of the Russian psychiatry. Medications of the same class are considered equally effective but different in side-effect profile. Many Russian psychiatrists, on the other hand, believe in target symptoms and differential use of psychotropic medications (Nuller 1996; Vovin 1991*a*). For example, positive symptoms schizophrenia and delusional disorder are likely to be treated with chlorpromazine or haloperidol, while such medications as thioproperazine or pimozide are prescribed for negative symptoms schizophrenia (similar to atypical neuroleptics used for the negative symptoms schizophrenia). Clozapine is used for acute treatment of shift-like and recurrent types of schizophrenia or for mood disorder with psychotic features. Periciazine is thought to be useful in personality disorders and personality changes secondary to the disease process. Dosages are similar to the ones used in the West. In treatment-resistant cases the trend is to use neuroleptics in high doses. Some standard recommended daily doses are 300 to 600 mg for chlorpro-

mazine, 10 to 20 mg up to 80 mg for trifluoperazine, 10 to 40 mg for haloperidol, 50 to 70 mg for thioproperazine, 150 to 200 mg for etaperazine, and up to 600 mg for clozapine (Mashkovsky 1980; Avrutsky and Neduva 1981; Smulevich 1983; Calloway 1993). Blood and urine drug levels are available for research purposes. Snezhnevsky (1983) stressed that the choice of drug should be determined by the stage of the disorder. In the stable phase, the aim of treatment should be to lower emotional tone and to treat any vegetative symptoms as well as symptoms such as tension, anxiety, and obsessional or hysterical features. The use of prophylactic neuroleptics, such as depot preparations, during periods of remission is less common than in the West (Calloway 1993).

Treatment resistance may be handled by changing the dose, medication, or route of administration; drug holidays; ECT; or augmentation with other psychotropic agents. Some augmentation strategies include other classes of psychotropic medications. Lithium or carbamazepine may be used when some affective components are present. Antidepressants and benzodiazepines are used on the basis of presenting syndromes, rather than nosologic diagnosis, when affective features are prominent. Smulevich (1983) commented on their use as primary or augmenting agents for the treatment of phobic, obsessive-compulsive, and depressive symptoms. Antidepressants are similar to the ones prescribed in the West (tricyclics, heterocyclics, and monoamine oxidase inhibitors) and may be used for the schizoaffective syndromes or deficit syndromes (Vovin et al. 1988; Vovin 1991*a*). Nootropes (piracetam) and various metabolic enhancers (gamma-aminobutyric acid and vitamin B6 derivatives) are observed to stimulate mental functioning, memory, and perception in patients with defect states, febrile catatonia, and organic affective disorders, and also for the prophylaxis of the cognitive impairment in ECT (Mashkovsky 1980). Psychostimulants are used to treat apathy and asthenia (Mashkovsky 1980). The immunomodulator levamisole has been used to stimulate immune function in patients with schizophrenia; in vitro it improved the phagocytic properties of lymphocytes from schizophrenia patients (Calloway 1993).

The routes of administration of the psychotropic medication include oral, intramuscular, intravenous (i.v.), and i.v. drip infusion (Smulevich 1983). The i.v. route is used for treatment-resistant psychosis and in potentially life-threatening acute catatonic states and febrile schizophrenia.

ECT is a last resort treatment. It is not widely accepted as an effective treatment for schizophrenia. Nuller and Mykhalenko (1988) consider ECT to be an effective and relatively safe form of treatment in severe depression. The indications are narrower for ECT use than in Western psychiatry. Insulin comas are rarely used for treatment-resistant cases. Atropine comas, previously used to treat obsessive-compulsive syndrome in schizophrenia, are now banned from clinical practice.

A very controversial and politically compromised pyrogenic therapy with sulphazine that has been used to induce fever and associated immunological changes and was hypothesized to be helpful in agitation and violent behaviors is no longer used by the clinicians. Sulphazine has been used to "enhance treatment response to neuroleptic medications" (Roth et al. 1989). The severe pain, immobility, fever, and muscle necrosis served as punitive treatment and is associated with abuse of psychiatry. The efficacy of sulphazine has never been established.

Some treatment strategies are unique to Russian-Soviet psychiatry and based on theoretical differences. For example, toxic theories of schizophrenia emphasize an improvement in symptoms through hyperbaric oxygenation and antioxidant use (e.g., vitamin E) (Kut'ko et al. 1996*b*), and fasting diets (Boehme 1977; Polishchuk 1990). Experimental treatments with hyperbaric oxygenation and endovascular laser therapy that improves patient immunological status have been suggested (Kut'ko et al. 1996*a*). Hemabsorption used in schizophrenia is claimed to improve cognition (Calloway 1993). Other miscellaneous treatments include exercise, massage, baths, oxygen therapy, drinking koumiss (fermented mare's milk), acupuncture, hypnosis, herbal preparations (ginseng, pantokrin, lemon, aloe) and vitamins, electrosleep, sleep deprivation, and physiotherapy (Calloway 1993). These approaches are most often used for the nonpsychotic patients.

Psychosocial treatments. Current psychosocial approaches to treatment include psychotherapy, occupational and work therapy, family therapy, and group therapy. They are used for secondary and tertiary prevention of relapse and for related issues of rehabilitation and readaptation (Babayan 1985; Kabanov et al. 1991; Dogvinovich et al. 1994). Treatment is administered on an inpatient and outpatient basis. Psychotherapy in the broadest sense is widely practiced through the established relationships between the regional psychiatrists and nurses and their patients. It is mostly supportive in nature (Calloway 1993). The most frequently used psychotherapeutic techniques include short-term and directive psychotherapy. Collective or group therapy has been used since the second half of the 19th century. Its goals include providing support and education about the illness and improving social and relationship skills. Groups are usually heterogeneous by age, sex, and diagnosis (Semke 1996). Family therapy in the rehabilitation of psychotic patients is used to create a better emotional atmosphere

and understanding of the disease process. Exploratory psychotherapy is available to some patients.

A long-standing tradition of work therapy has been maintained, especially in rehabilitation of patients with schizophrenia (Babayan 1985). As early as the "Zemsky" period (the second half of the 19th century, beginning of the 20th), the network of day hospitals, outpatient clinics, neuropsychiatric sanatoria, psychiatric hospitals for the acutely and chronically ill, farm colonies for the chronically ill, and therapeutic workshops in hospital and outpatient clinics were created. They continued to exist throughout the Soviet period, leading to the reorganization of psychiatric care with the establishment of the psychiatric registry and transitional therapeutic settings. Work therapy has become an essential part of this network at the different levels (Melekhov 1933). The ability to work while in remission is determined during evaluations performed by the special commissions assigning patients to the different levels of disability (i.e., grades of invalidity 1, 2, and 3). Only individuals with grade 3 invalidity are eligible for partial employment (Babayan 1985; Goncharov 1993).

Organization of care for severely mentally ill. Because of the well-developed network of community mental health institutions serving catchment areas—including psychoneurological dispensaries, day and night hospitals, workshops, rehabilitation units, training centers, prophylactic workshops in the factories, and social treatments—rehabilitation and tertiary prevention of schizophrenia are widely available and used (Hein 1968; Wing 1974). The continuity of care and the individual approach to schizophrenia patients have been the main principles of organization of psychiatric care in Russia (Babayan 1985; Yastrebov 1991). A patient with a severe mental illness like schizophrenia is assigned to the "primary care" psychiatrist at the workplace or in the psychoneurological dispensary serving the district where the patient lives. This psychiatrist becomes responsible for diagnosis, biological and psychosocial treatment, and a regular followup, which is directed toward early detection and prevention of relapse. If a new exacerbation of mental illness occurs, patients are hospitalized at the local psychiatric hospital or a psychiatric unit of a general hospital. At times partial hospitalization programs for the treatment of subacute psychosis are utilized. After stabilization, the patient returns to his primary psychiatrist for followup and rehabilitative programs at the local institution. Tertiary referral centers based in medical schools and research institutes treat "resistant cases." The continuity of care throughout the healthcare system and lower rates of migration in the general population allowed the long-term retrospective and prospective studies of schizophrenia discussed above to be conducted.

Comparison of the Russian Concept With the European and American Concepts of Schizophrenia

Historical development of the European and Russian concepts of schizophrenia was approximately parallel in the 19th and the first half of the 20th century (Bleuler 1911). Schizophrenia had a clear description as an early dementia in the 19th century (Peters 1991*b*; Marx 1994). European psychiatry was influenced by the Kraepelinian concept (Kraepelin 1909–1915), but Bleuler's theory became more popular in the United States until the 1970s. Russian psychiatry has embraced both hypotheses since the 1940s.

The American concept of schizophrenia between 1920 and 1970 was influenced by the theories of Alfred Meyer, who emphasized the impact of the individual history of each particular patient on the schizophrenia syndrome, rather than pathognomonic symptoms and the longitudinal course (Peters 1991*a*; Mora 1994). The American concept was further broadened by the introduction of several concepts of schizoaffective psychosis (Kasanin 1933), "ambulatory schizophrenia" (Zilboorg 1956), and "pseudoneurotic schizophrenia" (Hoch and Polatin 1949; Peters 1991*a*; Mora 1994). *DSM–II* (American Psychiatric Association 1968) presented the concept of schizophrenia in its broadest interpretation. This marked the point of greatest divergence from the European classification of schizophrenia (Peters 1991*b*) and remarkable similarity to the Russian concept.

The World Health Organization sponsored the International Pilot Study of Schizophrenia in 1966 (IPSS; World Health Organization 1973). This led to a critical revision of American diagnosis of schizophrenia during the 1970s, with narrowing of its definition and developing of the core symptom criteria (Robins and Guze 1970; Peters 1991*a*; Calloway 1993; Andreasen 1994). The *DSM–III* became a turning point for American psychiatry in the development of the schizophrenia concept. It reintroduced a neo-Kraepelinian approach to diagnosis and classification of schizophrenia that brought the American and European concepts closer. Further revisions of both *DSM* and *ICD* systems tended to occur almost simultaneously, reflecting changes in each other. The recent modern classificatory systems, *DSM–IV* and *ICD–10*, group the syndromes of schizoaffective psychoses differently. The American diagnostic system subsumes affective psychosis with so-called "mood-incongruent psychotic features" under the affective disorders, while *ICD–10* includes them, in accord with tradition, with the group of schizophrenias. Both diagnostic systems take into account only the cross-sectional status within one illness phase (Calloway 1993).

Contrary to the dramatic change in the U.S. classification brought on by *DSM–III*, post-war Russian-Soviet psychiatry has never changed its adherence to the broadly defined spectrum-schizophrenia concept with emphasis on the longitudinal course. It continues to consider schizoaffective disorders as schizophrenia "continuum" disorders and, until recently, remained very rigid in its classification of schizophrenia. This reflects the discipline's historical development and the inflexibility of the political system. The two major features that differentiate the American concept from the Soviet one are the former's requirements of psychotic symptoms and exclusion of patients with prominent affective features (Andreasen 1989). An obvious point of divergence between Soviet and Western psychiatry involves the "boundary disorders" between schizophrenia and affective psychosis, personality changes or defect states in remission, nonpsychotic conditions (e.g., latent or simple schizophrenia), and personality disorders (Andreasen 1989). The Soviet classification permits complete remissions in schizophrenia and nonpsychotic forms of illness. Treatment implications include neuroleptic use for the nonpsychotic forms potentially causing additional side effects and neuroleptic-induced movement disorders.

Some advocates of the continuum concept of schizophrenia in different parts of the world are not satisfied with the current state of affairs in the classification of schizophrenia. They are trying to attract the attention of the international psychiatric community to the continuum of affective disorders and schizophrenia (Crow 1991; Kay 1991; Stromgren 1991; Angst 1993) and the continuum of personality disorders and schizophrenia (Siever et al. 1993). Others are working on alternative classifications of schizophrenia that would encompass well-recognized patterns of negative- and positive-symptoms schizophrenia (Crow 1985; Carpenter et al. 1988; McGlashan and Fenton 1992) and new models of the disease process (Murray et al. 1992; Lindenmayer et al. 1995).

Is classification necessary in psychiatry? Classification is a part of human thinking. The French anthropologist Claude Levy-Strauss (1973) proved in his treatise "La pensee sauvage" that there is no culture that does not classify (see Angst 1993). The history of the Soviet and, in part, the American diagnostic systems of schizophrenia demonstrates controversies involving the conceptual understanding of the disease. The imprecision of the existing classifications made the concept of schizophrenia particularly vulnerable to abuse. The history of the Soviet concept of schizophrenia teaches us a moral lesson about scientists' personal responsibility to develop a concept in the context of a particular political system. Unfortunately, history shows many examples of psychiatric abuses by repressive regimes in both the distant past and modern times. The history of the Russian-Soviet psychiatry is just one of them.

The Soviet Concept of Schizophrenia and "Abuse of Psychiatry"

The causes of abuse of psychiatry are complex. In addition to corruption, they include social and political pressures, poor standards of clinical training and practice, inadequate procedural quality assurance, and a weak legislature. Inadequate scientific precision of the disease model and diagnostic criteria may also play a role. However, the list of factors examined by Fulford and colleagues (1993) "fail to explain the essential vulnerability of psychiatry to abuse."

Some issues involved in the discussion of abuse of psychiatry include patients' rights violations, criminal concepts of social dangerousness, "urgent hospitalization" (civil commitment), special hospitals, nonimputability (i.e., "not guilty by reason of insanity") of persons with mental illness, the practice of hospitalizing people who are not mentally ill for their expression of political and religious beliefs, and punitive use of psychotropic medications. These issues were covered in the Report of the U.S. Delegation, co-chaired by Drs. Roth and Farrand, to assess recent changes in Soviet psychiatry published in a special issue of the *Schizophrenia Bulletin* in 1989 (Roth et al. 1989). The broad Soviet concept of mental disorder diagnoses in general, and for schizophrenia in particular, has led to the overdiagnosis of schizophrenia. In particular, diagnostic criteria for mild "sluggish schizophrenia" and "delusions of reformism" abuse in cases of political dissenters, were unacceptable to the American psychiatric community (Keith and Regier 1989; Shostakovich 1989; Smulevich 1989). At present, Russian psychiatrists admit the reality of abuses and are trying to analyze their causes and consequences (Kabanov 1991; Savenko 1996).

Why abuse of psychiatry in Russia became possible and lasted for decades without any significant correction by the medical community is a very difficult question to answer, particularly to someone who was not born and raised in Russia. This article has attempted to address some historical and cultural factors leading to the development of a broad diagnostic system of schizophrenia and its abuse. Another issue that contributed to this process was the lack of a democratic tradition in Russia. The presence of such a tradition helped U.S. psychiatrists resolve similar difficulties with diagnostic classification in transitioning from the *DSM–II* to the *DSM–III*. The tradition of "a great man" (Brown 1994) or a parental figure, a single political figure worshiped as a parent with a "great power and knowledge" by the masses, is still embedded in Russian life. Traditionally, Russian tsars or communist dictators were referred to as father, daddy, uncle, or grandfather. Children of many generations have been brought up with the notion that there exists this "wisest,

kindest, all-knowing grandfather" who will protect them from any misfortune. Astonishingly, some preferred this warm image to their own relatives. Amazingly, millions of people whose relatives had been killed or sent to prisons or labor camps by the KGB were devastated, cried, and injured each other at Stalin's funeral in 1954.

Certainly, this is not a complete picture. Political dissenters existed in Russia in all times. They survived many years of abuse and struggle and enriched Russian intellectual life by providing their alternative views. Russian society has never fully recovered from the extermination and oppression of intellectuals and scientists that took place in the 1930s through 1950s. The result was several "politically passive" generations of people and scientists who followed orders from the authorities and never asked any questions simply because they were not interested in being killed or ostracized like those who dared to dissent.

Russian psychiatrists now have to overcome all the difficulties of joining the international psychiatric community. It is a tremendous struggle, complicated by the process of decentralization, financial difficulties, and the longstanding professional traditions outlined in this article. The introduction of the *ICD–10* may facilitate this process, but it will not be simple or straightforward. Belozzubova (1996) indicated that some Russian disease entities will be added to the *ICD–10* and proposed the use of the Russian-English and English-Russian Glossary for improving mutual understanding. It will take some time to learn that the role of the mental health profession in a democratic society is to be technical advisers on the degree of disorder and risk to the legal system (Monahan and Shah 1989), not an "instrument" of abuse guarding this political system.

Conclusion

This is a highly condensed overview of the politically and scientifically controversial Russian-Soviet concepts of schizophrenia. It is not intended to describe in detail all of the research data in the field. It presents historical perspective on the formation and development of the concepts and research approaches. Russian psychiatrists have gathered considerable clinical material and have carefully described psychopathology and classified longitudinal empirical observations of patients with schizophrenia. A few similar examples of the longitudinal followup studies of schizophrenia existed in Western psychiatry, but on a smaller number of patients (Kraepelin 1909–1915; Bleuler 1974; Ciompi and Muller 1976; Carpenter and Kirkpatrick 1991). Russian psychiatrists traditionally paid special attention to the influence of age and gender on the course and outcome of schizophrenia, and they attempted to substantiate the classification of schizophrenia with some biological correlates. Unfortunately, the diagnostic system is unique and complicated, the diagnostic criteria for schizophrenia are descriptive and imprecise, and research methodology employed in the studies of schizophrenia is different. All these points make it difficult for the international psychiatric community to interpret and compare the results of Russian-Soviet studies with their own. However, a few lessons can be learned from the Russian experience with the schizophrenia concept. The Russian concept implies that schizophrenia represents a heterogeneous group of "spectrum" disorders. The general longitudinal approach to the study of schizophrenia and the exploration of the impact of gender and age at onset could further clarify its course, trends in disease progression, and outcomes. Studies of the "boundary zone" between diagnostic categories like schizophrenia and affective disorders, and schizophrenia and personality disorders may enrich our understanding of the relationships between disorders. The remarkable impact of the political system on the classification of schizophrenia and vice versa, and its potential recurrence, should not be forgotten by the international psychiatric community. George Santayana (1951) reminded us all that a society that ignores history is vulnerable to repeating it.

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