

Speech of the President of the Kazakh Academy of Nutrition, T. Sh. Sharmanov. “The Long and Arduous Path to Recognition. The 30th Anniversary of the Kazakh Academy Nutrition.”

Creation of the Academy of Nutrition was perceived controversially on the cultural and scientific space of the Republic of Kazakhstan. *Not one of the newly established institutions, the number of which exceeded the need for them both before and after this event, had created more enigmas and had raised more arguments and contradictory judgments in society than did the opening of the Institute of Nutrition. First of all, the Institute had entered into this sphere as an independent scientific establishment of a rebellious character and with a scandalous biography. As early as 1962, having emerged as a branch of the Institute of Regional Pathology, the Academy had begun its activity with study of population nutrition, forcefully intruding into a forbidden sector that was vigilantly guarded by government authorities.*

In 1965, any discussions on the theme of “Immuno-biological Responsiveness of Organisms of Tuberculosis and Brucellosis Patients On the Background of Vitamin C Hypovitaminosis [Vitamin C Deficiency]” were perceived as equivalent to an explosion of a bomb. This was because a tremendous amount of scientific data had indisputably proven and exposed the social nature of spread of tuberculosis, which was perceived as an attempt to undermine the very foundations of the Soviet Government, and that is why the defense of the Doctor’s degree thesis was conducted in a closed-door session under close surveillance by the employees-responsible of the Central Committee, the government and the KGB.

Then, with the purpose of diverting the public’s attention away from real factors, a version on hereditary nature of tuberculosis had been deliberately spread, stating that Kazakhs, as a nation, were, supposedly, genetically predisposed to tuberculosis. The Republic’s government authorities infected by Soviet patriotism have rather resigned to such doom of their nation instead of defending its interests.

Every time that I meet with journalists, cultural figures, I am amazed at how often the activities of the Academy are perceived by the public in the context of superficial, strictly consumer interests such as production of child nutrition products, treatment of gastroenterological disorders, development of methods for weight loss, etc. This, undoubtedly, are results of research conducted by the members of the Academy; our scientists, however, are not able to see themselves within the limits of such narrow cliches.

The Institute, from the very first day of its functioning, was oriented towards world tendencies in development of nutritional science, exploration of key healthcare issues and was guided by the concept of balanced nutrition developed by Academician A. A. Pokrovskiy, M.D., Ph.D., which constituted the basis for methodological approach and allowed for an integrated method for addressing and solving issues.

Only given this approach it was possible to conduct fundamental [theoretical] and practical scientific research work within the context of a unified comprehensive program.

Such approach to science allowed the scientists to view themselves as, first and foremost, diverse. The major fundamental, substantial characteristic of organization of science within our Academy is variety, abundance of diversity, and, figuratively speaking, “the flourishing complexity”, which is never, in its principle, reduced to a single standard of life or a way of thinking.

The fundamental character of scientific research, the singular/uncommon nature of methodological approach had placed our Academy in a special position, and, as a result of this, it, by no means blended in within the ranks of the Republic’s existing scientific institutions, the activity of which was oriented towards addressing strictly practical issues of local significance.

By the virtue of their scientific profession, our scientists engage into the singular, the individual, the unique – this is precisely why they are able to, better than anyone else, show the Academy as it truly is – in all of its diversity. Only such integration made it less vulnerable.

For a scientist, true nightmare lies not in forbidden, but in predetermined conditions; though on the way to a predetermined end a scientist possessed a certain freedom of maneuver, which was used by the Academy's talented scientists with an unsurpassed artistry. Precisely given this circumstance the Academy became successful, and, later, it has also paid for its success.

We realized that we lived and worked in a country that was far from even acknowledging the simple significance of this problem, and desperately tried to draw it closer to worldwide views on this issue.

We have been overcoming this shortcoming through our everyday, almost titanic work and simply through our physical presence, because we were insanely in love with this world – our world.

Over and above the plan, without obtaining permission from authorities, the Academy's scientists began the process of decoding the primary protein structure of *staphylococcus enterococcus A* and synthesis of analogues of its active fragments on ultra-modern synthesizer and sequencer [sequenator] – on equipment, the likes of which only 3 of the elitist biochemical institutes of the Soviet Union possessed at the time. And this was when the country lacked elementary laboratory equipment and reactants for conduction of routine analysis procedures.

According to evaluation of scientific experts, only an entire institute was capable of undertaking research work on such theme. It is difficult to believe that solely three scientific fellows completed this research project within 5 years' time, obtaining brilliant results; their work, having received high ratings by experts-specialists, and having made a substantial contribution to theoretical science, until now, awaits its implementation into practice. Bread did not become cheaper because of this, but we all gained yet another example of altruistic daring. Since work on this subject was carried out in spite of interdictions set by higher authorities, this act had been regarded as a challenge and bold defiance towards authorities. Incidentally, today, a researcher of the stated theme, Professor **T. D. Talbayev**, Doctor of Science, is the initiator of the first anti-steroid laboratory in the history of Kazakhstan. The difficulty of this undertaking and its significance are obvious.

There was not one example in history when pragmatic reasons prevented a human being from accomplishing great deeds. Humans are irrational beings; they need heroes. It has been half a century since outer space became the frontier of the scientific thought, its experimental sector, and the field for application of humanity's best minds. At the height of the space epopee, the KAN entered into an alliance with the Soviet Union's largest secret institute for medical and biological issues and began implementing an intensive research program based on models of hypokinesia – one of the organism's extreme states in the conditions of space flight.

Abundant amount of scientific evidence demonstrated the destructive impact of hypokinesia on organism and uncovered the biochemical mechanism for the pathology's development pattern.

The obtained results helped to deeper penetrate into the very essence of the modern man's pathology resulting from low level of physical activity; and thus, figuratively speaking, the earth met the sky.

Uniqueness of this research work lies in creation of hypokinesia model, which is possible to implement experimentally only through the use of animals possessing a specific genetic lineage, as those bred in special conditions in the Soviet Union's one and only such nursery – Stolbovaya – and nowhere else. Valiance and madness it was, for there is no other way to refer to the fact that we had the courage to breed animals of not solely one, but two genetic lines.

We also conducted experiments not only based on hypokinesia model, but also on a highly cancer-predisposed line of rats.

The data obtained as a result of research work conducted on the basis of the hypokinesia model using animals of the stated lineage served as grounds for creation of a whole series of specialized products that increase adaptation abilities in the conditions of space travel. On a regular basis, the KAN collaborates with the Kazakh government on astronauts' life sustenance program. We are proud of the fact that **Tokhtar Aubakirov**, Kazakhstan's first astronaut, who possesses the rank of a Hero of the Soviet Union and the Kazakhstan State-granted title of *Khalyk Kaharmany* ["Defender of the Nation"], and **Talgat Musabayev**, space-pilot, who possesses the rank of a Hero of the Russian Federation and the Kazakhstan State-granted title of *Khalyk Kaharmany*, have many a time sent to us, both from outer space and after their return on earth, expression of their appreciation along with high evaluation of the products created by our group of experts headed by Professor **U. A. Sinyavskiy**, M.D., Ph.D. It was always pleasant to see these handsome guys receive a blessing from our Academy before each flight.

Scientific evidence regarding the modifying effects of nutritional factors in carcinogenesis was obtained by Professor **M. M. Aytzhanov** through involvement of a highly cancer-predisposed line of animals. These data were so convincing, significant, and new, that the All-Union Carcinogenic Committee had called a special plenary session in Almaty in the context of the KAN, where perspectives of oncological application of the acquired data were discussed, while the results were later used as the basis for a doctoral thesis brilliantly defended by M. M. Aytzhanov.

Within the walls of our Academy, a group of young and talented scientists (**B. Aydarkhanov, A. Shomayev, L. Volkosh, S. Nikitin, A. Frantsev**) actively researched the issues of interrelation between the immune system and nutritional factors. Within a short period of 5 years' time, they collected a tremendous amount of scientific data and pioneered in developing a new outlook on the immune system, which was to regard nutrition not only as a factor influencing immunity of an organism, but as a key condition for its formation, carrying antigenic information about the environment in which the organism lives. Before the eyes of the scientific community, notwithstanding skepticism and distrust of venerable scientists, we found ourselves at the very origins of, and, at the same time, became the authors of an emerging scientific discipline later called "immunology of nutrition", as well as the initiators of opening of a new laboratory with a corresponding name. Beginning the year 1989 and until the present time, the laboratory was headed by a talented scientist, the Vice-President of our Academy, a State Award Laureate, Professor **I. G. Tsoy**, M.D., Ph.D. The following fact demonstrates the successfulness and effectiveness of the stated laboratory: 8 theses for Doctor's degree and 26 theses for Ph.D. degree were defended based on research conducted here.

Another instance that proves the success of the stated scientific direction is the fact that the State Awards Commission, as far back as in the year 1980, had made a decision by means of secret vote to grant a State Award to me among other candidates – a decision that was not supported by the Central Committee due to political motives.

For successful research work in this field, **A. Sharman, A. Saparov, and Zh. Muminova** received invitations to work in the USA.

We all are witnesses to the fact that, at present time, a countless amount of BAAs [Biologically Active Additives] that have corrective and stimulating effects on the immune system are overflowing the world market; is this not an evidence of viability of the new scientific discipline that had received its start in life within our Academy?

One of the brightest and most wonderful results of integrated approach to research lies in formulation of the conception of nutrients' inter-connection and functional deficiency of individual nutrients, in organism's dependency on the supply of proteins and other foodstuffs. This became the fundamental basis for understanding the essence of pathogenesis of widespread deficiencies of various vitamins and nutrients, which is a principally new approach to prevention and treatment of alimentary-dependent disorders.

Neutrality of science, its incompatibility with morals is at the core of the conflict of interests between society and science, government authorities and scientists. One is simply not connected with the other. Scientific exploration is devoid of a moral dimension. Science can only answer questions. Therein, precisely, lies its strength and, at the same time, its danger. Society idolizes science, while government fears scientists.

Academy's work had, by then, become so popular, that the public was not able to stay indifferent towards any results obtained by the institution.

Results of completed research on hypokinesia, decoding of structural-functional organization of *staphylococcus enterococcus A* and synthesis of analogues of its active fragments, isolation and practical application of retinol-binding enzymes conducted by **S. Nikitin**, requiring pinpoint accuracy in approach, immunology of nutrition – *all of these were perceived controversially by the scientific community, while the individuals who were close to Government authorities, especially to the Communist Party's elite, presented the above results as almost a challenge, met these accomplishments with resentment, believing that these scientific findings and conclusions were very much distant from objectives and tasks of practical healthcare, as having lost all touch with reality.*

Scientific intellectual community regarded these works as a display of haughty elitism, which, supposedly, raised them, as it seemed, over the necessity for having moral and humanistic core in a scientific research process.

This fact could be distinctly observed in a remark notable for its brevity, made by D. A. Kunayev, the First Secretary of Central Committee of Kazakhstan, a member of the Political Bureau under the Central Committee of the C.P.S.U. [The Communist Party of the Soviet Union] – “If we have bread, butter and meat – there is no necessity for an institute of nutrition”. Thus was expressed the political will of the country's government, and it sounded as if it were a directive to dispose of the “disobedient” staff.

Scientific community went even further: everything that the Academy had accomplished so far, was treated as primitive, elementary, was ran down in a mocking tone, sophisticatedly, crudely.

All this took place at the same time when in the USA, a country so abundant in “bread, butter and meat”, over 50 institutes of nutrition functioned, while the Soviet Union had only 3; in every multi-profile hospital of the USA a whole group of nutritional specialists worked, while in our country, regardless of the hospital's admission capacity there was only 1 dietitian per institution. In this precisely the distinction in the attitude of these countries towards nutrition was manifested.

Our Academy was regarded as a sort of imported goods, a considerable effort was made to view it as some kind of entity that existed in, if not hostile, then in an alien environment.

The fact testifying to the enthusiasm and the extent with which those in power had set about our doom, was that they spent so much of their efforts and funds, mobilized so many administrative resources with the purpose of creating persistent animosity in society towards everything the Academy was engaged in at the time.

A “cloud of possibilities” was always at the disposal of the higher authorities, from which it could always choose, at its own accord, only one version of events. And so it chose an artificial, deliberately false, undoubtedly one-sided version, and presented it to the society, calling it our history, our reality.

So what was the opposing force against all of these endeavors? Almost a trifle, really. Our scientists' work, which, upon being examined even by our ill-wishers, filled them with trust and respect. If science is the gold reserve that guarantees stability of our ontological currency, the scientists are priests of reality, guardians of fundamental values.

Despite continuous and numerous attempts to destroy the Institute, it has survived to this day.

Nevertheless, even before recognition of our success in our home country, the scientific work of our Academy (merely a branch back then) had been welcomed by the Moscow's scientific community with great enthusiasm.

Aleksey Alekseyevich Pokrovskiy, the main protector and initiator of organizing the institute-branch, Professors **V. V. Efremov**, **A. O. Natanson**, before whose unfading memory their appreciating students and followers bow their heads in expression of deepest respect, have done a great deal for promoting public respect and recognition of the Academy. Over the course of many years, we feel the affectionate care shown towards our Academy by Academician of Russia's Academy of Sciences **V. A. Tutelyan**, the pronouncedly respectful regard of a Corresponding Member of the Russian Academy of Sciences **M. Gaparov**, Professors **A. Baturin**, **V. B. Spirichev** and many others.

Certainly, we would like to express our particular gratitude to Academician **B. A. Atchabarov**, an ideological inspirer, wise mentor, thanks to whose fatherly concern and care the nutritional science began its progress in Kazakhstan.

We shall always remember and value the contribution of our eldest scientific fellows – **S. M. Musabekov**, Professor **M. S. Saulebekova**, **G. V. Ovsova**, **S. Imankulova**, **A. Zhienbayeva**, **E. Bakanova**, **Sh. A. Bakanov**, **E. Abdrashitova**, **N. Z. Tkatch**, and of untimely deceased **S. F. Zhurzhiu**, **G. K. Servetnik-Chalaya**, **G. Zhumabayeva**, **Z. K. Konakbayeva** – who stood at the very origins of organization of the nutritional science in various time periods and contributed to development and strengthening of its public prestige.

*Successes of the Academy's scientific team foreshadowed a period of repressive acts by the totalitarian government. For the generation of the 1970s-1980s, our Academy had no better defenders than its talented scientists, State-granted Awards Laureates such as Professor **A. A. Aldashev**, **Sh. S. Tazhibayev**, **R. S. Kuzdembayeva**, **A. K. Mashkeyev**, Professors **P. S. Nikov**, **G. Kulkybayev**. It was them, who crushed the propaganda, unethical in its barbaric terminology, against our Academy – propaganda that had nothing to counter the charm and the force of work conducted by these prominent scientists.*

The field of our scientists' activity encompasses spheres ranging from gastroenterology, cardiology, hygiene, tuberculosis, oncology, psychiatry, to dentistry, eye diseases, and technology of nutrition. Military forces in high-altitude mountainous conditions, astronauts, and various industrial sectors needed our conclusions and actively collaborated with our Academy.

Of course, many saw in this fact a menace to their own prosperity; the Academy was accused of imperial mannerisms; intellectuals and government authorities waged a war on it.

We have actively integrated ourselves into almost all spheres of medical science; 230 theses for Ph.D. degree, 53 theses for Doctor's degree, 40 monographs, 90 patents and inventions reflect the wide spectrum of our scientific directions.

Today, our alumni work for numerous scientific institutions, hold key offices: Academician **G. Kulkybayev** is currently the Director of a scientific research center in the city of Karaganda, Kazakhstan; Professor **Karimov** works as the Director of a scientific research center in the city of Aktobe, Kazakhstan; Professor **E. Tishenko** holds a major office in the system of the United Nations Organization; **G. Semenova** works for company "Macro International" in the USA; Professor **P. S. Nikov** has a permanent tenure as the Scientific Secretary of the Medical University in the city of Odessa, Ukraine. **A. Saparov, M.D., Ph.D.**, is the Head of a laboratory in "Pfizer" corporation in the USA; Professor **N. Karsybekova** is a National Programs Coordinator for the ABR [The Asian Development Bank]; **A. Nersesov, M.D., Ph.D.**, is the Head of a Department under the Ministry of Healthcare of the Republic of Kazakhstan. **Bayserkin, Ph.D.**, is the Head of the Sanitary-Hygienic Service under the Ministry of Healthcare of the Republic of Kazakhstan; **Zh. Muminova** is a scientific fellow in a laboratory of the University of Alabama in Birmingham, USA; **Almaz Sharman, M.D., Ph.D.**, is the Head of the USAID mission to Kazakhstan and a Professor of the Johns Hopkins University, Baltimore, USA; Academician **R. S. Kuzdembayeva**, a State-granted Award

Laureate, is a Professor of Pharmacology and Biochemistry Department of the Aktobe Medical University, Kazakhstan; Professor **S. Imanbayev** is the Head of Biochemistry Department of the Aktobe Medical University; Professor **T. Muminov**, who defended his Doctor's degree thesis based on results of research conducted by our Academy, is the Rector of the KazNMU - the Kazakh National Medical University named after S. D. Asfendiyarov, and many others.

To our regret, such talented scientists as Professor **A. Mamyrbayev**, **A. Shomayev**, **B. Aydarkhanov**, who received the status of Lenin's Scholars and graduated with honors from medical university, left science to pursue careers business. Today, they are successful businessmen. **D. Bozhko**, who also is a Lenin's Scholar, currently holds the post of the Vice-President of a large company – USKO.

It is unfortunate that such talented persons left our ranks: they could have made great contributions to science.

Our Academy's presence in other countries is confirmed by the fact that Ministers of Healthcare of Tajikistan – **K. Chagylov**, and the Kyrgyz Republic – **N. Nasiyev** are among our alumni. They defended their theses for Ph.D. degree and Doctor's degree in our Academy, and today they continue their scientific quest. Many scientists and practical workers from Mongolia, Uzbekistan had defended their degree theses under guidance of our scientists.

In the Institute's Branch, unique children's nutrition products such as "Baldyrgan" and "Balbobek" that are now well-known in the entire country, anti-anemia and anti-stress products were created under the supervision of State-granted Award Laureate, **P. V. Fedotov**, who had recently celebrated his 90th anniversary. The fathers of our today's little clients, who grew up on these products, regarded them with particular respect.

At various times, clinical subdivisions of the Academy were headed by talented clinical specialists, such as Professor **R. Kadyrova**, Professor **V. Maksimenko**, who currently works near Moscow, professor **E. Izatullayev** – at present the Provost of the Kazakh National Medical University named after S. D. Asfendiyarov; today these subdivisions are headed by **B. Salkhanov** and **R. Shakiyeva**.

The work of the Institute of Nutrition Branch had attracted the attention of not only Soviet, but also of numerous foreign scientists, transforming it nearly into an object of pilgrimage. Hardly any other institute of the Republic conducted on its grounds so many All-Union and international conferences and symposiums. Back then, for conduction of such events, it was necessary to obtain a special permission from the GKNT [State Committee for Science and Technology] of the USSR.

Paradoxically, all of this resulted in new misfortunes. Around the work of the Academy's staff an ominous silent conspiracy ripened. Incomprehensible interdictions regarding not only international, but also All-Union events began to appear. This matter sometimes reached a point of rather amusing incidents. As a result of a direct order from the Department of Science under the Kazakhstan's Central Committee, the Organizational Committee for Kazakhstan's part in the International Biochemical Congress, among the delegates of which there was quite a number of Nobel Prize Laureates, had crossed out the KAN from the list of locations for visits by foreign scientists.

All this was done despite the fact that the Academy of Nutrition, possessing ultra-modern equipment, high-class biochemistry experts, had, according to all objective criteria, the right to exhibit before foreign scientists the scarce arsenal that was at the disposal of the Republic's biochemical science. And all this was done also regardless of the fact that it was the country's one and only international center collaborating with the WHO on issues of nutrition. We should have been proud of it.

I would like to stress that of 235 proposals received from all corners of the Soviet Union that were recognized by the AMN [Academy of Medical Sciences] of the USSR and the State Board of the Ministry of Healthcare of the USSR as the most significant achievements of medical science and recommended for practical implementation in healthcare, 9 proposals came

from Kazakhstan's 15 Institutes, 4 of these proposals were submitted by our Academy. Does this fact signify anything?

The year 1985 approached; after a succession of false accusations, continuous persecutions, victimization, I was forced to leave for Moscow, where I lived for more than 3 years.

I would have never left Kazakhstan, if my scientific destiny were not so treacherous. The Academy's scientific developments that were considered significant, fundamental, as having received international recognition and noted by the Republic of Kazakhstan's State Award, in 1984 became subject to brutal execution and were closed down, which impelled me to resign from my position.

And then something strange and unnatural happened. An insurmountable barrier arose between the members of the Academy and me.

Over the course of almost a quarter of a century, beginning from implementation of my very first scientific idea, I, as the Academy's founder, had direct relation to its creation and formation, to mentorship of an entire generation of talented researchers, who constituted its basic core. It was unthinkable to bear the fact that, all of a sudden, I lost the opportunity to be near, to work with this outstanding team, to whom my destiny both as a scientist and as a human being was bound, before whom I had neither regrets nor remorse for any of my actions or deeds, with whom a great friendship existed on the basis of mutual trust and unified principle of serving science, without any games or hypocrisy. Nevertheless, life had put before the staff members, headed by **Sh. S. Tazhibayev**, and me a choice of a cruelest nature: which one of us would dare to sever our kind relationship, strengthened by decades of simple human relations, which one of us would step over the ties nurtured by common efforts.

Moreover, in those years a two-fold menace arose over our Academy: closing of it was demanded from the tribune of the State Board of the Healthcare Ministry of USSR and in an official letter from the Ministry of Healthcare of Kazakhstan with the support from the Presidium of the National Academy of Sciences. The most terrible thing was that all of this had originated in my own native Kazakhstan. A large group of prominent scientists with world-famous names who, at the time, worked at the Moscow Branch of the Institute of Nutrition, rushed to aid; among this group were many of my colleagues-friends, Academicians **P. N. Burgasov, S. G. Drozdov, G. N. Serdukovskaya, U. I. Borodin, N. F. Izmerov, D. K. Lvov, N. P. Bochkov, E. I. Goncharuk** and many others, who called up a special session of the USSR Academy of Medical Sciences and gave a worthy reprimand to the depredators.

In these circumstances we cared nothing for praise, even less so for singing of panegyrics.

*Speaking with all sincerity, the prominent scientists whose names became the symbols of pride for world science – supernovas such as Nobel Prize Laureate, who held Lenin and State Awards of the USSR, a Hero of Social Labor – Academician **Evgeniy Ivanovich Chazov**; Laureate of a prestigious international award in nutrition, member of the National Academy of Sciences of the USA – the great **N. Scrimshaw; H. Mahler** – the former Director of the WHO; **Dr. Asval** – the Director of the WHO European Regional Bureau; **E. Birerdinc** – the UN Representative for the CARK; **Anna Ferra Luccio** – from Italy; **Pekka Puska** – from Finland; **Khaltayev** – from Geneva, Switzerland; **Garry Gleason** – from the USA and many others *who did a great deal for acceptance and recognition of our Academy on international level and were the heralds of the end of the "Ice Age" into which our Academy was thrown*) – would have never agreed to such pointless activity as praising the work that was already significant in terms of its contribution to science.*

As time has shown, we have withstood all of the life's trials with honor. Having survived all of the ill-wishers' onslaughts with stoicism, we were together even in the harsh years of separation. Being faithful to our creative ideas, we did not permit enemies to downplay the obvious successes of the Academy and discredit its good name. We put forward a worthwhile defense to all of the attempts to break down or liquidate the Academy. A hope had appeared that

justice would finally prevail, and those who fell in disfavor during the previous leadership were trying to give a new meaning to the past, determine their purpose in life, and, though with bitterness, rethink the irrevocably lost years.

There exists such a notion as a state of arrest in one's own time period, in one's own values and certain difficulties in development.

A significant portion of scientific fellows of the Academy of Nutrition continued to work in these conditions in such a way, as if nothing happened, but only with a great sense of regret in regards to the time and efforts lost because of the government's strict guidelines.

As we all know, certain things occurred in Soviet science that could have never occurred in any other time or place in history. Back then I was torn into two between Russia and Kazakhstan, which created a tragic abyss between the Kazakhstan dear to me and my life of that terrible time period, the consequences of which I experienced for a long time after.

I would like to express my sincere gratitude to Professor **Shamil Saginovich Tazhibayev** and Professor **Pavl Savelyevich Nikov** for the care they have shown towards the Academy's achievements, for preservation of not only the main scientific potential – its staff, but for saving the Academy itself. Not without warm feelings I am expressing my thanks and surge of pride as mentor in regards to the fact that by raising an initiative before the government of the Republic as to my return to my homeland in the capacity of the Director of the Academy, they demonstrated not only decency, but also courage.

Over the course of more than three years, Moscow had generously bestowed on me a marvelous life, rich in experiences, filled to the limit with every possible sort of fascinating events. It was in Moscow, where I, having become a member of the Supreme Certifying Commission of the USSR, was deeply involved in management of numerous scientific councils under the Presidium of the Academy of Medical Sciences of the USSR, and where I was surrounded by numerous friends, eminent scientists, who constantly provided me with moral and practical support. They created a calm, safe environment for me, where I felt myself considerably more confident.

Only here, in Moscow, I received the chance to become the Head of the scientific department that had been, in its time, managed by A. A. Pokrovskiy. At the same time, I was given the opportunity to become the Editor-in-Chief of the All-Union journal, the permanent Chief Editor of which this remarkable scientist had been in his lifetime.

Regardless of any obstacles, I was very grateful for this mission of great significance, which I performed with the feeling of pride experienced by a student before the sacred name of his mentor.

It, certainly, would have been a violation of the truth if I were to say that this period of my life in Moscow was cloudless and filled solely with joy and happiness.

Back then I was 55 years old. I lived my life without relying on anyone's advice as to what to love and what to hate. I had a whole lifetime behind me, a lifetime that had a chance to fairly wear me out. It was not very easy to adapt to new circumstances, to get accustomed to new people, who were complete strangers to me, and surrounded by whom I was to carry out my scientific work, to a new natural environment, where I had to build an, although simple, but my own way of life, and physically endure the natural conditions differing from those of my native land.

For any scientist who has his own school of researches united by a common scientific idea, with traditions formed over decades, with its own methodological approach to solving large-scale scientific issues, to lose all and to begin one's life from scratch is equivalent to a waste of time and effort.

Naturally, I am proud of the recognition my mite received with the Moscow's scientific community. However, I do not want to hide the fact that I was constantly overwhelmed by two contradictory emotions. The more I liked Moscow, the more I missed my Kazakhstan. The more I got attached to Moscow, the closer I felt to my Homeland.

In me, next to my Moscow, my Kazakhstan lived. Loving the former, I suffered for the latter. These two emotions seemed to blend with each other, growing with time, mutually complementing, but not excluding each other, becoming a natural state of my soul.

In this respect, the story of iron-deficiency anemia [IDA] is of interest. IDA's path towards acknowledgement of its presence by scientific and international organizations was long, difficult and dramatic. In 1978, we, for the first time, informed the scientific community of the Soviet Union on existence of this problem, on its high prevalence among the population and its dangerous consequences at the 1st All-Union Symposium devoted to the issue of IDA, conducted at our initiative in the city of Almaty in the Academy of Nutrition. International organizations did not regard it as a problem threatening the health of the population. Only in 1966, after we published the results of a national research conducted by the KAN based on a medical-demographic research project, the World community became seriously anxious, and the UNICEF, through engaging experts of our Academy, conducted a round-table session to discuss this issue. At this session, it was decided to perform supplementation among the population risk groups in the countries of the Central Asian Republics and Kazakhstan. Meanwhile, officials of the WHO European Regional Bureau continued to adhere to the position of denial in regards to acknowledgement of IDA as a problem and firmly demanded withdrawal from it and, instead, concentration on the issues of cardiovascular system, diabetes, cancer, and obesity, which were priority issues for European countries. A conflict broke out between officials of the WHO European Regional Bureau and the KAN, which developed into a hostile confrontation that lasted until 2001. The turning point (the breaking point) occurred only in 2001, when the WHO and the UNICEF headquarters, in collaboration with other international organizations, conducted a 3-day international conference in Geneva devoted to the problem of the IDA; experts from all over the world assembled here. As a token of recognition of the work accomplished by the KAN, for initiative and advancement of this issue on worldwide scale, the organizational committee of the stated conference proposed that I lead the closing plenary session and give the final concluding speech. At this conference, not only existence of the problem of IDA was recognized as one posing a threat to the planet's population health, but also the necessity for taking cardinal measures for its extermination and need for mobilization of all the strength and efforts not only of international organizations but those of the rich countries of the World was admitted.

The entire secret of why the WHO European Bureau officials adhered to such policy, lay in the fact that for the rich, prosperous, haughty Europe, to acknowledge micronutrients deficiency as a feature of malnutrition that was supposed to be characteristic of solely poor countries' populations, meant not only to lower itself from its high position, but also change its priorities. The blind defense of "honor and soldier's uniform" had let them down considerably, and, in the end, resulted in dismissal of the officials themselves.

Today, the state of the issue is such, that the 3-year-long project on extermination of micronutrients deficiency, where the ABR [Asian Development Bank], the UNICEF, and the KAN had stepped forward as equal partners, has been successfully completed.

The KAN, in the capacity of an intellectual partner, had been involved in scientific surveillance of project implementation in 6 participating countries, as well as development of technical conditions, carrying out the monitoring process, communicational (PR) activities and sentinel investigations.

The agreeable phrasing – abbreviation of "KAN-Complex" – having passed over state borders, found a permanent residence in the countries of Azerbaijan, Kazakhstan, Kyrgyzstan, Mongolia, Tajikistan, and Uzbekistan, acquired a central place on the tables of every family in these countries. This is the kind of tangible support that will improve the health of many generations, their physical and mental development, and will aid in raising healthy, smart children.

Is there a more blessed state for researchers than when they realize that citizens of these countries eat bread enriched with micronutrients, the formulas for which have been developed by our Academy?

The abbreviation “KAN” became commonplace, and today it is perceived both as a brand and as capital. It is doubtful that in Kazakhstan’s past, and even nowadays, there could be found a scientific team the results of whose work were not only recognized, but also applied into practice abroad. The “KAN Premix” is currently being produced in the USA in Kansas-city in accordance to recommendations of six competent and credible international organizations.

Who would refuse us in our right to be proud of our work’s recognition in such a distant country as the USA?

The one and only laboratory in the Central-Asian Region headed by a scientific fellow of our Academy, **F. Ospanova**, was recognized as a reference laboratory by 6 international organizations for its high level of precision and accuracy in expertise.

The Academy’s recognition as early as in 1979, as a Center collaborating with the World Health Organization, (this fact is, in and of itself, an extraordinary one, for it was the first and only such center in the world) demonstrates the significance and successfulness of solutions of nutritional issues researched by the Branch. Thanks to this, a special subdivision managing nutritional issues in the countries of the world began to function within the WHO headquarters.

A similar center began to function in North Carolina, in the USA only 5 years later.

Yet another 15 years passed before a Nutrition Center collaborating with the University of the United Nations Organization was opened in our Academy.

In 2001, after transformation of the Academy into a joint-stock corporation, in connection with the Academy’s involvement into international projects development, fulfilling the Government’s thematic orders of fundamental nature and the necessity for designing and producing specialized products and biologically active additives, a pressing need for division of the Institute into three subdivisions arose. These subdivisions are: the Institute of Nutrition itself, the International Projects Institute, and the Center for Applied Programs.

Market economy requires a system of rigid rules and regulations, laws, contracts. But, for a human being, neither laws nor rules can replace decency. Practically in all of our business inter-relationships when addressing scientific issues we rely on the honest word of those with whom we work. If this trust is nonexistent, neither money nor results can be effectively exchanged. We try to make everyone understand that at the very beginnings of our existence as a scientific institution we had set before our staff the most difficult task of all – reformation of morals.

At present time, we choose high ethical standards as the main condition for success in our work. The fall-down of the Soviet Union gave rise to lawlessness and abuse of power, which made it almost impossible to carry out normal work. Today, with the help of effective legislation and through increasing the level of ethical requirements, our staff is living in a new era - an era of corporate honesty and integrity.

However, our Academy experiences not only recognition and gratitude, but is also sometimes resented and even threatened, because we not only give permission and recommend products for sale when we have sound grounds to believe that the products are safe and good for health, but also – when we are in doubt – we refuse to give permission for distribution, prohibit them. One should have seen the uproar that was raised and the displeasure and threats used, when we refused in registration and prohibited distribution of products by an American company. Companies such as “Gerbalife”, “Sunshine” buried the Administration of the President of the Republic in grievance letters and complaints.

One should have seen the depths of anxiety into which the “Tyanshi” company had plunged, along with the agitation of such giant corporations as the “Coca-Cola” and “Pepsi-Cola”, when we expressed our doubts about safety of their products.

Not so long ago, yet another lawsuit filed against our Academy by some pharmaceutical company ended to the Academy’s advantage. The lawsuit’s essential claim was that we gave permission for sale of products manufactured by a competing company.

We are sure in our rightfulness because we carry out our work impartially and justly, because among us work and ensure our safety by their highly professional attitude to everyday, routine and, often, unnoticeable activity such employees as **A. Sarsenbayeva, M. Nazarenko, A. Bukharbayeva, Zh. Suleimenova, V. Verigina, K. Khasenova, B. Kilybayeva, L. Khramova, K. Korolkova, B. Khusainova, U. Utemuratova, G. Raimzhanova, V. Kilmayev, M. Ionina** and many others.

In Soviet times, nutritional science held a peripheral place in public consciousness. Therapeutic medicine had always been the idol cherished by the society, and surgery held the central, priority position.

Having reached its height – transplantation of organs – surgery lost its scientific perspective.

The trouble is that with introduction of modern technology, surgery today has become routine, the sense of novelty at conquest of new spheres has been extinguished long ago. Medicine's intention is far from the goal to charm the society with a daring project that would be able to captivate minds of an entire generation and resurrect the romanticism that organ transplant operations ignited at one time.

We die too early and get ill too often, we give birth to too few children, and many marriages end in divorce. We take bad care of our health while we have it, and when it fails us, we, for some reason, believe that it is doctors' obligation to restore it. The healthcare system of the country is in a state of crisis not so much because the government has insufficient funds for its maintenance and for providing medical treatment to all those who need it, but because, until recently, the following paternalistic model of regarding individual health dominated in our country: "It is the Government's job to take care of the nation's health".

Hence the illness-centered structure of the healthcare system that is directed towards treatment of the ill and not towards preservation of the healthy state of those in good health. We have never formed a doctrine of health, be it in terms of science or in terms of its practical implementation.

This is why conception of health as the basis for social development of society is absent; we have no clue as to what health is. A human being and his or her health have never been neither an economic nor moral value at any time in the history of our country.

It is this model, a negative one in terms of its impact on the country, that we must transform into a health-centered model. For each individual person, it is necessary to form an attitude towards health as if it were a process of saving up capital.

We live in amazing times. This is why the idea of value of health, in and of itself, as foundation for everything else – success, career, and happiness in personal life – is becoming more and more popular.

Everything in life is changing fast, and life itself makes us, ourselves, change accordingly, and that is why we say: "I want to be healthy, successful, live a long and active life, and I know what I need to do to achieve this". We have begun to make first steps on the way to such responsible model of "health" and many other such strides lie ahead of us.

Today, the road into the zone of scientific miracles, be it frightening or encouraging ones, lies in the opposite direction, not in therapeutic but in preventive medicine.

It is comforting that for the first time in many years, in accordance with the healthcare reform approved by the country's President, the government directs a considerable portion of its [healthcare] budget – 40 % – towards support of the First Medical and Sanitary Aid Facilities and Institutions, towards prevention of illnesses.

In view of the fact that, last year, the WHO has published the largest project in all of its history, a project, in which data from analytical material submitted by experts from all of the world's regions are summarized, 10 main factors posing the greatest danger to the health of the planet's population were highlighted.

The world perceived as a shocking sensation the fact that, in accordance to presentation of the WHO Director General, 60 % of population mortality is directly connected with incorrect nutrition.

By this project, the WHO has challenged the international community and has put the issue of nutrition on the central position among all priorities of healthcare.

The United Nations Inter-Department Commission, as early as 1993, has recommended to Kazakhstan to consider education in the area of medical problems of nutrition to be one of the most urgent and significant among all of the disciplines.

Guided by the above-mentioned recommendations, beginning year 1994, for the first time on the Post-Soviet territory a Department of Nutrition of the Kazakh National Medical University Named After S. D. Asfendiyarov began functioning within the Academy. Educational material touching all aspects of nutritional problems is taught at the Department of Nutrition.

A new era approaches, where uniformity of all people will become unacceptable anymore. Today, the vector of scientific interests has shifted towards genetics.

Since reaction of our organism to food is, for the most part, determined by its genetic structure, and genetics is often unfair, the only reasonable approach is to improve the genetic reality by the way of determining an optimal diet for each individual person. The new genetic direction in dietary science, the so-called “dietogenomics”, has allowed for a more accurate study of the effects that individual products have on human health.

In near future, many products of mass consumption will have to be produced in several varieties, and every type of product will be prepared with consideration of genetic characteristics of its consumer group.

At this, genetic differences should, without fail, be taken into consideration.

With the help of genetic research, scientists should engage into determining how certain ingredients influence organs. This would aid in understanding the molecular mechanism for assimilation of nutrients. The official dietary science should be brought into conformance with the genetic parallels of the main dietary groups.

Development of biologically active additives should be carried out on the basis of genetic information. A special laboratory that is engaged in identification of genetically modified nutritional products functions within our Academy.

Today, the Academy’s scientific fellows are always on the road, they travel all over the world, they have been almost in every country: giving expert advice, teaching, participating in scientific discussions, carrying our missionary functions.

International organizations, such as WHO, UNICEF, Asian Development Bank and others, engage us in the capacity of their experts.

Despite the fact that the Academy of Nutrition today has decreased the number of its employees, it has been improved considerably in terms of its work’s quality.

A whole plethora of young and talented scientists, among whom I would like to especially note **E. Kurmangaliyeva, L. Kulmurzayeva, Z. Kudaibergenova, D. Abitayeva, A. Salkhanova, Zh. Tolysbayeva** and others, determine the perspective of our Academy today.

Now, 30 years after the Academy’s establishment, we can say with confidence that our main dreams have been achieved. The KAN became recognizable, acknowledged, valued on a noticeably larger territory than that of its native country; our status has been elevated to that of an international organization.

Controversies, insinuations, undisguised scorn, wishes to, for instance, simply underestimate the achievements connected with the Academy’s work, all of this has remained in the XX century, in which we, as many other institutes at the time, were not among the favorites of the government authorities. With the arrival of the new century, understanding came. Today, mainly our partners – international organizations – talk and write about our successes instead of us, of accomplishments that received international recognition in the countries where we collaborate and where we have representation. The saying is true then that “a prophet is never recognized in his own land”. We have finally achieved recognition on our Native Country – in

2001, a group of the Academy's scientists was granted a State Award of the Republic of Kazakhstan for a series of works: "Development of Fundamental and Applied Aspects of Nutritional Science in the Republic of Kazakhstan". A while later, I was awarded the long-awaited award of an "Honored Scientist of the Republic of Kazakhstan".

Today, we have permanent representatives in the countries of Kyrgyzstan, Uzbekistan, Tajikistan, Mongolia, and Azerbaijan that are in state of their newly acquired national independence in terms of research and solution of major nutritional issues. We are present in these countries not only as partners, our relationship with them is so long-standing and strong, that it seems that they have "privatized" the Academy of Nutrition a long time ago.

The Asian Development Bank, the UNICEF and the KAN are standing side by side for a long time now, although the path towards this was long and arduous. Standing up for one's dignity has never been an easy task.

We have gracefully entered the new century; everything that was said above is in the past. Today, we live and work for our tomorrow's day that is no less attractive than the yesterdays, and we are preparing for ascent and conquest of new heights.