Yevgeny Ginter

Personal Details	
Name	Yevgeny Ginter
Dates	
Place of Birth	Russia
Main work places	Moscow
Principal field of work	Human Population Genetics
Short biography	See below

Interview	
Recorded interview made	Yes
Interviewer	Peter Harper
Date of Interview	27/05/2005
Edited transcript available	See below

Personal Scientific Records	
Significant Record sets exists	
Records catalogued	
Permanent place of archive	
Summary of archive	

Biography

Yevgeny Ginter studied Medicine at the Krasnodar Medical Institute, in the Black Sea region of Russia, graduating in 1962. His initial research was in microbial genetics, but after moving to Obninsk he studied mouse developmental genetics. He then joined the Obninsk department of Nikolai Timofeef-Resovsky, working on homeotic Drosophila mutants. In 1971 he was invited by Professor Nikolai Bochkov, together with Vladimir Ivanov, to join the new Moscow Medical Genetics Institute, initially continuing with Drosophila research but then undertaking extensive studies in the Asian republics and in Russia itself on the frequency of a range of genetic disorders. He is now Director of the Moscow Medical Genetics Institute, in succession to Professors Bochkov and Ivanov, and is also President of the Russian Medical Genetics Association.

Interview with Professor Yevgeny Ginter. Ufa, Russia, 27th May 2005

PSH. May I start at the beginning and ask how did it happen that you became interested in genetic work, in genetic problems?

YG. I think it happened when I was a student in medical research. So beginning from the second course, I was interested in the genetics of, I can say microbiological genetics, or more accurate the genetics of bacteriophage. So at that time I performed some very simple experiments using a type of bacteriophage for salmonella, because it was possible to stop the development of bacteriophage, introducing some kind of antibiotics and so was possible to distinguish between the phase of DNA synthesis and protein synthesis. This was my first attempt to introduce genetics.

PSH. And you wrote a paper I think

YG. Yes. At that time, yes, I had a paper.

PSH. I saw it in 'Antibiotics' 1962.

YG. 'Antibiotic Science', that's right.

PSH. And which institute was that where you were working?

YG. At that time I was a student of the Medical Institute in Krasnodar, it is not far from Black Sea, approximately 100 kilometres from Black Sea in the south of Russia.

PSH. And was that the university where you had done your first studies also?

YG. Yes this was my university.

PSH. Fine.

YG. But the name here is Medical Institute. So there are six courses during the study and I received the diploma of MD.

PSH. Now this was 1962, around that time, am I right?

YG. I finished, I graduated in Medical Institute at that time, in 1962.

PSH. So in these years, end of 1950s, early 1960s, genetics was still not officially quite allowed?

YG. This picture is somewhat cloudy, because at that time I think that the first attempts to restore genetics appeared, in different parts of Russia. Then in 1962 I began my studies as a graduate student. For this I came to Moscow, because there was some possibility to begin to study genetics in the Institute of Medical Radiology which was located in Obninsk; but at that time there was no possibility to study at this discipline in Obninsk. There was no place, no chief and so I began my study in Moscow in the laboratory of Professor Konjuhov and this was a laboratory for developmental genetics and the

Institute was at that time the leader of this Institute was Prof. Jukov-Veregnikov and probably you know that he was Lysenko, I don't know how it is better to say it in English, but in Russian, Lysenkoist.

PSH. Yes Lysenkoist.

YG. But in spite of this, it is was a very interesting period because despite his official announcement he permitted some chiefs in the different laboratories to go abroad for study and to learn genetics. My chief was going to the United States, first of all England, and then in the United States he would spend approximately half a year in Jackson's laboratory.

PSH. Yes. Who was your chief then?

YG. Professor Konjuhov.

PSH. Professor Konjuhov, yes.

YG. And at that time I was interested in the developmental genetics of mice. So all my works were dedicated to the study of such mutations as brachypodism, brachypodism H is the name of this mutation in mice.

PSH. Yes, I see it in Folia Biologica, your paper.

YG. Yes it was a paper in Folia Biologica, and it was a paper in the first issue of Russian 'Genetika' which only appeared at that time as a special edition for genetics here in Russia.

PSH. And that was 1964 – 65?

YG. Yes I was already from 1962 to 1965 but in 1964 at the end of 1964-in Obninsk, Professor Timofeef-Ressovsky appeared, so when I finished my postgraduate study so I was coming to Obninsk, so I began my work in his laboratory, of Professor Timofeef-Ressovsky and he tells me I can do what I want, in spite of the whole Institute studying the effects or radiation on the living organism. And his laboratory also had the name of laboratory of radiation genetics, but at that time I began my study in homeotic mutants in Drosophila. So during my study with mice, I used, I think the first time after end of thirties, the organ culture, so I cultivated in vitro the bone anlages from mouse embryos beginning from eleven days till 16 days and it was shown that in some bones the gene bpH expressed autonomously but not in the other bones. It was very interesting of course. So after that I tried to find out how it happened that the growth is greatly diminished especially in the hind legs of mice. But in the laboratory of Timofeef-Ressovsky I stopped my work with mice because it was very difficult to do this work. There were no appropriate lines of mice and there were some other restrictions in this field so I began to study the developmental genetics in Drosophila. Homeotic mutants was most interesting for me, but because we were doing all the work in the laboratory of radiation genetics I should pay in some form for this, so I was going in German Democratic Republic to Dresden, because not far from Dresden there was some Institute for Kernforschung .

PSH. For . . .?

YG. Kernforschung. This is nuclear investigation,

PSH. Which investigation?

YG. Nuclear, this is atomic. They had very improved kind of dosimetry, especially for neutrons and some other forms of radiation and so I performed then a large study about the comparative effects of neutrons and X-rays or gamma rays for induction of mutation in Drosophila. So I was at least at that time conducting very extensive experiments in radiation. But during these experiments I received at least two new homeotic mutants and it was interesting for me. So when I returned I continued my work with homeotic mutants and I used the different approaches. Some of these approaches were mostly embryological, so I transplanted the imaginal discs from the larva at different ages into the larva before pupation and then compared what structure was possible to discover. And it was very interesting work because it was possible also to compare the action of different mutant homeotic and non-homeotic genes when they combined in one line.

PSH. Did you have access at that time to earlier work that had been done in Russia before the war at the time when Muller was working with Russian colleagues on radiation in Drosophila?

YG. Yes, I had, but in fact I am not very interested in the effects of radiation on Drosophila. I am mostly interested in the problems of developmental genetics of Drosophila. But, probably you know that such manipulation with imaginal disks is not a simple procedure. Not very hard but not very simple procedure and you should prepare a special needle. So you should suck in the needle the imaginal disk and then you can put this imaginal disk into larva of different ages, and it was very difficult for me to understand how to receive such small needles in which there should be some stopping, so it was a problem, because you should inject in the larva only small quantity of solution with each imaginal disk, but my chief Timofeef Ressovsky said to me that he knows very well Professor Medvedev who was studying this problem before the second world war and he was very successful at this time, and I'm coming to Professor Medvedev. He was a very interesting man, and at that time he was head of a laboratory which studied some human genetic problems on mice and Professor Medvedev explained and it was very simple and he shows me how to do this. This really was very simple. And then after this the progress on my study was very, absolutely clear and very good.

So we discussed this problem, how it was possible to use homeotic mutants for the study of development of Drosophila but he was, I should say, sceptical about what it is possible to reach in such experiments. But as a result of this study, which was continued more than six years, so I prepared the base, for the second scientific degree for Doctor of Science. But then happened some unpleasant events in the Institute of Medical Radiology because there was very strong pressure on Timofeef-Ressovsky then from the party organs of Obninsk, Kaluga district.

So we had small seminars right at Timofeef-Ressovsky's home. It was all very simple because my home was only two blocks from the home of Timofeef-Ressovsky and it was the usual way, when we are coming unexpectedly to Timofeef and his wife, Helena Aleksandrovna. I was saying, I want to discuss our problem and there was no restrictions for all this, and more than that, we were invited to have a cup of tea or coffee and some bread and some butter and some cheese and something else, and at that time Timofeef proposed that probably it would not be a bad idea to discuss some general, more cultural problems during special seminars. And this is at that time the general idea, the party recommended that we should learn more about our cultural environment.

PSH. So was this an idea that came from Timofeef at Obninsk.

YG. Yes.

PSH. And, but the party approved this.

YG. Yes yes. But it is better to say that it was the idea of the party, but Timofeef proposed a special form how this idea could be realised in real life. And so they have such meetings, not very often but I think one or two times in a month, and usually at this meeting are coming people from our laboratory and from some other laboratories, because in fact Timofeef-Ressovsky was not only the head of this laboratory but he was head of department. In Russia the department is a higher structure than the laboratory because this department was undertaking three or four laboratories and the number of students who were working in this department, if I correctly remember, was more than eighty scientists. Eighty.

PSH. It's interesting that it was possible for so many students to work with him at a time when there were political problems for him.

YG. Yes. So the first years of my work in this laboratory, and also the first years for Timofeef-Ressovsky in Obninsk, they were more or less successful, so we have very often scientific seminars and they were dedicated to different problems beginning from Yakutski air stone and stopping by some theoretical models in genetics, in population genetics and so on. There were also the seminars which were dedicated to immunological problems because in this department was a laboratory for immunology. In spite of this we have also a laboratory of radiobiology and we have also a laboratory of biochemistry and the head of this laboratory was Zhores Medvedev.

PSH. So there were very many skills in that department.

YG. Yes.

PSH. Including mathematical and epidemiological skills?

YG. Yes, not epidemiology but mathematical models for evolution and development. It was very interesting because there were only two or three men who were specialist in mathematics in their education and so yes, they were mostly interested in population genetics and creating some new models

in this field and it was interesting for Timofeef. I should say that he was not mathematics, but he understood the idea clearly in every field. He had a very creative mind and sometimes he asked the questions which were the heart of the problem and it wasn't possible to understand how it happened that he understands the heart of the problem. It was very interesting when he was coming in our room where we were performing our study and we discussed with him the problem which appeared today or yesterday, or something else, and every time he was very useful. He was very useful, and he taught me about my homeotic gene study that it is interesting, but he repeated very often that there is a serious problem in developmental genetics and development as such because it is very important to understand what is the simplest unit for development. He worked in the simplest event if this unit happened so there is lack in theoretical biology for development. I think that this problem still exists.

So in the first years we were successful, but then, such political pressure became more and more strong and it was connected in some way with these cultural seminars on which we discussed the problem of modernism or post modernism or some musical problem, or some other problems. So it was very interesting. But in parallel we also organised, after the seminars, because Timofeef proposed for us to prepare a book on the genetics of Drosophila. And so we prepared a plan. He liked very much to prepare a plan, a very detailed plan and so we are coming to discuss the plan to take with us, or it was right at home with Timofeef, over a bottle of vodka or something else! And so the discussion was going very well. So we discussed the plan of this book in approximately during one year. But at that time something more, not only scientific or cultural problems which we discussed during the seminar and meeting, but also some political problems and Timofeef tried to distribute his plans about some disadvantages which existed in Soviet Union; so at that time he was approximately 70 or around 70 and at least it happened that there was a strong pressure for him to be – I don't remember exactly what, how it is, when professors reach the age of 65 then . . .

PSH. To be retired?

YG. To be retired, thank you. So he was retired and his wife also retired. She was older than Timofeef by approximately two years, so she also decided that she should retire. At that time it happened that, Timofeef of course was a very interesting man and there were many in Moscow and in some other cities who were coming to Obninsk. One of these men was the director of the Institute , this is not the Institute of Space Medicine but Institute of medical biological problems of space I think, Professor Gazenko. He was an Academician of the Russian Academy of Science and he came to Timofeef and proposed that probably he will work as consultant in his institute, and Timofeef agreed and so he tried also to involve me and Professor Ivanov in this work, and at that time we prepared a special plan for the study of some possible development disturbances during this space flight. Unfortunately it was not realised. We were still working, with, Professor Ivanov, in Obninsk. But in 1971 Professor Bochkov invited us to his institute, and at that time he organised in 1969, Institute of Medical Genetics in Moscow, and he invited us and asked us that we should help him in education of starting in this institute of genetics.

So I had the possibility to continue my work with Drosophila, so I organised with Professor Ivanov, practice in the genetics of Drosophila and there were many people, students and some others, members of this Institute of Medical Genetics who are coming and we tried to explain them the principles of genetics and so on and so on. I should say that during my post graduate study, when I begin to work with mice, I mentioned for you in the morning about this period, there were special courses which were organised in the Institute of Professor Dubinin by the old geneticist Saharov, Sokolov and Sidorov. Also the practical in Drosophila, the genetic workshop in Drosophila, and so we have a relatively long study, approximately one year, and we have exam after such, and it was very interesting and I met there many people who were working in different institutes and some of them didn't have any contact or connection with genetics but they were interested in genetics. So I have experience in Drosophila there for the first time and then in the laboratory of Professor Timofeef-Ressovsky so it was not a problem for us to organise such workshop in the Institute of Medical Genetics and they held some seminars on different subjects in medical genetics.

I think that in 1975 or 1976 I finished my work with Drosophila and at that time, and earlier than that time, Professor Bochkov proposed for me that I should be the head of the laboratory in – at that time I don't remember what was its name - it was combined from different laboratories and there was some problem with the heads of laboratories. In some cases they were only nominally, did not really exist. So I received a laboratory for genetics of internal diseases. The name for this laboratory was such an unusual name. So I returned to human, according to my education, and in the beginning it was difficult for me because Drosophila I like it very much as an object; it was difficult to switch to human but at least it happened. So at the beginning I was interested mostly in haemoglobinopathies because it was known that the frequency of some kinds of, some forms of haemoglobinopathies is high enough in some of our republics, especially in Central Asia republic. So I began my first genetic study on these forms of disorders and shortly after the beginning, there was a special programme which we have done, not only by the Institute of Medical Genetics but also by the Institute of Haematology in Moscow. So we have a long expedition of central Asia republics and Transcaucasian republic; so we collected the blood samples and bringing them to Moscow in the beginning but after they had better organisation so the local medical doctors began to collect the blood samples. It was some simplified process because they received permission from our minister of defence to receive blood samples from the military.

PSH. So they volunteered without problem.

YG. Yes.

PSH. It must have been an interesting experience to travel in those parts of southern republics at that time. Did you have an opportunity at the beginning to go around the different villages and country.

YG. Yes, I was absolutely free in choosing which route I was going and to whom I was speaking, but at the beginning, at that time we were working with

haemoglobinopathies, at that time there was no such possibility and we were not going around the country, because at the end they found the local people who collected the samples, but after several years I proposed that probably it would be interesting for me to not only study haemoglobinopathies but also some other kinds of disorders, so I prepared a special form and I discussed this form with my colleagues and at least we they developed a special form for different kind of hereditary disorders. The general idea was that the detection of the disorders should be very simple so they should have special characters which are very familiar, very clear for such a study, because you understand it was impossible to go to all inhabitants of villages, especially when there were so many villages, so many persons in the population We distributed this form among local medical doctors and medical assistants. They filled out the form and so we received the data about the patients with the symptoms of different kind of probably hereditary diseases in the populations . There is no need to explain for you the form of registration is the most important thing in the collecting of material for this type of inheritance of family cause.

So because the Central Asia population was taken up because the size of the family was also big so we used only the cases when there are at least two patients in a family with the same disorder. And so we begin this work. There were some difficulties in the start because we hadn't the knowledge of the language and in every case you have need an interpreter to interpret them. But because all medical staff were speaking Russian, because their preparation was in Russian mainly, there was no problem, at least the problems were diminished in some extent. So we begin research in Samarkand province and the first results were there and it was clear from the beginning that we were meeting, very often rare forms of inherited disorders and in nearly in every expedition there was this one family with a special form of mucopolysaccaridosis, at least we thought that it was mucopolysaccaridosis; but then we included in our team not only physicians but also some biochemists from our Institute and it was simplified, at least in some cases for diagnosis of some kind of enencephalopathy and also some lysosomal storage disease. So they are coming with us and they are bringing y the laboratory treatment. So they performed the first steps of analysis right on the place.

But in parallel to this study and the study of distribution of hereditary disorders in this population from the beginning we begin to study the population structure. But because our possibilities were limited to a great extent, they mostly used some blood markers, blood group markers, we tried to make it more wider to not only do some Rh some other blood groups, so I think that we have in our possession approximately 10 genes or something. We used haptoglobin, transferrin and some other protein markers. Simultaneously with this study of genetic markers we used an extensive pedigree analysis on this population. I remember that we were working in a population such as [Nokhur], this is a population in Turkmenia, which is greatly isolated because more than 90, 98 % all marriages were realised in this population so it was restricted in many respects for the gene flow from outside. There were marriages only between Nokhuri, nothing more. And this was not dependent as it appeared later. This happens not only in Nokhur but when Nokhurli are living for example in Ashkhabad it has the same picture. Because the marriages in Ashkhabad were also only between Nakhuri and nothing more.

PSH. Was there a very great degree of consanguinity?

YG Ah yes, right. From genealogical data, but it is very difficult to collect genealogical data for a whole population. It is clear absolutely. But at that time we had special methods for such studies. We have methods for recording the sibs family. We are numbering the members of the family, the number of sibs in the family and so on and so in the end it happened that is possible to use this material which was organised in this manner for computer studies. And in Nokhuri, the coefficient of inbreeding from genealogical data was approximately 3%. So nearly eighty percent of all marriages were consanguineous. They prefer, it is an Arabic countries mostly the first cousin marriages were most frequent then, and so we tried to understand what factor of population dynamics is most important, random or non random inbreeding which was connected with such high frequency of consanguineous marriages, and it was shown at least for Nokhuri the role of non random inbreeding is approximately two times higher than random inbreeding.

So it was, it became clear that in fact inbreeding is the main factor that determines the distribution of hereditary disorders because in every population in Uzbekistan and in Turkmenia and Tadjikistan the frequency of autosomal dominants was relatively low and the frequency of autosomal recessive disorders was at least five times higher than autosomal dominants and really during the study we found many rare forms but at the time it was clear that there are some special forms that are most frequent, for example, not only some kind of mucopolysaccharidosis, mostly four type and six type, because they haven't mental retardation, they have very clear clinical picture and we confirmed this by biochemical analysis. Besides this form, for example, the syndrome of Laurence-Moon-Bardet-Biedl was also very frequent and we also found many patients with this form. In some families, I remember there were at least two families in which we have a special form of pigmentary degeneration. And this was a non-pigmentary form of pigmentary degeneration of the retina but the whole picture was a classical form of Bardet Biedl syndrome, all components were presented at the time, in all families which we found during the study in central Asia republics. And there were some other frequent autosomal recessive forms, especially some form of neurological disorders, I remember that there were special form of spastic paraplegia disease.

In Russia, as it became clear for me later, we are meeting mostly autosomal dominant form of spastic paraplegia , but we did not find any of the dominant form of this hereditary pathology in middle Asia, now Central Asia republics. They were all autosomal recessive forms and also they were very clinically different and some had the pure form of spastic paraparesis and there were some complicated form, so it was, we had the possibility to distinguish clinically in some forms, but it was very difficult to prove this by a genetical approach at the time. We had too small number of genetic markers for a study of linkage and trying to map the gene. But we nearly stopped this work at the end of 70's beginning of 80's and so we decided that we should, I don't know what was the reason, to perform this work in Russia. Of course, you understand that this work for medical geneticists, as in the population of the Central Asia republics it is very interesting work of course because you have

finding many forms of rare hereditary disorders and that the time you receive a new knowledge of diversity of autosomal recessive disorders. But so we decided at the beginning of 80's to translocate ourselves in Russia and the first population which we began to study in Russia was a population of Kostroma district, and at the beginning we were thinking that we probably didn't find anything

PSH: Which place, which area?

YG. Kostroma district, yes, the city approximately 300 km from Moscow, so the population is, from a historical point of view, is more or less homogeneous. So we begin the study, but I should mention that some of my colleagues who were working in my laboratory have very good experience in the study of populations, by genealogical methods for example. When they performed this work in our north population, they were studying some local population in this to the streets but they used a very special approach for this study, because, so they received genealogical data for the local population, with a number of inhabitants, for four or three thousand people who are living in a village, or some villages which are close one to another by using this special design of sibs family and after receiving the material for three or four generations from this special informator which it is possible nearly in all the Russian population to find such, not only one but several. Of course it is clear that you should prove that the information that you receive from one informator is accurate and you should prove it by using the data from the second informator, and so on and so on. But when they received the data for three, at least four generations, it was possible to do that, we begin to use archives including the church archives. And by using church archives some of which were stored in a local capital, some of which were stored for approximately 200 years, they are stored locally. But more older they are stored in Moscow. So for some of our population at least, using this archive date, judge our data it was possible to restore, I think that in some cases from the population from the beginning, for ten or eleven generations.

That was very hard work but at the time very interesting work and from that work it became clear that there was inbreeding; of course the Russian tried not to use such consanguineous marriages, they tried to avoid consanguineous marriages because the churches after such marriages saw some complications in the social life in such marriages. They happened of course, but very rare, very rare. But in spite of this, after the third generation there is no memory in the human minds that some people are their relatives. It is clear right from the third generation and when they are trying to receive the data about relatives' coefficient of inbreeding over ten or eleven generations it became clear that the variance of random inbreeding for rural populations of course, not urban populations is high enough; Of course it is not so high as in our middle Asia population, but high enough and in some cases it was as large as half percent. But this inbreeding was accumulative because many such consanguineous marriages but very distant, but they were related many times and so this accumulation of coefficient of inbreeding was observed..

So we performed such focus on during our study in Kostroma using also some genetical markers, but as I said earlier the number of these markers was limited to a great extent, but what I should mention specially is that when we

were working in our Central Asia republics using a special method of registration, because they are beginning from the families with two affected it was impossible to use this approach and when we collected all material in our central Asia republics it was an absolutely necessary step for us to prove that we have to deal with autosomal dominant or autosomal recessive disorders, trying to perform such genetical analysis for them, and we were trying to count, using a special form of registration and so we use some improvement in the study of P value and the odds for P value and so on found in different books. But when we begin our work in Russia it became clear that we couldn't use this method, so we should begin from the registration of one affected and of course the material became greater, in some cases it was huge, but we used the same form, so we have the same symptoms for registration, so we hope that we have the same sample of hereditary disorders in our possession after all. And we use a new method for ascertainment of the problems in this study and so we introduced a new method of calculation of segregation frequency and then we have strong need to receive a value of sporadic cases and we should get also the value of probability of ascertainment., But because we were interested in mendelian disorders, not sporadic cases, so we have a problem how to distinguish between sporadic cases and isolated cases. So using different approaches, in most cases we were using such clinical description how this clinical description is close to the classical clinical description, a special form. This works in some cases but in some cases not so good; but this ideology, I should say that we should prove that we have special types of inheritance for a number of families with different types of hereditary diseases.

PSH. Can I ask, the studies which I now see are going on in all parts of Russia have they grown out of your original studies? I saw some presentations from Siberia, the Far East, all these places, is this a tradition of work which really began with your own studies, first in the Southern republics and then Russia?

YG. Yes, at least in some cases, of course there were many students, for example from Tomsk, who were coming to us and they worked with us several times and they returned to Tomsk and they continued this work and used our approach, but not in all cases.

PSH. It's a wonderful resource. I mean, it's quite unique in the world, all these so different populations

YG. I hope so and it was very interesting that in the beginning studies I mentioned with all the [doubts ?] we didn't find anything in Russia, but when I performed the first study in Kostroma I found we were not right, fortunately for us. I think that after several years, first we hadn't recognised that the load of hereditary disorders are different in rural and urban populations and it became clear for us that it is possible to connect this with the population structure, because of course the population coefficient of random inbreeding is in most cases close to zero, but, population of course it is substantially higher, and we tried to prove this and so we have correlation between the load of autosomal dominant or recessive disorders and the values of random inbreeding, but I should mention that for this special study it was a strong need to change our population approach, as I told you, they are

using special local study of genealogy and marker data but it was impossible to distribute local data on the full population, so we introduced more simple, but the Russian population working very good this approach, this isonomy, so it was possible at least at the beginning of our study to collect the data for surnames in the population which was very simple, so we collected the data from, during collection there was special commission and they have the possibility to elect, and so they were using these lists; now it is very difficult to do, at that time it was very simple For most populations which were under study we received very high correlation between the load of autosomal diseases recessive and dominant and values of random inbreeding.
[Break; recording not clear]

PSH. So why don't we have a cup of tea. I just want to ask you afterwards one or two questions about this society, the Medical Genetics Society and how it began. Would you like me to bring you the tea here or shall we walk through and then come back?

[Break]

PSH. I'm interested to learn, how did this society begin?

YG. It's an interesting story because at the beginning it was a society for geneticists and

PSH: and selectionists?

YG: yes, and selectionists and we were working in the frame of the society, but in, soon after the congress of genetics which was in Moscow in '78, I think, or maybe in the next year, one year later, Dr Bochkov proposed that it would be for some reason, better if we organised a separate society. Of course we could connect with the previous society but from the point of view of the organisation here in Russia it would be better to organise a new society. So it happened in 1980. I think 70 or 80 persons who collected, not collected but coming together in Moscow and so they decided it was not a bad idea to set up a new society. Such formal event such as the congress for organisation of this society, I don't remember exactly when this happened but I think it was 1990, probably because of Professor Bochkov and because he was the first chairman of the society and so they organised it. Of course at the beginning the number of participants and members of the society was small, not more than 200 but now we have a 5 year congress for more than 25 years, in different parts of USSR. The first was in Kiev, the second in Kazakhstan, the third was in Russia, because this was the finishing of the USSR. At the first this was a Society under the Ministry of Health though there was no special need to go through the ministerial jurisdiction to register the new Society. So now we have a separate constitution for the society, and of course the number of participants, of members of the Society has increased three times, maybe four times; this has coincided with the time when genetic counselling has spread around Russia. Now we have more than 80 genetic counsellors; it depends on where one is located; in Siberia the area is very great but the number of inhabitants is very small.

PSH: I was very interested to see that even in these very different places they seem to have a copy of my book. [Practical Genetic Counselling]

YG: Yes

PSH. I am sure from the beginning of this Medical Genetics Society you have a complete archive of all the founding and the correspondence and the constitution

YG. Yes of course, we have the constitution, this is absolutely necessary for any society, so our constitution is now on internet sites.

PSH. How about the informal correspondence? Sometimes, like the letter I showed from Cedric Carter, it's quite interesting to know the thoughts of people that, who were writing about, why do we need a new society. Do you think that these letters between people about the need at the very beginning of the society, even perhaps before it was formed, do you think, they still exist?

YG. I am not very sure in these, because this practice of exchange of letter here in Russia is not so extensive as in England

PSH. I understand.

YG. Most people prefer to discuss this

PSH. .....in the corridor

YG. Yes, or by telephone or by something

PSH. Of course, now I realise that, I should have realised before

YG. Professor Bochkov is a very accurate man. So to prepare such a document, so I think that he had really such a good archive for such letters, and so on and so on, for example, the first documents when we recently, we celebrated our institute, which at the beginning he was the Director of it was vary long when he was Director, during the celebration he made such a presentation about the history of our institute and he bring excellent material, so it is possible to receive from him, at least, some data about the history of our Society and he knows it very well, how they appeared, the first order in the minister of Health, the second order. How it is the Government decided that the .....and so on and so on.

PSH. You must do some recording like this with him, you see, so it will be there for everybody in the future

YG. When he told us about this we applauded him for very long.

PSH. That's very nice

YG. Yes, and he has many photos, the members of his institute, not only members of his institute, people who were still living at that time.

PSH. I think you have the possibility of making a wonderful archive, both for your own institute and to bring in the work of other institutes, so you have a truly Russian archive of human medical genetics.

YG. You see at the beginning it was the idea of Bochkov that we should have a special archive, and we have a special man for this archive...
And I think it is possible to find some files from this archive in the institute but I don't know exactly where it is, but it is possible, some archives and documents from the beginning of the Institute, not only in Bochkov's archive but also in the archive of the Institute. Maybe not many photos but at least some documents.

But really what happened from the beginning of 90' was absolutely terrible, because it was very difficult to survive at the time, so the number of students in our institute diminished greatly. Many were going abroad, many were going to other places where it was possible to receive money because the salary was so small that it was nearly impossible, at least for lower staff, to survive

PSH. This was not just genetics but all science

YG. Yes, you are right, but of course this was also a concern for our institute, so, many people were going out from the institute and we were having, so we lost such archivist in .....

PSH: Yes I understand

YG. And it was not very important for us at the time.

PSH. No, but hopefully the archive is there even if the archivist is gone . At least the material hopefully.

YG. Yes, I hope that it exists, but I must prove this.

PSH. At least one thing about the archives on paper, they are not so affected by electricity cuts. Well thank you, and just before I finish there are two questions that I have asked to everybody I have seen and the first of these questions is. Is there one particular person who you would say was the biggest influence on the development of your career?

YG. I think this man was Nikolai Timoffeef Resovsky, he was an absolutely brilliant man.

PSH. He seems to be an inspiration to many people.

YG. Yes.

PSH. Yes. And the other question that I have been asking. If you had to choose just one piece of your work to say which piece gives you most

pleasure to think about, is there one particular piece that you feel most happy about of all the work that you have done?

YG. It's a difficult question, because now we have collected a great deal of material, but the medical genetics studies are not very good for the person who likes to receive results very quickly, and for me at least.....the first years of my studies in medical genetics were very difficult. So I should say the work with Drosophila was the most prominent in my life.

PSH. Well thank you Yevgeny very much; it's been a privilege talking to you and thank you for inviting me here. So I thank you very much.