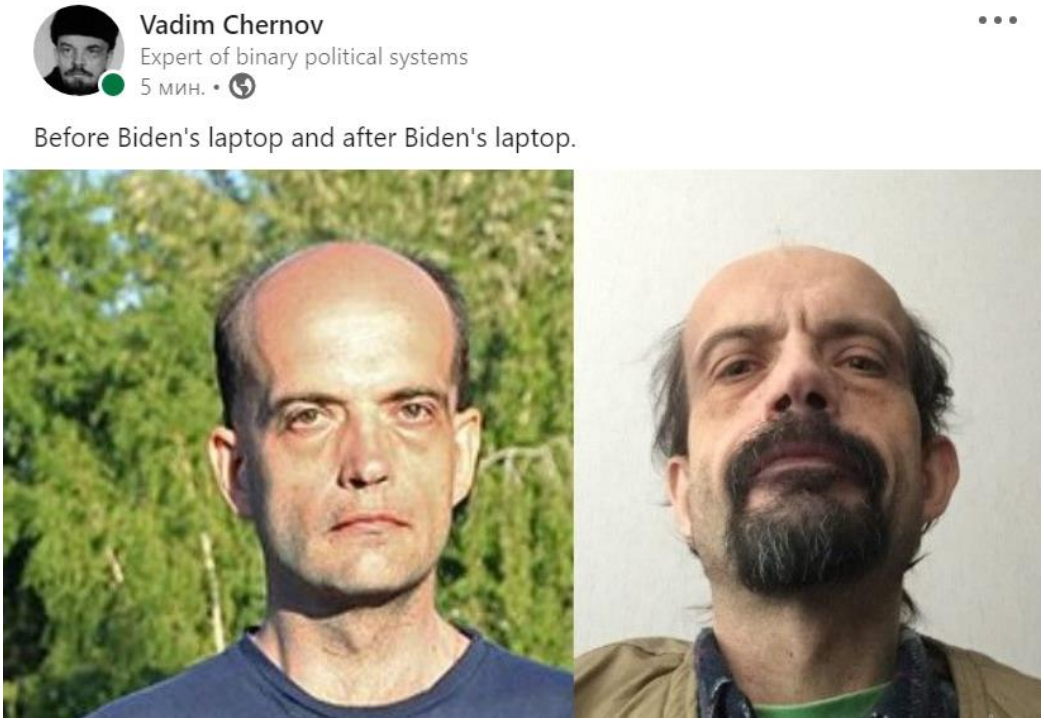
Vadim Chernov, Kiev 2021

My way to solution Young's Observer problem.

Since 1994 I have started programming all the time. At our department of "geophysical methods of studying the earth's crust" in the basement of the Main building of Moscow State University (Geological Faculty) on the Lenin Hills, since 1993, a computer class was equipped, one of the best at that time in Moscow and in Russia for students. All my free time (and some classes in other subjects that I skipped for the sake of programming) I was in this class. There were no Windows operating systems at that time, only DOS.



My first electrical exploration program was written to analyze data from ZS-ZI and CHZ (Frequency Sensing) under DOS. In 1996 I defended my thesis based on this program. This thesis was recognized as the best in 3 leading universities of the Russian Federation - in Moscow, St. Petersburg and Saratov with a degree in geophysics. I was awarded an award for this work on behalf of the Euro-Asian Geophysical Society (EAGO).

From 1996 to 2000, I studied at the magistracy and postgraduate studies at Moscow State University. In the magistracy, my scientific advisor was the Russian scientist Mark Naumovich Berdichevsky, well-known in the USA, Canada and other countries. In graduate school, he was also listed as my scientific advisor, but in fact he handed me over to another outstanding scientist - Boris Sergeevich Svetov from the Institute of Physics of the Earth (IPZ, Moscow).

Despite the fact that I had such wonderful scientific advisers, my job always came first. My studies alone could not give me the means to live. Therefore, I continued to devote all my time to the ZS-ZI and CZ methods. By that time, VNII Geofiziki dismissed its specialists and they created their own company, which they named ZAO NPTs Geoneftegaz (Moscow). It was in this company that I continued to work until February 2011.

Initially (up to 2000), Geoneftegaz performed annually work in the amount of 300 linear km of ZS-ZI and ChZ-VP (Frequency Sounding with Induced Polarization) profiles. My program became the basis for the work of Geoneftegaz's electrical exploration department. Krasnodar Territory,

Udmurtia - regions of our work until 2000. In 2002, me and my 3 colleagues from Geoneftegaz filed a patent for our software package.

Since 2001, the situation with the work performed has changed dramatically. Our customer is Lukoil-Western Siberia (Kogalym). The volumes that Lukoil gave us amounted to 1000 running km of profiles annually until 2009. Besides him, there were some former customers - Krasnodar. Kazakhstan appeared for several years (western Kazakhstan “FIOC”, Kulsary). But compared to the volume of Lukoil, these works were small. The tasks that Lukoil set for us differed from those that other customers set before us.

If we determine what was the difference between the Lukoil problem, then it was a task not only to determine the oil-bearing contour, but also to accurately determine the depth of oil occurrence in a multi-layer oil-saturated environment. Here, for the first time, my leadership and I at Geoneftegaz had conflicts of approaches to solving a geological problem.

Never before has there been a talk about the separation of oil-bearing contours in two layers located at depths of 2900 and 3100 m, based on electrical data. However, my program allowed me to do this, and the ZS-ZI and CZ-VP methods in their classical version were not able to solve such a problem. But people who gave 50 years of their lives to these methods believed that they knew how to solve the problem. And they were the ones who occupied the leading positions in the company. In 2009, Lukoil clearly expressed its opinion on this matter. This written opinion assesses the activities of our department from two perspectives - one concerns the activities of my management, the second evaluates my activities personally. Since 2010, Lukoil has stopped giving us jobs. They are tired of seeing contradictions within our department and wrong recommendations based on the wrong final approach to solving the problem.

There are statistics for several regions of Russia, which show our results. It is given in the book “Electrical properties of oil and gas sections. Prospecting signs of hydrocarbon deposits in high-resolution electrical prospecting methods. " Authors E.S. Kiselev and E.I. Larionov, A.S. Safonov. E.S. Kiselev was exactly my leader, about whom I wrote above. This is a specialist with 50 years of experience in electrical exploration. It was thanks to him that VNII Geofiziki was the leader of electrical prospecting in the USSR, but its methods are outdated, unfortunately. Figure 15 (p. 120) of this book shows my calculations. From 1994 to 2011, I devoted my work to the analysis of the distribution of geoelectric properties of individual layers of the geological section based on the solution of Inverse Problems. It was thanks to my algorithms that Lukoil-Western Siberia had the opportunity to consider the oil-bearing contours for 2900 and 3100 m depth separately. Each map submitted by our electrical prospecting department to the central geological Funds contained my maps, which were 2 times more than others. For my work, I was awarded a personal diploma by the Minister of Natural Resources of the Russian Federation in 2010. The task of separating the oil-bearing layers is difficult, since the electromagnetic field has the property of integrating layers under a significant thickness of conductive rocks. For 15 years of work in this field, I was able to find a solution to this problem due to a specific approach to solving Inverse Problems. I named this approach, written in the form of a program code, “RALF-1” (Reflection on action of Lorenz’s forces). And the method by which the data in the field is obtained for this approach is “AFSIP-3D”. “RALF-1” has a patent in Russia, which was issued to me in 2011 after my dismissal from ZAO NPTs Geoneftegaz and OOO Geoneftegaz (the same address).

In addition to the volumes carried out in Western Siberia, under contracts with Lukoil-Western Siberia in 2006, Geoneftegaz carried out work in the amount of 300 running kilometers in the region of the city of Kurgan, Trans-Urals. These works showed that a layer located at a depth of 3 km, under a 300 m layer of granites, is promising for oil. This area is located on a narrow elongated granite ridge along the junction zone of the East European platform and the Kazakh plate, in the spreading zone between the two troughs of the Ural-Kazakhstan and Vaga-Ishim. The so-called Tobolsk mega-shaft. The metamorphosed rocks above this swell begin at a depth of 1-1.5 km, that is, the thickness of the sedimentary cover is only 1-1.5 km. I saw that there was oil inside a powerful metamorphic complex. For all its standard geoelectric parameters, I saw a clear outline of this deposit in the depth interval of 2900-3100 m. Abnormally high reservoir pressure is created in such rocks and the flow rates of such deposits can reach 3000 tons per day from each well. There are analogs confined to exactly the same structures in different parts of the Earth. For example, Vietnam, the White Tiger field.

Starting in December 2008, I started talking about this zone and its oil prospects. On March 5, 2009 he spoke in Tyumen at the international conference “EAGE” (The European

Association of Geoscientists and Engineers), then a speech in Yekaterinburg at a meeting of the Uralnedra Commission on Hydrocarbon Reserves (December 2009) at the Ural Branch of the Russian Academy of Sciences (I was invited), in Kazakhstan, in Kiev (2010), a report at the Oil Forum-Exhibition -Gas TEK in Tyumen in 2010, a speech at a conference in the Moscow region (Business Solutions: Power Supply Solutions for business: oil, gas and energy). Many publications in thematic journals, 2 scientific articles. Travel, attracting investors from London, Tehran. Communication with Iranian Ambassador Reza Sajjadi in Moscow for several years. Communication with representatives of various political parties in Russia. The conference in the Moscow region (Business Solutions) was organized by Ilya Ponomarev, a political activist, member of the State Duma of the Russian Federation. A huge number of emails to different parts of the world. I tried to find those who would be interested. Because I saw perspectives and wanted to show them to everyone. Everyone saw my pictures, listened to the text of my speech, applauded. Victor Petrovich Gavrilov (Gubkin Russian State University of Oil and Gas) also congratulated on an interesting find. Academician of the Russian Academy of Sciences Dmitrievsky Anatoly Nikolaevich (Doctor of Geological and Mineralogical Sciences, Professor, Corresponding Member of the Academy of Sciences of the USSR, Academician of the Russian Academy of Sciences, member of the Expert Council under the Government of the Russian Federation) after my report at the Russian State University of Oil and Gas. THEM. Gubkin called it interesting. But the real thing was not moving. There was no drilling. Everyone was just interested and informative. I didn't understand why.

In the spring of 2010, after a conference in Kiev, my Kurgan acquaintances invited me to a meeting with Sergei Vyacheslavovich Prokopyev at the Office of the President of the Russian Federation (UDP RF, Moscow, Nikitsky Pereulok, 9) That is, in fact, to Lubyanka. There we met him.

Later I brought my potential investor there from London (Peter Sharper, Gamank Group). Peter Sharper represented a group that has about $ 1 billion in annual turnover, he was interested (he specially made a visa and came from London to Moscow), however, with further communication between Prokopyev and Sharper, the deal did not take place.

All my attempts to find an investor came across the Administrative Department of the President of the Russian Federation, since Prokopiev was the director of the land plot on which we performed electrical exploration work in 2006 in the Kurgan Region. According to rumors (from my Kurgan friends) the owners of this site were from Ukraine. This was until, in 2012, the license was revoked by Uralnedra due to the suspension of geological work at the site. According to government regulations, work must be performed annually.

In December 2013, me and my Kurgan friends established the Suerneftegaz LLC company to continue work on this site. We obtained a license for geological exploration of this area and continued to attract investors in the first months of 2014.

However, the political situation in early 2014 led to the complete collapse of my hopes. It is impossible to attract a serious international investor, which considers intervention in neighboring countries and explosions of aircraft in international airspace to be the norm. Any investor thinks about the possibility of preserving their investments and does not expect that they will simply be taken away by some of the government officials on the orders of the Supreme Commander-in-Chief. In Russia, the biggest risk in any project is the political system, not any geologist and his knowledge. That was the reason for my many years of fruitless attempts to bring serious people to Russia. I underestimated the danger of the Russian political system and wasted a lot of energy and personal funds. I finally understood this only in 2014, although in 2010 it was clear to me who shot down the plane with the Polish government and the President in Smolensk. It seemed to be clear, but as it turned out, it was an illusion that I understood at least something in Russia.

In July 2014, I left Russia, desperate to find people capable of doing serious private business in this country. Russian state oil companies do not enter new projects other than those identified many years earlier. I was attracted by Ukraine, because I thought that the Maidan in Kiev and the desire of Ukrainians to live separately from totalitarian Russia are a sign of the progress of this country. Having seen on the geological map in the Lvov region the Rava-Russkaya epiorogenic zone, similar in structure to the zone to which I devoted my deeds and thoughts during those last 6 years, when I was still living in Russia. In April 2014, I read the article “Model of the deep structure and tectonic development of the lithosphere in Western Ukraine”, 1996, R.I. Kutas, S.S. Krasovsky, M.I. Orlyuk, I.K. Pashkevich zone (Institute of Geophysics of the National Academy of Sciences of Ukraine) on the tectonics of Rava-Russkaya. I remembered those owners of the Kurgan site who were rumored to be from Ukraine. And on August 1, 2014, I was in Kiev after a scandal with my wife and mother-in-law, who have already been today, who remained in Moscow. This is how I got to Ukraine. Then there was Biden and Ukrainian Nazism under the control of Western curators. Naturally, I was forced to continue working on my own, without any support from anywhere.

And after the refugee camps in Europe in 2017, I finally realized what I had discovered. There was time to think about life and understand that the world is much more complicated than it seems. And I discovered an algorithm that solved the main question of quantum physics since 1802, which faced science - the question of the Observer's paradox in Young's experiment with two slits. And despite the fact that the algorithm was patented back in February 2011, I had to comprehend its meaning much later.