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CARNIVAL

Summary

How is a new research laboratory being created? Using the story of the establishment of Central laboratory of optical Storage of Information at Bulgarian Academy of Sciences in the spring of 1974, my presentation will outline taxonomy of the entities the laboratory is made of. At the end the concept of "heterogeneous couples" will be introduced, describing the micro-level of social organization between humans an non-humans in the lab.

Once upon a time (instead of introduction)

In a late autumn morning of 1974, a group of people, bewildered, were waiting in front of the office of Todor Zhivkov - First Secretary of the Bulgarian Communist Party and President of the country. Among them were several functionaries of the upper Communist Party apparatus, ministers and civil servants in high positions, professors from the Bulgarian Academy of Sciences. Including a research associate, 33 years old, who had just surrendered at the entrance check-point a briefcase full of research equipment and files with drawings and formulae. Most of those present, embarrassed by the solid walls, the long corridors, and the repeated check-ups on the way to the office, are in vain trying to guess why they should have been summoned to the office of the First Communist Party Secretary.

Methodius, a physicist and chief player in this story, remembers: "When we came in and those present were introduced, I realized that everything had been prepared in advance - the functionary of the Communist party Central Committee in charge of the new technologies, the Minister of Electronics, representatives of the Ministry of Finance, of the State Planning Committee, the President of the Bulgarian Academy of Sciences were there. Zhivkov explained the object of the meeting and gave me the floor. I reported my and my colleague's findings and their possible applications. Then I took out the laser (a small helium-neon laser), brought privately by a colleague of mine from a specialization in France, and the plates pattern from the briefcase, and reproduced the holograms on the spot. Out of each of them, with an area of less than one square millimetre, an entire page of text appeared on the screen. It was 1974 - most of those present saw a laser in action for the first time! Then, out of the other plate I showed them the red-and-black three-dimensional image of Vassil Levsky, the Bulgarian national hero... When the demonstrations were over, Zhivkov said: "That was it, you heard it. I also hear of it for the first time. Now, what are we going to do?" Almost no one wanted to say what was to be done. Zhivkov even got a little angry, pounded on the table and exclaimed: "This man, these people must be given an opportunity to work!" He directly started dictating: the Council of Ministers was to issue a directive for the establishment of a laboratory, the required funds were to be allocated, vacancies... Then a few found the courage to object that it was premature, that it was better to wait a while... Rather harshly, the First Secretary replied that they were short-sighted and could not see the prospects and the strategic importance of this area of research."

Thus, six months later, in the spring of 1975 the Central Laboratory for Optical Storage and Processing of Information (CLOSPI) was established with the official aim of “conducting fundamental & applied research in the area”. It was clear to everyone, however, though it was not mentioned expressly, that the strategic task was the "great computer memory" - the holographic storage that was to make a real revolution in computer industry.

How did such a meeting become possible? How did the strongest figure in the state, the all-powerful "absolute monarch" of Bulgaria for more than 30 years suddenly turn out to be interested in the achievements of the young scientists, who had been chucked out of everywhere so far and had taken shelter in a small one-room laboratory at the Solid State Physics Institute? The reverse question - why did for the two scientists become so vital to enter the fortress at the center of Sofia and to be "blessed" by the Zhivkov? How did become possible those minute holograms to put this incredible power into action - more than $ million were allocated, the Council of Ministers of the country met and issued ordinances, laboratories and personnel were moved, overseas representative offices made the utmost efforts to break through the Western embargo and to equip the laboratory with the latest apparatus?

There are two key elements, which closely bound the Bulgarian communist leader with the scientists. First, it is *their imagination* and *their dreams for different worlds*. It does not matter that the worlds these persons dreamed are quite different - the totalitarian utopia for Bulgaria as a 'Technical nation, Communist nation' (Zhivkov) and the modest 'utopia' for a new, fascinating optical computer memory, produced in Bulgaria and conquered the world computer market (Methodius and Cyril). What mattered was they both believed in their 'utopia' and invested all available resources to make their dreams real.

The second, they became allies and mutually interdependent because of the *complimentary resources they control*. On the one hand, Zhivkov disposed the enormous resources of the totalitarian party-state. On the other hand, Methodius and Cyril in early 1970-s were the only people in Bulgaria (and among the few people in the world), which had managed to 'enter some crystals' and to record and reproduce from minor spots real, three-dimensional images. They became the 'spoke-persons' of the light beams, promising to 'time' the incredible power of these beams if captured in the designed optical computer. The Communist leader was convinced, that one of the shortest ways to the planned 'developed socialist society' passed through the holographic computer memory project. On their side the two physicists realised, that the totalitarian utopia for a 'Technical nation, Communist nation' was the most reliable source of funding.

It were these minute holograms which in the autumn of 1994 enchanted the small audience at T. Zhivkov's office and put their incredible power into action - more than $1 million were allocated, the Council of Ministers met and issued ordinances, laboratories and personnel were moved, overseas representative offices made the utmost efforts to break through the Western embargo and to equip the laboratory …