

Detailed history of early International Young Physicists' Tournaments in 1988–1993

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WORKING DRAFT. — Please do not cite or quote without first contacting the author. Suggestions and criticism welcome. Anyone who may shed more light on the early IYPTs is kindly invited to contribute. — The IYPT has grown since its establishment in 1988, from a Soviet-based Russian-language competition, into one of the World's largest and most prestigious international physics contests with almost 30 nations competing annually. In the rush of the growth, the opportunities for continuously maintaining the archives and proceedings were sometimes neglected. The critical factual details of the early IYPTs have been up to now obscure, often debated, and sometimes considered lost. An attempt is now made to identify, bring together, verify, and preserve the essential information on the events, namely the organization, schedule, teams, regulations, results, and problems for the IYPTs held in 1988–1993. Among the methods and means to achieve this goal are the retrospective historical interviews with participants and organizers, and archiving systematically the original documents in over ten languages.

I. BACKGROUND OF THE IYPT

The International Young Physicists' Tournament has originated from *Young Physicists' Tournament*, a competition reportedly initiated in 1979 by Evgeny Yunosov (b. 1943) and held initially for Moscow students only. By the early 1980s, the Tournament has firmly established most of its common distinctive features, such as the switching roles of Reporter, Opponent and Reviewer, the sets of 17 open-ended non-examination research problems, the knight logo designed by Vladimir Babaev, as well as the name and the format that remain commonly accepted ever since [1–4].

Further research is undergone to clarify the origins of the YPT concept, as some of its features might have existed at earlier competitions. Evidence shows that theoretical, problem-solving Physics Fights were running in the Soviet Union already in 1966, and various *Tournaments* were occasionally held throughout decades. Meantime, the key novelty made in 1979 was possibly in providing students with specifically research-oriented tasks and allocating significant time to proceed with the long term, thought-provoking projects.

The IYPT came to life when the first non-Soviet teams joined the already well-established competition in 1988 [5], thus catalyzing such changes as separating the national and international rounds in 1990, expanding gradually the role of English language, and stimulating the development of national competitions outside the USSR.

Although each of the early IYPTs was a collaborative effort of a large team of volunteers, Yunosov's personal contribution was highlighted over the years by numerous publications, and was generally marked as *central* by activists and participants of the time period [6–8]. His published reports covered the concept and the progress of the

competitions, the success in attracting organizational, scientific, and financial support from the Soviet authorities (*Komsomol*, *Znanie* society), prominent individual physicists (Evgeny Velikhov, Georgiy Zatsepin), and university officials (Moscow State University, Moscow Institute of Physics and Technology, Lebedev Institute of the Soviet Academy of Sciences.) He remained the key organizer of all YPTs and IYPTs between 1979 and 1993, and the non-rotating Vice-President of the IYPT until 1998 [6, 9]. In 1989, he was awarded for the activism with the Soviet governmental *Lenin Komsomol prize in science and technology* [10].

II. TIMELINE AND DETAILS OF IYPTS

A. 1st IYPT

The *1st IYPT* was an integral part of the local 10th Young Physicists' Tournament and the *1st all-Soviet Young Physicists' Tournament* that were held on March 28–April 2, 1988 [5]. Russian language was not only *de facto*, but also *de jure* the only working language at these competitions [5, 11].

The problems for 1988 were completed before June 17, 1987 and published in August 1987 in a paper by Tatyana Korneeva, Evgeny Yunosov, and Igor Yaminsky in *Kvant* magazine [12], a Soviet journal in popular physics and mathematics; the timing and format of this release had been a common practice before and the publication did not mention any of plans for launching an international competition. A detailed set of advices and guidelines for YPT beginners was also included into this paper. The corresponding postal address of the Organizing Committee was reported to be at the *Physics of Oscillations* group, Department of Physics, Moscow State University, coinciding with the Yunosov's primary work at that time.

Several Selective Rounds were held in 1987–1988 for local Soviet teams only [5, 13]. The ultimate competition, that some participants were identifying simply as the *Fi-*

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nals of the 10th YPT, was held in the *Olympiets* Youth Center outside Moscow and was a week-long event with numerous Physics Fights and informal contests. Youth Center *Olympiets*, the venue for the 1st, 2nd, 3rd, and 4th IYPTs, was created in August 1980 on the base of *International Youth Camp*, constructed for Moscow 1980 Olympics.

Yury Yufryakov (b. 1971), team captain from Physico-Mathematical School 542 at Moscow Physics Engineering Institute, could corroborate the schedule of the Tournament (late March–early April, 1988, “a week or so” [11]) through a detail that reflects the animated atmosphere at the event. “In the night of March 31/April 1, 1988, boys of competing teams came to our rooms and announced that an additional round was planned. They have even supplied us with several problems. I remember one of them: to estimate the scattering radius of vase debris after a vase fell from a table. We were puzzled because everyone knew that there were a vase and three glasses in every room in *Olympiets*. However, we were leaders and we decided not to believe them. It was a correct decision, as everything resulted to be an April-First’s joke. [...] Evgeny Yunosov was the chief organizer and the Organizing Committee consisted of quite many persons. Yunosov signed diplomas and hosted all key stages and events. There were many university professors and students. If I am not mistaken, there were also members of the Academy of Sciences Zatsepin and Velikhov, cosmonaut Rukavishnikov and some Komsomol officials”, Yufryakov recalled in 2008.

The international participants in 1988 were the teams from Bulgaria [6, 14–16] (led by Ludmil Vassilev of Sofia Univeristy (b. ca. 1955) and consisting of students from a single Bulgarian school) and Czechoslovakia [6, 16, 17] (led by Zdeněk Kluiber of Czechoslovak Academy of Sciences (1950–2010) and comprising winners of Czechoslovak Physics Olympiad [6, 17]). An observer from Germany, possibly a representative from West Germany without a team, was reported to arrive as well [6].

It is still unclear under what circumstances each of the delegation leaders learned about the Moscow YPTs, and whether they applied for participation, whether they were personally encouraged to join by Yunosov, or whether they received formal invitations mailed to the local responsables for the Physics Olympiads (which was the case in 1989 for, at least, the Polish [18, 19] and the Dutch [20] teams.)

The invitation letter signed by Moscow State University’s Rector Anatoly Logunov (b. 1926) and the Secretary of Komsomol’s Central Committee Lyudmila Shvetsova (b. 1949) provided the rationale for launching the event and formally opened a call for participants, reading “Moscow State University, with support of the Komsomol’s Central Committee, proposes an initiative to organize International Young Physicists’ Tournaments. We address to you with a suggestion to take part in the 1st International Young Physicists’ Tournament for school students from socialist countries that will take

place in Moscow on the base of Komsomol CK’s *Olympiets* International Youth Center between March 28 and April 2, 1988” [5].

In a Czech paper published two years after the events, Zdeněk Kluiber described the background as, “It is nice that the birth of the International YPT is strongly linked to the participation of Czechoslovakia. In 1987, the exchange of information between the representatives of YPT and of *SOČ ve fyzice*, on the working experience in both concepts of science activities, gave impetus to the birth of International YPT” [16]. This may imply that a Czechoslovak representative personally met a Soviet representative in 1987, but there is little ground for a solid assumption. *SOČ*, or *Středoškolská odborná činnost*, meaning *High School Professional Activities*, was a Czechoslovak competition for students in research and engineering projects in about 20 disciplines [21], virtually unknown in the Soviet Union, and unlikely to ever influence or get influenced by the YPT.

The concept of the YPT was well known for several local participants and team leaders, such as for Yury Yufryakov who had taken part in the local YPT in 1987, but was a striking, repeatedly acknowledged novelty for the non-Soviet teams.

When asked in 2010 how they learned of the YPT and how their team was selected in 1988, Bulgarian team member Rumen Bachev (b. 1971) explained, “Can’t say for sure. In the school perhaps. We were studying in a high-level physics and math-oriented high school, so the first year they just picked up some people from our physics class. During the second year there was, however, a competition between several schools. We won and attended again” [14].

When asked in 2009 about the same issue, a non-Moscow Soviet participant Igor Nosov explained, “It all began when my supervisor at the Small Academy of Sciences of Turkmen SSR V.I. Karabash (a PhD specializing in solid state physics) announced at a lesson that a tournament in physics was planned in Moscow in 1988. That is why the first team all consisted from members of the physics section at Small Academy of Sciences, in Ashgabat. I received a small brochure with problems for the Tournament. Five participants and one team leader were required. Our supervisor knew personal capabilities of every participant, so he distributed the problems. It was reported to us, as always, well in advance, namely in two weeks before the Tournament. Our main problem was to get airplane tickets to everyone, it was more difficult than to solve all Tournament problems. I needed to run around offices of several officials in several governmental departments, and we succeeded to get the tickets in the end” [32].

Identification of the non-Soviet participants at the 1st IYPT required a careful investigation in 2007–2011, as all available sources provided incoherent and mutually controversial accounts. The presence of exactly two non-USSR, Bulgarian and Czechoslovak, teams may be now considered almost certain.

Reports that Polish [8, 22] and Hungarian [23] teams were among participants in 1988 (with Polish team even being a gold co-winner, as sources say [8, 22]) do not find credible confirmation and are most probably incorrect. There is direct evidence from delegation leaders Zsuzsanna Rajkovits [24], Lajos Skrapits [25], and Andrzej Nadolny [18] that Hungary and Poland started their participation in 1989 only. A late source noting that Bulgaria was ranked 1st [26] might possibly confuse 1988 and 1989.

It was a matter of recent concern whether the specific, breakthrough status of the *1st IYPT* was emphasized at the event itself. Yury Yufryakov suggests that "there was no rigorous well-developed international competition" and thus, no winners and no contestants. It is very remarkable that by late 2007 he was not aware that there was at all any *international competition*, despite evidence that several sources indirectly named him and his team the absolute winners of the *1st IYPT*. In Yufryakov's opinion, the *1st IYPT* might have been a "closing ceremony" or a "summary session" of the 10th YPT. He could not recall any explicit reference to the *IYPT* or the *1st IYPT* during the stages or ceremonies and maintained that normally everyone called it just the "Finals of the 10th Young Physicists' Tournament" [11]. Svetlana Mesyats, a member in Yufryakov's team, shares similar recollections. "I don't even remember if there were any European teams at all. Teams from Soviet republics, e.g. from Estonia, were certainly there, but I cannot say anything concerning Bulgaria, Hungary or Poland. Unfortunately, I cannot even say if we were officially announced winners and were awarded with a diploma. Seemingly, that is because too much time passed by, I left physics aside and now work in a different area. What remained, are several photos from the Tournaments (from the meetings held at the Moscow State University) and a general feeling of success from a first independently made scientific work (in which I had to determine why the Sun looks flattened at sunset)", she recalled [13].

Rumen Bachev corroborates Yury Yufryakov's opinion of a no-winners-event, "This for sure is not correct, as long as our team is concerned. We did not participate in the final grading and won no medals. There might have been competition between the Soviet teams, but no international team participated in the grading" [14].

Stefan Piperov, Rumen's team mate, does not agree with this matter, and explains the overall circumstances as following, "In 1988 there was no formal competition in Bulgaria. It was only our team formed - for a very first time - in our "very special" high school, that participated straight into the finals in Moscow. There, we were not part of the "official" ranking, since we did not participate in the earlier - National - rounds. Nevertheless we played against the other team as equals. Just were ranked separately. If memory serves me right, we were the winners of the "international" part of the competition. There was an official winner of the "regular" competition, which was from a Moscow school, I believe,

but I do not remember the name" [15].

Many recently discovered documents provide grounds for a conclusion that participants and organizers indeed spoke of the first ever *International YPT*, and not just of local *YPT* with invited international visitors. These include, among others, a booklet printed in advance and sent out to expected participants [5], a transcript of Evgeny Velikhov's address to the attendees [27], and diplomas reading *For Active Participation in all-Soviet and International YPT* [14, 28].

Evgeny Velikhov's address *To participants and guests of the International Young Physicists' Tournament* [27] was accompanied with a transcript published in advance [27]. "It was a separate sheet of paper, in a nice cover, and was distributed to all participants of the competition", reports Igor Nosov (b. 1973), from team of Ashgabat-based *Small Academy of Sciences* of Turkmen SSR in 1988, who preserved the document among others [32]. By that time Velikhov (b. 1935) was the Vice-President of the Soviet Academy of Sciences who succeeded just in weeks before the *1st IYPT* to arrange the long-challenged, and never implemented, Richard Feynman's journey to Tuva.

The Velikhov's transcript read, "I am pleased that the idea of turning the Moscow Young Physicists' Tournament into the all-Union, and now into the International one, became true. This is a real contribution made by Komsomol into the changes taking place in the country. I had a chance to participate in the first steps of the Tournament, and it is especially pleasant for me that this initiative occurred to be viable and even entered the international arena. The Young Physicists' Tournament is an important affair in revealing talented youth and in attracting them to real scientific work when still in secondary school. In the end, it implements in life the idea of collaborative pedagogics, far and wide contribute to creating real scientific groups of school students, teachers, university students, education specialists and scientists. I like the YPT for its special atmosphere and aspiration for the future. I cordially wish the participants and guests of the tournament to have interesting meetings, fruitful discussions, mutual enrichment with not only physical ideas, and further success."

Another heavily disputal matter about the *1st IYPT* was in the status of many Soviet teams who might, or might not, be recognized as the participants of the *IYPT* proper. There is so far no information on the total number of Soviet teams (although it unlikely exceeded the number of 38 teams at the *2nd IYPT*.) At least, eight of the Soviet teams in 1988 are identifiable with varied degrees of certainty: Ashgabat-based *Small Academy of Sciences* [32], Chernogolovka [29], Fryazino School 1 [28, 31], Moscow School 47 [4], Moscow School 510 [13], Moscow School 542 [11, 13, 29], Riga [6], Tallinn [13, 29], and Ufa [30]. A remarkable record is the webpage of Fryazino School 1 [28] mentioning their participation in 1988 and saying the team was awarded with a Diploma *For Active Participation in all-Soviet and International*

YPT. An identical diploma was awarded to the Bulgarian participants. Yasha Gindinkin, participant from Fryazino in 1988, found it difficult in 2009 to clarify the issue any farther [31].

Igor Nosov, whose team was not top ranked in 1988, corroborates the conclusion about a wide competition among both national and international teams. "Ideologically, we played on an equal basis, together", he says. Igor recalls a selective PF where the problem No. 11 *Incandescent Lamp* was discussed with the Bulgarian team. "That means, boys from Bulgaria were there in 1988, because I remember us and them at a Physics Fight discussing this problem", he concludes [32].

Very likely, these facts evidence that all Soviet teams were automatically considered participants of the 1st IYPT, which was no longer the case in 1989, and that all non-Soviet participants were rendered participants, not observers, throughout most stages.

A book published by Zdeněk Kluiber in 1996 was controversial in covering this formal aspect of the 1st IYPT. Although it is read that "all regions of the former Soviet Union" were participants of the 1st IYPT, a table denoting only 4 teams from 3 countries [6] is at the same time included. Although the similar data for other IYPTs was manually corrected by Andrzej Nadolny in a similar printed document, he did not perform any corrections for the 1st IYPT [18]. More of recent essays and articles did also rely on this data.

In contrary to the existing accounts of "no international competition", Zdeněk Kluiber indicated a formal ranking table after the 1st IYPT, with a "USSR" team to rank 1st, "USSR-Latvia" to rank 2nd, and Bulgaria and Czechoslovakia to rank 3rd [6]. A late Bulgarian website seemingly relies on the same data and says Bulgaria ended on 3rd place in 1988 [33]. While Kluiber reports two Soviet teams, Yury Yufryakov says there was only one Soviet team "at the summary session" and could not confirm the participation of any other Soviet-based team, as well as the fact that this session had a specific competitive status and that his own team ended as the gold winner. After 1998, this data by Kluiber was manually corrected with a pencil by Andrzej Nadolny in a personal copy, striking out "USSR-Latvia" from 2nd position, and marking this 2nd position for the Hungarian team [18].

Further research is undergone to better understand the structure of the 1st IYPT. The booklet provided to the participants [5] provided no well-established schedule. It suggested, however, that the *all-Soviet and International YPT* would include *Qualification fights* (with a restricted number of problems left for challenge, and aimed at selecting the winners of the *Moscow YPT* and helping other teams to gain experience), *Selective fights and mini-contests* (with a different set of restricted problems), *Finals* (aimed at selecting the ultimate winners of Moscow, all-Soviet, and International YPTs), and furthermore, "wide discussions on the problems of encouraging creativity, consultative meetings on the topics of holding Young Physicists' Tournaments in the USSR and

abroad."

Borr (b. 1971), a Russian-language blogger from Tallinn, left the following impromptu online remark in August 2003 when discussing the Soviet competitions for students, "In 1987 (I guess so), a Young Physicists' Tournament was held in Moscow. A Union-wide one, and seemingly almost an International one. I was then leading a team representing Estonia, and we were five persons. It was impossible, clearly, to compare our level of preparation with the boys from specialized Moscow Schools (MEPhI, Chernogolovka), but it turned out that they were in somewhat a separate ranking, and we ended up as high as third. The event itself was certainly a major one. I remember a talk by Prokhorov (the laser guy), by Velikhov. There was a fascinating professor from Moscow State University, Krotov, I guess, who talked about wildly interesting things and invited everybody to the Moscow University; it was, however, impossible to get there with no exams at all, and I got scared to apply. It was maybe a wrong decision. Still, I was allowed not to pass the graduation exams at school" [29]. The entirety of circumstances, together with the information from Svetlana Mesyats about meeting the Estonian team, suggests that this impromptu remark covers the events of 1988, and not of 1987.

Comparison between the available vague accounts, documents, and personal recollections of participants gives grounds for a suggestion that on the last days of the Tournament, when all selective or exhibition Physics Fights were over, there might have been a discussion on how to hold the summary meetings. Such meetings had earlier been held as "Physics Festivals" [34], including entertaining demonstrations, and combined with the Final Fights. While it is not clear if any pre-Final Fight among the Soviet teams had been earlier held, it may be suggested that the LOC invited all attending teams to a special, probably informal, session, that might be recognized neither as Finals of the Soviet YPT, nor as the formal and official "1st IYPT" as such. While it is known that Yury Yufryakov from Moscow School 542 made a notable talk during this session, it might be assumed that the teams of Czechoslovakia, of Bulgaria and (possibly) of Riga also made presentations. "In 1988, Yunosov generally spoke that everyone was excellent and there was no intention to emphasize the superiority of this or that team. However, the School 542 was announced as having a slight superiority and was invited to make a presentation at a something like "summary session" or "closing ceremony". We were quite pleased for that", Yufryakov vaguely recalls. It is most probable that all other Soviet teams, of unknown number, attended this session as observers.

It remains unclear if any ranking places were announced after the session (with many interviewed participants denying that), while some diplomas may have been prepared and awarded in a hurry. Unless more diplomas are found, it remains problematic to conclude how they outlined the positions of the teams and the personal dis-

tinctions of participants.

Yufryakov was reportedly invited to repeat his earlier talk on the problem No. 9 *Ninth Wave* [11, 35] at this "summary session". He completed the first ever computer-based numerical simulation, in the IYPT history, of physical phenomena applied to model gravitational waves on water. "My father bought me a personal computer *Mikrosha* in summer 1987. I used it until graduating from MPhI in 1994. Today, it is difficult to imagine a machine equipped with 32 Kb RAM, and requiring a television receiver as a display and a tape recorder as a data storage device. Programs had to be uploaded from the tape, and saved to the tape as well. There was neither hard drive nor floppy drive. I uploaded a BASIC compiler from the tape and used it for my calculations", Yufryakov recalled in 2008 [11]. The physical conclusions of the project were soon re-visited and retracted by Yury as incorrect [11, 35].

Participants of the time period confirm that the common practice of using visual aids during the report was presenting handwritten paper posters, with photographs taken in January 1988 illustrating how they typically looked like.

No publication appeared in *Kvant* to report the ranking tables, the participating countries or even the fact that there was an international competition at all. That may corroborate the conclusion that in April 1988 the emphasis was given to exhibiting and explaining the YPT concept to international participants, to encouraging teams to informally present the most interesting research projects, and to sharing more of the "YPT experience", rather than on holding a strictly formal competition.

A Yunosov's article published shortly after, in August 1988 [37], says no word of the *1st IYPT* but announces the expected *2nd IYPT* thus confirming that the *1st IYPT* had already been held.

Nothing is currently known on possible discussions between Evgeny Yunosov, Zdeněk Kluiber, Bulgarian delegation leader Ludmil Vassilev, German representatives and Soviet activists, such as Sergei Varlamov, Tatyana Korneeva, Igor Yaminsky or Vladimir Alminderov. No detailed reports are known covering the event proper.

This vague sequence of events, followed by the prominent 2nd IYPT, was commonly recognized ever since as the milestone 1st IYPT. When asked in 2008, if they did not expect in 1988 that an additional Physics Fight with international teams would become a starting point for such a competition as IYPT is now, Yufryakov suggested, "Of course, I did not expect that. I have attended the Tournament of 1989; even then the international teams looked to me somewhat exotic. I remember German and Dutch teams in 1989. Well, I also remember that we had a keen interest to invite the Dutch team to play football, as a revenge for the Euro 88" [11].

B. 2nd IYPT

The preparation to the 2nd IYPT began immediately after April 1988. By August 1988, it was supposed that the new international teams (unfamiliar with the format of the competition) would be supported by *curators*, i.e. school students of a host country that would help the new participants to get better acquainted with the YPT concept [37]. The idea to allow a host country to have two representing teams was reported to be approved after international consultations in 1988 [37]. A preparatory international conference was tentatively scheduled to take place in October 1988 [37].

The problems for 1989 were completed before June 15, 1988 and published in August 1988 in a paper by Evgeny Yunosov in *Kvant* [37]. Nine of these early tasks were fully replaced in a relatively short time before the 2nd IYPT [36, 48, 49], with two of them being borrowed from a spin-off *Tournament of Young Space Researchers* also initiated by Yunosov. The confusion related to the ultimate problem set was probably also linked to "a special booklet sent out to all regional and republican divisions of the Ministry of Education (or, the Ministries of Education of the Union republics), to regional committees and to the central committees of Komsomol in Union republics" in Summer 1988 [37].

The *Kvant* paper scheduled the plans that the overall competition was to comprise *Collective Correspondence Rounds* (September–November 1988), *City-wide, regional and republican YPTs* (December 1988), the *all-Soviet YPT* (January 1989), and the IYPT (February 1989) [37], although at least the all-Soviet and the International competitions are known to be held with a large lag behind the announced schedule.

Results of the *Collective Correspondence Rounds* were seemingly known by December 29, 1988, as a special directive by the USSR State Committee on National Education outlined a list of 83 *Participants of the Young Physicists' Tournament* [43], coming from almost every region of the country and seemingly endorsed to join the 2nd all-Soviet YPT. There is further information that some of these individual participants or small teams were merged to make larger teams at the 2nd all-Soviet YPT. "When we arrived to Moscow, we were combined with a team from Dushanbe. They were three boys, the winners of the Tajikistan Republican Olympiad in physics", Belarusian participant Eugene Zelenko recalled [47].

On December 9, 1988, *Komsomol*, the influential Soviet Communist Union of Youth, and the Collegium of USSR State Committee on National Education, issued a directive "On the Development of the Tournament Form of Work with School Students" [38, 39]. By August 1989, Yunosov concluded that the directive "offered broad possibilities for the Young [Physicists'] Tournaments in our country" and allowed getting all needed support to host the 2nd all-Soviet YPT, the 2nd IYPT, and the all-Soviet Summer and Winter Schools for participants and organizers of such Tournaments [39]. That amount of promotion

and support was clearly felt at least by 1990, when participant Ilya Mashkov noted a Ministry contact Alexander Kuzyakin to "ensure patronage for the YPTs and help them a lot" [40].

"If speaking about searching and supporting a talent, they are mostly necessary for those teachers who identify talented boys and work with them. It is important to motivate the teacher by giving him an opportunity to make trips to various cities or abroad with their students who have demonstrated talents and achieved certain results", commented Yunosov at one of the Collegiums held around 1989 [41].

"My record goes back to 1988 when I was invited by Yunosov to come to Moscow for the IYPT. I have a subscript of a telex to Yunosov of December 13th, 1988 where I ask him to send me an official invitation. I have no older information in particular not about the 1988 IYPT", recalled [20] in 2009 Hans Jordens (b. 1947), who brought in 1989 the first Dutch team, one of the two earliest Western European participants ever. Receiving a similar invitation was reported by the Polish delegation leader Andrzej Nadolny [19].

The 2nd IYPT was combined with the Finals of the *2nd Soviet YPT* and was held on March 24–April 2, 1989 in the *Olympiads Youth Center* [36, 42, 44]. The recently traced *Summary document* of the 2nd IYPT [36] provides the schedule and essential organizational details of the event, and also includes the updated regulations, although it may be disputed if the regulations were amended *before* or *after* the 2nd IYPT.

All in all, 38 Soviet teams took part at the Soviet YPT [42, 44] that ended up with nominating two Soviet-based teams for the IYPT (of Odessa Station of Young Technology Amateurs and of School 710, Moscow) [42]. The international participants reportedly attended these selective rounds to get "better acquainted" with the YPT concept [42].

In 1989, 8 teams took part at International Rounds, namely the teams of People's Republic of Bulgaria, Czechoslovak Socialist Republic, Federal Republic of Germany, People's Republic of Hungary, the Netherlands, People's Republic of Poland, and the two teams of Soviet Union [5, 42, 44, 45], nominated immediately before the International Rounds.

There were still no established language regulations, when participants and jurors allegedly focused only on mutual understanding. "Most teams spoke Russian, and the rest of the participating teams were accompanied by interpreters", says Eugene Zelenko, a Belarusian participant of the Selective Rounds in 1989 [47]. A Polish team, however, succeeded in reporting problem No. 12 *Sand in a tube* in Polish language, Zelenko says. A quite unique situation, according to Polish delegation leader Andrzej Nadolny, was that one interpreter from the Organizing Committee provided interpretation not between Russian and English, but between Russian and German. She was of mixed Russian-German origin and trained as a physicist, often contributing to discussion, rather than giving

word-by-word interpretation [18].

Several teams volunteered to collaboratively contribute to handwritten newspapers that covered current events, such as Physics Fights, and there was an informal competition between the newspapers, organized by LOC [36, 47]. One newspaper featured a joke around the problem No. 10 *Mosquito*: "At what maximum altitude can a mosquito fly?" The joke was, "How much energy would an experimenter need to explain to a mosquito that it has to fly at a maximum altitude, as long as possible, in March?" [47].

Teams of West Germany and of Bulgaria ended as the winners of the competition [6, 42]. The School 710 ended with silver [6, 42, 49], while Czechoslovakia, the Netherlands, and Poland were reported to win bronze [6].

The Summary document of the 2nd IYPT *mgu1989* and a paper by Tatyana Korneeva *et al.* [45] retrospectively included the names of all team members and all team leaders at the international rounds. These names are, in the respective parts, corroborated by the first-hand participants themselves [20, 49], and may be considered reliable and complete.

In 1989, Yunosov was awarded with governmental *Lenin Komsomol prize in science and technology* for his YPT activities [10], which was seemingly a personal prize, not shared with the entire Organizing Committee as one of the late sources [23] implies.

C. International consultative meeting *Organization of the International Young Physicists' Tournaments*

The event, reported in detail in *Gift. Tal. Int'l* [45], *Kvant* [42], was held on April 3–5, 1989, immediately after the 2nd IYPT. It ended up with its own Minutes [46] printed with a mechanical typewriter in Russian language, a list of ambitious proposals, and well-articulated statements about the IYPT.

"Participants of the Consultative Meeting consider Young Physicists' Tournament as an effective form of search and support of talented young people. It is necessary to develop YPT further.

YPT is not an alternative to the physics Olympiad. Both these form of work with young people are mutually additional. They enrich each other. The way of physics problems solution of the tournament permits reproduction of all stages of scientific research rather exactly: problem determination, selection of method for solution of the given problem, calculations, obtaining of a scientific result and its discussion. An important advantage of the YPT is a long period of YPT problems solution (2–3 months)."

The Organizing Committee of the IYPT was formally organized during the meeting, and prominent Soviet theoretical physicist Georgiy Zatsopin (1917–2010) was elected as the president [42].

According to the resolutions of the meeting, as reading in a known translation, "To develop YPT further, it is

necessary:

1) To form International Organizing Committee for preparing and carrying out the III International Young Physicists Tournament consisting of:

Czechoslovakia – all the members of the National Committee of YPT.

USSR – members of the National Committee of YPT.

Zatsepin, G. T. – President, Academician, Moscow State University

Yunosov, E. N. – Vice President, Moscow State University

Nikolaev, M. Y. – Secretary, Moscow State University

Alminderov, V. V. – Teacher of School No. 542, Moscow

Ernolaeva, L. P. – Central Committee of the Komsomol representative

Koroteev, N. I. – Professor, Moscow State University

Korneeva, T. P. – Teacher of School No. 18, Moscow

Kusenko, A. Y. – Student of the Moscow State University

Countries-participants – 1 or 2 members.

2) To address the Central Committee of Czechoslovakian Youth Socialist Union and Ministry of Education, Youth and Physical Culture of CSSR with an appeal about assistance in organization and carrying out of the III International Young Physicists Tournament in Kladno (Czechoslovakia) from February 26 to March 3, 1990 and formation of the national Czechoslovakian Organizing Committee for carrying out the Young Physicists Tournaments.

3) To give to the National Czechoslovakian Organizing Committee the right to form a Jury of the III International YPT with the possibility to include in this Jury representatives of the countries participants of YPT.

4) To set a Jury of the III International YPT problems for this Tournament (17 tasks) and to spread among all interested organizations and persons till October 15, 1989.

5) To invite about 15 teams from various countries for participation in the III International YPT; include teams from countries participants of the II International YPT – Bulgaria, Hungary, FRG, Netherlands, Poland, USSR.

6) To determine the following composition of team – 5 school students and 2 supervisors. It is desirable that one of these supervisors will be ready to work on the Jury of Organizing Committee of the III International YPT.

7) Consultative meeting appeals to UNESCO with a hope to obtain assistance and support and requests sending an observer to the III International YPT.”

When interviewed in August 1989 by Dmitry Runge from *Komsomol's* flagship journal *Komsomolskaya Zhizn* Evgeny Yunosov commented on his vision of YPT and on the plans at that time. “[The YPT] quite accurately models all stages in a real scientific research: establishing the problem, choosing the solution method, obtaining a scientific result, and discussing it”, he remarked [34].

It may be speculated, with no sound evidence, that Yunosov succeeded in attracting this kind of support due

to the international status of IYPT, not common for the educational system of the Soviet Union, which started to get influenced in late 1980s by *perestroika* and *glasnost* processes. Acknowledging the success of growing collaboration with the Ministry of Education and Komsomol, Yunosov nevertheless criticized the existing bureaucracy problems, and outlined his vision of further growth. “In May, the USSR State Committee on National Education hosted a special collegium focused on the work with talented youth. It was decided to develop such a work, but it is so far not at all clear how exactly to do it. The obstacle is not the question of money itself. There was an example given at the collegium: out of 18 million rubles granted to schools in the previous academic year to develop out-of-curriculum work, only 2 million were spent”, he then said.

In comparison to minor science-oriented events for students, he considered important to maintain the YPT as an integer, broad, promoted and transparent event. “[H]ow can we speak of a serious effect from a science conference for the students, if even the list of participants is not traceable a year later? That is why a coordination center should exist, a bank manager having all the necessary information available for the interested parties. Such a center can, let say, function within the country’s State Committee on Education. If we have gained an experience, the center could support the project immediately with people, money, and promotion. Each child should also understand that his achievements are not disappearing, but are somewhere recorded”, he concluded in the interview.

D. 3rd IYPT

The political map of the Europe started to quickly evolve in 1989–1990 when Germany was unified, and the political systems in Czechoslovakia, Hungary and Poland changed after dissolution of the local communist parties and replacement of the official names of the countries.

As reported Yunosov’s *Kvant* paper published in August 1989 and still quite notably titled *12th Young Physicists’ Tournament*, the 3rd IYPT was scheduled to take place in Kladno (Czechoslovakia) on February 26–March 3, 1990 [39] with a single team of 5 students to represent the Soviet Union. A group of Soviet students, including Ilya Mashkov, Sergei Volkov and Fyodor Sigayev, even made a trip to Czechoslovakia in summer 1989 to take part in “somewhat like YPT-related conference” [50], accompanied by Evgeny Yunosov and Vladimir Alminderov, then a YPT-enthusiastic teacher at Moscow School 542 [40]. “That was a Summer School with one or two Physics Fights and some Czech professors reading us lectures in physics”, Ilya Mashkov confirms, revealing details that suggest the event was held near Harrachov and possibly organized by Zdeněk Kluiber personally [40].

An international meeting was reported to take place

at Odessa State University on September 14–17, 1989 reportedly setting “a guide to improving the organization of the YPT in particular countries and setting out the rules of the contest”.

The selective 3rd all-Soviet YPT was held as an event separate from the IYPT in January 1990 [50, 51] in Khimki, Moskovskaya Oblast, which indicated *Olympiets* proper [52]. A non-Soviet team was reported to join this event, namely the Great Britain’s delegation of 7 persons [51]. The event has reportedly attracted 126 students who were both winners of the *Correspondence Collective competition* and winners of *Republican and local* YPTs [51]. 6 teams and 27 individual participants were said to be awarded with 1st degree diplomas, 3 teams and 16 individual participants with 2nd degree diplomas, and 4 teams and 17 individual participants with 3rd degree diplomas [51].

“The International Tournament of 1990 was held in June 1990 in the *Olympiets* Youth Center. The time schedules were revised for several times due to some organizational problems. I remember that the IYPT and the Soviet YPT were separate and were not combined or merged into a single event, like in 1989. The Soviet YPT was held earlier, perhaps, in January 1990”, says Konstantin Yufryakov, Russian team member from winning Moscow School 542 in 1990 [50].

The 3rd IYPT “was expected to be held outside USSR in May–June 1990. It was first planned to be held in Czechoslovakia, but there were political events there in 1990. Then, there were thoughts of London, but seemingly there was shortage of money. So finally, it was held in Moscow, in the same *Olympiets* Center”, Igor Nosov recalls [32]. This uncertainty of organizational details of the 3rd IYPT, where Nosov himself was officially expected to be (but disputably was) a participant, even convinced him that the 3rd IYPT “was not held as such, at all” [32].

The formal letter send by organizers to Hungarian team leader Lajos Skrapits on March 15, 1990 confirms these accounts and reads, “we invite you to take part in the Third International Young Physicists’ Tournament which will be held in Moscow June, 7–14, 1990. This Tournament will be held instead of the tournament in Prague 26 of March, 1990” [53], revealing the prior plans and the new expected schedules of the event. The invitation included translated English-language typewritten problems, seemingly identical to the texts preserved by Hans Jordens and published in *Gift. Tal. Int’l* [45].

“I think that many complications in holding the Tournament were caused by the situation in the country. In particular, at the all-Soviet YPT, we prevailed over a team from Riga. We met them again at the International Young Physicists’ Tournament, but they were then introduced as the team of independent Latvia. All these political instabilities affected our team as well. In February 1990, our team made a special visit of friendship to Tbilisi (Georgia) to hold a Physics Fight with a Georgian team. Our permanent team leader Vladimir Vasilyevich

Alminderov explained to us that the Georgian authorities expressed doubts in the results of the all-Soviet YPT and would like to send an independent team to IYPT. We had an improvised Physics Fight with the team of Tbilisi (possibly, it was a National team of Georgia.) We won and that was our modest contribution to the maintenance of Soviet Union. Evidently, I was not familiar with the reasons underlying the events of those days but I well remembered a strange feeling of the trip”, notes Yufryakov [50].

The schedule, June 7–14, 1990, was no more revisited, as suggests the booklet provided to the participants [54].

The 3rd IYPT has attracted, with full agreement among sources, 4 teams from outside of Soviet Union, namely from Czech and Slovak Federal Republic [6, 55], Republic of Hungary [6, 50, 55], Republic of Poland [6, 55], and the Netherlands [6, 20, 40, 50, 55].

Certificates issued by the USSR State Committee on National Education on June 7, 1990 and directives issued by Turkmen SSR’s Ministry of Education on March 21, 1990 maintain that a *combined National Soviet team* was expected to take part at the 3rd IYPT [51, 56, 57].

Although there is some disagreement among accounts, it appears convincing that exactly two Soviet teams, of Riga and Moscow School 542, did finally took part at the 3rd IYPT, while many other Soviet participants were confused by an international status (with a UK team) of the all-Soviet YPT and the late decision to re-schedule and divert from Czechoslovakia the IYPT proper, resulting in the possible forced cancellation of a single *combined USSR* team and the decision to replace it with the two top-rank teams from the all-Soviet YPT. This assumption is corroborated, with a convincing certainty, by Ákos Csilling, the Hungarian captain in 1990 [61].

More information is expected to be revealed if the original notes dating back to June 1990 are found. While the known formal documents mentioned Igor Nosov as a perspective member of the unique *combined* team, he could corroborate his participation in such a team with a degree of doubt, when interviewed in 2009. Eldar Sadykhov and Sergei Romanchik, then students at Moscow Physico-Mathematical Boarding School 18, were positive that their team effectively played in June 1990, was then led by Sergei Varlamov [58, 59] and ended “3rd of 4th” [59]. “I remember team from Slovakia. Maybe Kazakhstan. And I didn’t fix any information from that time”, Latvian silver winner Andris Eiduks reported when contacted in 2009 [60]. “Out of Soviet teams, I should note a strong team from Odessa”, reported Yufryakov [50]. “I cannot remember anyone from Riga. [...] I heard a lot about Odessa there. There was a very strong and very sociable boy from Odessa, but I dont remember his name”, accounted Nosov [32].

In a detailed contemporaneous article, Zdeněk Kluiber reported exactly two teams from already politically unstable Soviet Union, namely from “Moscow” (which is firmly identifiable as the team of School 542), and from Riga, the capital of Latvian SSR where the Supreme

Council unilaterally initiated a transition towards independence on May 4, just a month before the 3rd IYPT, not recognized by USSR and US until September 1991. The Declaration on State Sovereignty was adopted by the RSFSR Congress of Deputies on June 12, 1990 and signed by chairman of the RSFSR Supreme Soviet Boris Yeltsin, disputably making Russia and Soviet Union separate entities just in the midst of the 3rd IYPT.

It is most likely that the Organizing Committee did not put much emphasis whether the Riga and the Moscow teams represented *de jure* independent states or not. Is it quite remarkable, however, that Konstantin Yufryakov recalled that "the Riga team played as a team from independent Latvia" [50]. Latvian pre-1940 flag was nationally re-adopted on February 27, 1990, while Russian SFSR continued to use the hammer-and-sickle (not to be confused with Soviet national) flag until August 22, 1991.

The absolute winner was the team from Moscow School 542, as confirmed by team captain Ilya Mashkov [40], team member Konstantin Yufryakov [50], and several indirect publications [6, 62]. The team was led by Vladimir Alminderov and included captain Ilya Mashkov, and members Alexei Pechenkin, Fedor Sigaev, Konstantin Yufryakov, Sergei Volkov (who was a replacement member and did not solve any problems), and Sasha Fedotov (about whom Mashov is not perfectly sure) [40]. Kluiber accounted the gold-winning team as just "USSR-Moscow".

"It is absolutely certain. It was us who won both all-Soviet YPT and the 3rd IYPT. Due to our victory at the all-Soviet YPT we were allowed not to pass graduation exams at school. (I remember that Kezina herself handed the diplomas in the Moscow Education Department somewhen in late May.) And when we won the International Tournament, we were admitted to universities without any exams", Yufryakov recollected [50].

According to Kluiber's 1996 records, Riga and the Netherlands won silver, while the bronze was shared by Hungary (ranking 4th), Czechoslovakia and Poland (ranking 5th or 6th, or vice versa) [6].

"The team of Riga played in the Finals with us. Their team captains name was Viktor Kutuzov if I am not mistaken. Best players from various teams and everyone of the winning team received papers that allowed them entering any university in the Soviet Union without entering examinations. Possibly, the best players could enter on such a basis the Moscow State University only. I am quite sure in that because I entered the Department of Physics of MSU and met the same year almost everyone of these persons", says Yufryakov [50], citing the practice that was implemented already in 1989 [49]. "You know, when we got these certificates, we could no longer think of the Tournament", comments in turn Nosov [32].

A single-page document, printed with a dot matrix printer and titled *3rd International Young Physicists' Tournament: Problems for the Final Physics Fight*, has been preserved by a participant who did not take part at the Finals. The document specifies six new problems that

were most likely provided to the finalists of the 3rd IYPT for rapid, immediate solution. The actual participants of the Finals have not yet provided clear commentaries on the document.

The Riga participants gave a photograph, showing all their team members, to Moscow team captain Ilya Mashkov and wrote their names on the back of the photo. The team leader was Anatoly Fridman, the team captain was Viktor Kutuzov, and the members were Andris Eiduks, Dmitry Terno, Alexei Tutov and Maxim Enbaev [40]. Alexei Tutov is known to have graduated in 1990 from School 79 in Riga. Hans Jordens has shared in 2009 the names of Dutch participants in 1990, as seen on photograph preserved by Ilya Mashkov; they were Ietje Penninga, Rixt Buwalda, Gerrit Venema, Mark Brouwer, Gert-Tom Draisma, and leaders S. Buwalda and A. Holvast [20]. The Czechoslovak team included I. Čáp, J. Droppa, J. Chovan, I. Marčák, J. Skokan [55], and the Hungarian team included Akos Csilling, Ákos Dömötör, Mihály Fazekas, István Németh, András Czirók [63], and a participant who recently insisted on anonymity in correspondence with the author.

"Certainly, when the team of Netherlands made presentations, there were interpreters. I think these interpreters were from the Organizing Committee. We much communicated informally with the Dutch team. The language barrier was not an obstacle as they were also not very proficient in English. Their team captain was a nice girl named Ietje. I remember that we accompanied their team when they were leaving. We sang *Dubinushka* song just on the square outside Belorussky Vokzal. The Dutch were diligent in repeating the words of this traditional Russian song", recalled Yufryakov [50].

The evidence shows that the IYPT logo (designed by Vladimir Babaev in early 1980s), did appear in 1990 in the finally re-drawn version, the one commonly known today. A vague photograph of Yunosov awarding the Dutch team captain Ietje Penninga in 1990 [4] and a high-quality scanned Hungarian diploma [61] reveal the logo and the layout of the diplomas. The same drawing is clearly distinguishable on the diplomas of 1991 and 1992 (as seen on the diplomas awarded to Sergey Romanchuk [59] and the Polish team [64].) None of similar drawings was seen on the diplomas from the all-Soviet IYPT in January 1990 [65].

In July 1990 [66], several students (including Ilya Mashkov), accompanied by Yunosov, Alminderov, and thus-far unidentified representative of Physics Department Nikolaev went to Hills Road Sixth Form College in Cambridge. "We went to England as well, still on the basis of activities with Young Physicists' Tournament", Mashkov says, suggesting though that the key aims of the trip were rather in education-related exchange. Such a trip was quite an unusual event for locals, as even *Cambridge Evening News* covered it with an article *Moscow perspective on the Western way* on July 17, 1990, reporting however nothing about the IYPT. There are grounds for a suggestion, however doubted by Ilya Mashkov, that

the Hills Road Sixth Form College represented the UK in January 1990 and in July 1992. The College officials did not respond to an interview request.

"The way of thinking is so different here. In Russia, people see others who are richer or more successful than they are and are envious, so they stop trying. English people want to achieve the same standard, so they work harder. They are more competitive. [...] But we are close to the rest of Europe and the ideology is starting to come to us – I think that is a good thing", Mashkov said in the interview to *Cambridge Evening News* in July 1990 [66].

E. 4th IYPT

The 4th IYPT was held in Moscow on July 22–July 28, 1991 [25] or on July 23–28, 1991 [67] in *Olympiads* [63, 69]. This disagreement among the sources reporting the schedule of the event is most probably linked to an official announcement of July 22–28, with effective Opening Ceremony taking place on July 23 [67].

The IYPT was preceded by the 4th and the last *all-Soviet YPT* held in April 1991 in Odessa, as report participants and is confirmed by a booklet and a Ukrainian newsletter [70]. "It was in 1991, if I am not mistaken, when Evgeny Yunosov held an important large nationwide Young Physicists' Tournament in Odessa. I am not absolutely sure, but seemingly it was the Soviet YPT. For the first time, I became a YPT player at this 1991 competition. The team of my school, the Richelieu Lyceum, took part in the Soviet Tournament in Moscow a year before, in 1990, but I did not play at that time. It was held in the Pioneers' Camp *Molodaya Gvardiya* just at the coast of Black Sea", recalled Alexander Morozov (b. 1976), from Richelieu Lyceum in 1991 [72].

The reasons for the teams from the semi-independent national Soviet Republics, such as Latvia or Georgia, not joining the 4th IYPT are most probably directly connected to the regulations and the outcome of the Odessa Soviet selection. The circumstances for such trips would however become less easy by summer 1991 when Georgia was troubled by the internal clashes and recent depressions of anti-Soviet demonstrations, while Riga streets were barricaded to prevent possible storming of the Latvian Parliament by the Soviet military.

"In 1991, there were two teams from USSR, the our one (PMS 18-SUNC MGU), which ended 1st at the all-Soviet Tournament in Odessa and the Combined team of USSR which included the strongest students from other teams", confirmed Moscow team captain Sergei Romanchuk [59].

Reports by Lajos Skrapits, Zdeněk Kluiber, and Jeanne Stoliaroff (reprinted as abstracts in Soviet *Referativnyj Zhurnal*) agree on the list of participants at the competition, which included Great Britain [6, 25, 67, 71], the Netherlands [6, 25, 67, 71], Hungary [6, 25, 67, 71], Poland [6, 25, 67, 71, 73], Czechoslovakia [6, 67, 71, 73] (identified as just Slovakia by Skrapits [25] because the country was represented by students from Gymnázia J.

Hronca, Bratislava) and two teams of progressively disintegrating Soviet Union [25, 67, 71], more specifically from Moscow-based [6] SUNC MGU [59, 73] (renamed shortly before, and known earlier as the School 18) and a combined Soviet team [59, 73] (denoted as "USSR" by Kluiber [6].)

Two teams of students, from France (lead by Jeanne Stoliaroff) and from Italy, arrived at the competition but acted as observers [6, 25, 67]. This unusual status of the teams was probably the main reason for repeated confusions in the exact list of teams, as one source marked the French team as a full participant but the Italian team as observer [68]. In an attempt to correct the diagram with numbers of teams and countries, further variations happened among sources, denoting 8 teams from 7 countries [76] or 8 teams from 6 countries [77], instead of 7 teams from 6 countries in the earliest 1996 publication.

J. Depireux [67], a representative of the European Physical Society [25, 67], attended the event.

The formal *de jure* statistics on the number of countries might pose growing problems due to increased centrifugal movements in the Soviet Union, where by mid-1991 non-communist leaders came to power in national republics and proclaimed independences, while Gorbachev remained the President of the Union. On June 12, just a month before the 4th IYPT, Boris Yeltsin won in popular elections for a new post of Russian SFSR President, continuing to emphasize the independence from the Soviet center. In this light is remarkable Zdeněk Kluiber's vision of a separate "Russian" team from Moscow and a separate "Soviet" team [6], in contrary to the French notes which marked both teams as "USSR".

When asked in 2009 if they felt that any political instabilities reflected in the 4th IYPT, the captian Péter Falus and team member Péter Fedorcsák from recently turned non-communist Hungary, confidently replied in the negative. "I was some years before in the Soviet Union on a Komsomol tour, and this one was just as efficient, if you like", Fedorcsák noted. "Well I just started to travel those days I had really no comparison how it was before. I found Russian bureaucracy difficult (invitation letter, visa whatever), but I heard it was already a simpler procedure than before. I vaguely remember market places where you could buy anything if you had dollars, and shops where you could buy nothing for rubles. At the competition though none of it was felt, it was strictly scientific", Falus concludes [69].

"I have quite a vivid, but rather fragmented memory of Moscow '91. I was like 18, it was quite a chaos all around, so it must have been difficult to focus. We've stayed at a large youth compound (hotel?) near Sheremetyevo airfield and were bused around the city for sightseeing. One trip went to the physics department of Lomonosov University, located in a hilltop in one of those skyscrapers of Stalin era (seven sisters?), where we were given a physics show with fountain of liquid nitrogen, and all that infotainment stuff that you get 20 years later in science

museums. We were impressed,” Hungarian team member in 1991 Péter Fedorcsák recollects.

The Hungarian team ended up as the gold winner at the 4th IYPT [6, 22, 25, 63, 69] (while a few sources debate on this fact [59].) ”After looking at the problems, I think we definitely presented : 3, 4, 8, 9 (geyser, self excitation, tv screen photo, propeller). I am sure 3, 4, 8 were my projects. I probably presented self excitation in the final?”, Falus recalls.

An original brochure with 17 problems in Russian, distributed to the participants, specified that not all 17, but only a selected list of 5 problems could be challenged and reported by Finalists (namely, Geyser, Self-Excitation, Space Monument, Passive Propeller, and Sunset) [74].

The *Soviet National* team is reported to win silver [6], while bronze medals reportedly went to the Netherlands, Poland, ”Russia-Moscow”, and Great Britain [6]. Sergey Romanchuk’s bronze diploma shows how they looked like in 1991 [59].

The *National combined Soviet team*, according to the webpage of Fryazino School 1 [28], included two participants from the Fryazino team, their former team captain Alexander Osyka and team member Dmitry Burin. This experience later allowed Osyka and Burin to enter Moscow Institute for Physics and Technology and the 2nd Medical Institute, respectfully, with no examinations. ”As a prize, several boys went to Cambridge the same year”, the source says, reminiscent of the 1990 trip. ”One more participant of International YPT of 1991, was Alexei Echkalo from Zaporozhye and combined Soviet team”, reported Sergei Romanchuk [59]. All of such recollections are reliably verifiable through a governmental document titled ”Addition to the Order of the USSR State Committee on National Education” from June 14, 1990, No. 291, and containing a ”List of members for the USSR team at the 4th International Young Physicists’ Tournament” [78].

A photograph preserved in Evgeny Yunosov’s archives shows a meeting of team leaders, with identifiable Vladimir Alminderov, from School 542, and Valery Kaleboshin, from Odessa.

”I think most of us spoke Russian in the team but the official language was already English (to make sure the Dutch visitors understood everything, so the tournaments after could be international). I do remember receiving questions both in Russian and English, though”, says Falus. Jeanne Stoliaroff reported in her detailed paper that both talks in both Russian and English were made at the Opening Ceremony [67]. Only a single, unique, task was presented and opposed in English at the National Czechoslovak selective Tournament [79].

The Soviet Union’s evolving collapse ended by Belavezha accords on December 8 and by Gorbachev’s resignation on December 25, 1991. Belarus, Georgia, Kazakhstan, Moldavia, Russia, Ukraine, and Uzbekistan could be then represented by National teams of effectively independent countries.

”Despite the future is uncertain, the Soviet group pre-

pare the Tournament of 1992”, wrote Jeanne Stoliaroff in November 1991 [67]. The tasks for the 5th IYPT were announced to be available by December 1991 [25].

F. 5th IYPT

The 5th IYPT took place in Protvino, Russia, on June 24–July 1, 1992 [7, 64, 80].

It was preceded by a Tournament for post-Soviet teams, disputably called either still *all-Soviet YPT* either the *YPT of CIS*, held at the Lesnye Polyany resort facility outside Moscow. It was attended, among others, by a Belarusian team [7] and a Ukrainian team from Odessa [72, 87].

The role of English language at the 5th IYPT continued to evolve as the Czechoslovak team even had their National selective tournament held in English [80]. Reporters at the Finals of the 5th IYPT had to ”work with interpreters”, Belarusian team leader Leonid Markovich reported in October 1992 [7].

Ivan Štoll, Leonid Markovich and Zdeněk Kluiber agree on the total of 12 teams at the 5th IYPT, but provide mutually controversial accounts concerning Armenia, Bulgaria, Russian Republic of Buryatia, Russian Republic of Yakutia, and Moldova. The teams overall mentioned as possible participants in 1992 include Armenia [6] (not confirmed by Markovich [7], not confirmed by Štoll [81], and not confirmed by Kluiber himself in the earlier 1993 paper [80]), Belarus [6, 7, 80, 81] led by Leonid Markovich, Bulgaria (claimed only by Kluiber’s 1993 article [80] and not confirmed elsewhere), Czechoslovakia [6, 7, 80, 81], Georgia [6, 7, 80, 81], Kazakhstan [6, 7, 80, 81], the Netherlands [6, 7, 80, 81], Hungary [6, 7, 80, 81], Moldova [7, 81] (not confirmed in a late account by Kluiber [6], but well reported in his 1993 article [80]), Poland [6, 7, 80, 81], Russian team from Buryatia [6, 81] (not confirmed by Markovich [7]), Russian team from Moscow [6, 81] (specifically, from SUNC MGU and led by Sergei Varlamov [7]), Russian team from Novgorod [6, 7, 81], and Ukrainian team from Richelieu Lyceum in Odessa [6, 7, 70, 72, 81].

The accounts by Kluiber and Štoll mention the Buryatia team at the 5th IYPT in a way that implies it was from an independent country, not from a part of Russia. This is reminiscent of still uncertain political situation in post-Soviet Russia where another formerly autonomous republic, Tatarstan, proceeded to proclaiming independence in spring 1992. Markovich notably mentions 12 teams, but presents a list of only 11 of them, pointing however that an additional (i.e. 13th) team from Russian Yakutia Republic team was an observer.

Ivan Štoll’s record provides evidence to be most reliable and fact-checked as every team is even reported with the scores gained at PFs. Under assumptions that the Yakutia team was in reality an out-of-competition observer group, that Kluiber mistakenly attributed Moldova as absent in his 1993 report and Bul-

garia as present in his 1996 report, and that Buryatia was indeed the team missing in Markovich's paper, the team list can be quite reliably reconstructed into Belarus, Czechoslovakia, Georgia, Hungary, Kazakhstan, Moldova, the Netherlands, Poland, Russia-Buryatia, Russia-Novgorod, Russia-SUNC MGU, and Ukraine-Odessa Richelieu Lyceum.

"Protvino gives an impression about the entire high energy physics – in 1967, here was launched then the World's largest proton accelerator, bringing particles to an energy of 70 GeV. [...] The idea to host the International Young Physicists' Tournament in Protvino turned out to be very successful, equally due to some very good capacities for accommodation and presentation at this scientific place and its inspiring atmosphere, and equally due to the possibility of visiting some top-end facilities for modern experimental techniques. The participants could visit the impressive experimental hall with dozens of particle detectors, and even walk along a quarter of the 70 GeV accelerator tunnel, 6 km in the entire length. Two trips to Moscow were included to the schedule, one to historical monuments and to circus, and one to the Department of Physics, Moscow State University", commented the Czech delegation leader Ivan Štoll shortly after the event [81]. Ilya Mashkov, who was among organizers of the event, recalled, "I remember very clearly an excursion to the accelerator. The facility was shut down a week before we went there, and everything was quite safe, but the Dutch (who were also there) got fearful and did not go. I tarried with them for a while and entered the accelerator tunnel when the entire group had already disappeared behind a bend... I found intuitively the door where everyone went It was scary... also because of the yellow stripe on the floor marking the dangerous zone... the accelerator was still "warm". However, later I have been telling to doctors: "I cannot undergo X-ray imaging–I have been at an accelerator". The doctors were then, understandingly, marking that in the file while I was very proud... What a kindergarten" [40].

The team of Belarus and the team of Czechoslovakia shared the first position, ending with 55.5 and 54.0 point in the Finals, respectfully [7].

The Belarusian team was led by Leonid Markovich and included captain Maxim Zaitsev and members Sergei Katsev, Alexander Bernstein, Mikhail Khusid, Dmitry Chigrin, Alexander Klimovich and Roman Loznikov.

The Czechoslovak delegation was led by Ivan Štoll, and included team leader Zdeněk Kluiber, team captain Tomáš Karakovlev, and team members T. Dušek, J. Hanika, J. Tichý, and J. Vaníček.

"It would be interesting to trace how many participants of the Tournaments of those days continued to work in physics. Out of six players in our team, three are directly connected to physics (besides me, Dima Chigrin and Max Zaitsev work in German universities), and one resides in Belarus (Klimovich.) Misha Khusid and Shurik Bernstein graduated from MIT, but Misha works as an engineering manager, and Shurik decided to contribute

his life to travels worldwide", Sergei Katsev recounted in 2009 [82].

The Netherlands and Moscow-based SUNC MGU won silver in the Finals [6, 7]. Georgia and Hungary were reported to win bronze [6]. A Georgian source mis-attributed the competition to 25–30 April, 1992 in Protvino, but accounted that Georgian team was lead by T. Atanelishvili and included the team members M. Kakutia, G. Grigolashvili, A. Khusivadze, L. Cholikidze (Tbilisi State University's Physics and Mathematics School), G. Mamaladze, I. Nadiradze (Ilia Vekua 42nd Physics and Mathematics school). The Georgian team took the 4th place, the source says.

Like in 1991, the event was reported to be attended by J. Depireux, the board chair of the *Physics Education Division of the European Physical Society* [80].

Joining the IYPT proper for the first time, Belarusian team leader Leonid Markovich was thorough in describing the features and the atmosphere of the 5th IYPT. "In contrast to the Olympiad where speaking is forbidden, the opposite is forbidden here. The communication is an obligatory atmosphere at the Tournament; both within a team and among teams it is present 20 hours a day (the data of own observation.) The teenagers are meantime developing their language (as the Jury and the opponent are fixing everything that was said and written), are learning to listen to a presenter, to carry out correctly a discussion, are developing the skill of formulating questions and giving comprehensive answers, etc. In practice, this is a defence of "little theses" with all the consequences", Markovich wrote in October 1992 [7].

An English translation of problems was published in Czechoslovak journal *Rozhledy mat.-fyz.* in the issue dating to June–July 1992, and signed by Jan Tichý, participant of the competition. "The name does not belong to the problems. This name is the name of a student who participated in the competition, and he only did a copy of the text from the original source", suggested in 2009 Jaroslav Zhouf, chief editor of the journal [75].

The Czech and Slovak Federal Republic peacefully split into Czech Republic and Slovakia on January 1, 1993. These two countries could send independent National teams to the IYPT.

G. 6th IYPT

The 6th IYPT was held in Protvino, Russia, on June 18–25, 1993 [83, 85].

An English translation of the problems, titled *Problems for the VI International Young Physicists Tournament*, was published in Czech journal *Rozhledy mat.-fyz.* in late 1992. The identical translation has been preserved by Dutch participant Whee Ky Ma among his documents from the event. The origins and the translation status were not reported in any of the known copies. "The name B. Henry does not belong to the problems. This name

belongs to the puzzle under TMF problems”, journal editor Jaroslav Zhouf confirmed in 2009 [75].

The competition has attracted the following teams: Belarus [6, 84], Czech Republic [6], Georgia [6, 72, 83, 84], Hungary [6, 72, 84], Moldova [6], the Netherlands [6], a Polish team [6] from Warsaw [84], a Polish team [6] from Quark group in Katowice [84], Russian team from Buryatia [6, 84], Russian team from Fryazino [6], Russian team from Moscow [6], Russian team from Novgorod [6, 84], Russian team from Protvino [6], Russian team from Yekaterinburg [6, 84], Slovakia [6], Ukrainian team from Luhansk [84], Ukrainian team from Odessa Richelieu Lyceum [72, 84], and Uzbekistan [6, 84].

Zdeněk Kluiber, who provides the most coherent list of participating teams, mistakenly attributes the team from Luhansk as a Russian, not Ukrainian team, but still denotes two Ukrainian teams, “Ukraine-Odessa” and “Ukraine”. Participation of the separate Luhansk and Odessa teams is clearly confirmed by Whee Ky Ma’s raw notes made during the PFs

Almost every team continued to speak Russian at the Physics Fights, and it was the working language of the Finals as well [72, 87]. Quite many documents, besides, were translated into the English by the Organizing Committee or their colleagues, including the problems and the schedule [84]. The official seal of the competition was bilingual for the first time ever, and had abbreviations for the YPT in both Russian and English [84].

The way of how teams and jurors in early 1990s dealt with language issues and achieved mutual intelligibility at Physics Fights is well illustrated by the details provided by the participants in 1993. “Because we were the only team that did not speak Russian, everything in our Groups was interpreted. It turned out that the physicists were doing better than professional interpreters”, wrote in July 1993 Dutch participant Whee Ky Ma [89]. “Once, I personally interpreted the Dutch report at a Physics Fight when we played together. It was humorous”, remembered in 2008 Alexander Morozov, of the Odessa team in 1993. This situation might have taken place at the 2nd PF on June 20, when Novgorod reported problem No. 14 *Boiling*, Odessa reported No. 12 *Transmission of Energy*, and the Netherlands reported No. 2 *Gravitation-Sun* [84, 90] leading to a personal diploma for the “best report” on this problem [84].

According to one of the accounts, the interpreters supplied by the Organizing Committee “were senior university students or young researchers who have just passed their exam in English language. Unfortunately, it didn’t assist them to interpret complicated speech in real time. It was quite often that a certain juror assisted such an interpreter or even replaced him” [72].

Among other factual details known, the teams were accommodated at *Protva* hotel [72], and several excursions were held for participants [84].

“Usually, the reports at the all-Soviet and all-Ukrainian tournaments were made with paper posters. At the International Tournament, almost everyone used

transparencies. It was considered a “gesture of desperation” if someone wrote with a chalk on blackboard. In 1993, the team of Netherlands brought a laptop with PowerPoint presentations. I am very doubtful of how they showed it. If I am not mistaken there might have been a technique of projecting the slides with a common overhead projector. Unfortunately I don’t remember that clearly, but it is even possible that they had a laptop with a transparent LCD panel that allowed projection to the screen when placed on the overhead”, participant Alexander Morozov recollected [72]. “The electronic presentation tool: yes, I vaguely remember it. It was a handheld device that could be put on an overhead projector and project directly onto the screen. Hans Jordens would know the details. Looking back, I think this may have been an unfair advantage, as the other teams were not in a situation where they had access to such technology”, Dutch participant Whee Ky Ma commented in turn [88].

The original handouts from the event, preserved by the participants, document in detail the schedule of the 6th IYPT, which included 4 selective PFs, 1 Semi-Final PF, and 1 Final PF [84].

The Finals were held at 10h00 on June 24 at the Conference Hall of the Institute for High Energy Physics [84]. “I must say that at certain Tournaments of early 1990s, the Finals were held with absolutely new problems distributed in a day before the Final Fight. However, it was not a practice for IYPTs. [...] In the Final, we won a preliminary fight that allowed us choosing the sequence of stages. We announced that we would like to make report in the last stage. We had a prominently developed solution to the problem *Gagarins Record* that I was expected to present. After certain tactical manipulations, the team of Georgia could challenge us with either the problem *Gagarins Record* either the problem *Capacitor/s* that we had already reported in the Selective Fights. Unfortunately, the Georgian team made an absolutely reasonable decision of not challenging us with *Gagarins Record*. So, we reported a problem on *Capacitor/s* and the Georgian team opposed us. The Georgian team reported the problem *Dominoes* which proposed to study the propagation of a wave in the line of falling domino bones”, accounted Alexander Morozov, from the finalist Odessa team in 1993 [72].

The Georgian team ended with the first place in the Finals. The team was led by Tengiz Bibilashvili [83, 91] and included team members G. Mamaladze, G. Imnadze, A. Sambelashvili, I. Sikharulidze (all from Ilia Vekua 42nd Physics and Mathematics School in Tbilisi), and N. Bondireva, N. Papayantz (all from 7th Gymnazium in Tbilisi) [83].

Ukraine-Odessa was ranked 2nd and Hungary 3rd, ending as silver winners in the Finals [72, 86]. The Odessa team was led by Sergey Kolos and comprised Roman Stepanyan (Odessa School 117), Alexander Morozov (Richelieu Lyceum), Alex Nikitin (Odessa School 117), Vadim Neselovskiy (Richelieu Lyceum), and Yaroslav Chinskiy (Richelieu Lyceum) [72, 87]. The Hungarian

team comprised András Zsenei (Radnóti Gimnázium), László Sallai) (Túrkeve, Ványai Ambrus Gimnázium), Kornél Kutasi (Kőszeg, Jurisits Gimnázium), Balázs Hódossy (Budapest, Babits Gimnázium), and Péter Kenesei (Radnóti Gimnázium) [63].

The rest of ranking table is not perfectly clear, while it is known that Czech Republic, unidentified "Poland I" and Russia-Novgorod won bronze [6], Slovakia was not ranked above 4th, and Belarus was ranked 10th.

The economical situation in post-Soviet Russia was quite remarkable for the Dutch participants. 1 rouble was worth 0.084 US cents at that time, while a metro ticket cost 4 roubles, Wei Ji Ma noted shortly after the event [89].

Georgian gold winner Alexandre Sambelashvili described, on his Washington University in St. Louis' institutional webpage, the background of his experience with the IYPT, "My elementary school teacher swore many times she would lock me in the school stokehold with rats some day. She has never done it though. By the age of 14 the perspective to be locked in the stokehold became so close that I moved to school No. 42 specialized in physics and mathematics. There reigned an atmosphere of inquisitiveness and competition so characteristic for Soviet-era physical and mathematical science. There I had to study a lot and started suspecting that a lot of studying is no good. That period was very hard for Georgian people. Politicians were struggling for power and economy was collapsing. There was no heating in winter, no electricity and enormous lines of people waiting for bread. But in spite of all difficulties many teachers and we, pupils, didn't quit studying and even with more persistence prepared for Olympiads and competitions. Our efforts had found their reward. In 1993 our team won the first place in the International Young Physicists' Tournament (Protvino, Russia), in 1994 - the second place in the same competition in the Netherlands (Groningen)" [92, 93].

The official seal of the competition referred to an allegedly commercial *Limited Liability Partnership "Young Physicists' Tournament"* [84, 90], which might have been established by Evgeny Yunosov to make possible financial transactions needed for holding a large-scale public event.

The 6th IYPT was followed by the 7th IYPT, held outside the Eastern Block countries for the first time ever.

III. SUMMARY AND FACTSHEETS

1st IYPT. Schedule: March 28–April 2, 1988. Venue: *Olympiets* Youth Center, outside Moscow, Soviet Union; opening ceremony, final stages suspected to have been hosted at Department of Physics, Moscow State University. Status: combined with the ultimate Finals of the 10th Moscow YPT and merged with the 1st all-Soviet YPT, thus being the first ever YPT to invite, accommodate geographically scattered teams. Partici-

pants: People's Republic of Bulgaria, Czechoslovak Socialist Republic as non-Soviet teams; all Soviet teams (more than ca. 10) were recognized by LOC as participants of the 1st IYPT on a rival basis; still disputed what status the Moscow School 542 and, possibly, other teams, had at the final international meetings, based on pre-selection at early stages of the event. International observers: an unidentified representative of Federal Republic of Germany. Working language: de facto only Russian; diplomas, booklets, problems in Russian only; de jure the invitation letter reads "the knowledge of Russian language is preferred, but not compulsory". Typical visual aids: handwritten paper posters commonly considered a "good manner", using posters confirmed by Bulgarian, several Moscow teams; official guidelines for reporters read, "[it is] preferable to use drawings, posters, [framed] slides [for a slide projector], photographs, and also demonstrate experiments if the problem is experimental". Winners: still disputed if formal international ranking and winners existent; accounts are conflicting, further research is undergone, a late account of Moscow School 542, gold; Riga, silver; Bulgaria, Czechoslovakia, bronze. Number of teams: disputed, unclear. Number of countries: 3. LOC: no detailed information; Evgeny Yunosov and Georgiy Zatsëpin both signed diplomas as Head of OC; Evgeny Velikhov might have had a formally leading position within LOC. IOC: not formally existent. Miscellaneous: the first IYPT to encounter a computer simulation in a report (Yury Yufryakov); complete, detailed Russian-language regulations fixed in a brochure sent to invited teams in early 1988: 5 students expected for a team, 5 min for report, 3 min for opposition, 1 min for individual commentaries in discussions, 2 min for review, maximum 2 rejections in one PF, individual performances throughout the YPT limited to 2, and only 1 as reporter, jurors grades in the range from 5+ to 2, but these extreme grades must be publicly explained; sets of problems restricted for certain stages (Nos. 1, 2, 4, 5, 8, 9, 11, 12, 14, 17 for Qualification PFs aimed at selecting winners of Moscow YPT and introducing the YPT concept to newcomers, Nos. 3, 6, 7, 10, 13, 15, 16 and others at Selective PFs with both Soviet and non-Soviet teams.) National selective YPTs: none, besides the "1st all-Soviet YPT".

2nd IYPT. Schedule: March 24–April 2, 1989. Venue: *Olympiets* Youth Center, outside Moscow, Soviet Union; opening ceremony, possibly Finals hosted at Department of Physics, Moscow State University. Status: combined with the the ultimate Finals of the 11th Moscow YPT and 2nd all-Soviet YPT, held as separate International Rounds after Soviet domestic pre-selection and exhibition rounds: Finals of the 11th Moscow YPT at 10h00 on March 25, Opening Ceremony of the 2nd all-Soviet YPT at 15h30 on March 25, further stages believed to be merged. Participants: Peoples Republic of Bulgaria, Czechoslovak Socialist Republic, Federal Republic of Germany, Peoples Republic of Hungary, the Netherlands, Peoples Republic of Poland as non-Soviet teams;

two Soviet teams selected during the 2nd all-Soviet YPT: Moscow School 710, Odessa Station of Young Technology Amateurs. International observers: none known. Working languages: de facto mostly Russian, LOC provided interpreters from/into English and (possibly informally) German, at least on one occasion the Polish team said to make a presentation in Polish, booklets, diplomas in Russian, non-Cyrillic names in Summary Document in both original spelling and in Cyrillization, an English translation of (non-ultimate) problem set by LOC is known, no accounts on official language regulations known. Gold winners: West Germany, Bulgaria. Silver winner: Moscow School 710. Bronze winners: Czechoslovakia, the Netherlands, Poland. Number of teams: 8. Number of countries: 7. LOC: no detailed information; Georgiy Zatsepin signed diplomas of the 2nd IYPT proper as Head of OC, Evgeny Yunosov signed virtually identical diplomas of the 2nd all-Soviet YPT as Head of OC. IOC: formally established immediately after the 2nd IYPT, during the International Consultative Meeting on April 35, to prepare the 3rd IYPT then expected for Czechoslovakia; Georgiy Zatsepin elected IOC President, Evgeny Yunosov Vice-President, M. Nikolaev, Vladimir Almindorov, Lyudmila Ermolaeva, N. Koroteev, Tatyana Korneeva, A. Kusenko, "all members of Czechoslovak National Committee of YPT", "1 or 2 members from countries-participants" as members. Miscellaneous: participants volunteered to collaboratively make handwritten newspapers; regulations updated and made more articulate around the 2nd IYPT: 7 min for report, 3 min for opposition, 2 min for review, but if translated, duration increases by a factor of 2, Finals are held with "homework problems for the Finals that are analogous to the problems of the Correspondence Round". National selective YPTs: "2nd all-Soviet YPT" to nominate two Soviet teams, pre-selection in Bulgaria, Poland.

3rd IYPT. Schedule: June 7–14, 1990. Venue: *Olympiets* Youth Center, outside Moscow, Soviet Union; opening ceremony, possibly Finals hosted at Department of Physics, Moscow State University. Participants: Czech and Slovak Federal Republic, Republic of Hungary, the Netherlands, Republic of Poland as non-Soviet teams; Moscow School 542 and Riga as "Soviet" teams (a combined Soviet team announced, seemingly last-minute cancelled.) Number of teams: 6. Number of countries: 5 (or 6, if Riga and Moscow are recognized as in de jure independent states by June 1990, as LOC and participants are confirmed to have considered.) International observers: none known. Working languages: de facto mostly Russian, LOC provided interpreters from/into English, diplomas in Russian, an English translation of problems by LOC is known, no accounts on official language regulations known so far. Gold winner: Moscow School 542. Silver winners: Riga, the Netherlands. Bronze winners: Czechoslovakia, Hungary, Poland. LOC and IOC: no direct information, probably Georgiy Zatsepin is President of IOC, Evgeny Yunosov is Vice-President of IOC; diplomas signed by

Evgeny Yunosov as OC Head and Sergei Varlamov as Jury Chair. Miscellaneous: held separately from Soviet national pre-selection for the first time; an international meeting held at Odessa State University on September 14/17, 1989 reportedly setting "a guide to improving the organization of the YPT in particular countries and setting out the rules of the contest"; announced to be held in Kladno, Czechoslovakia on February 26–March 3, 1990, but cancelled before March 15, 1990; a completely new set of Problems for Finalists is known, unconfirmed if the Finals were indeed held with this set; the first known IYPT announced, promoted in an English-language international journal (*Gifted Talented International*); the one of few known IYPTs with all teams recognized winners; 5 selective PFs with one of them suspected Semi-Finals, 1 Final PF.

4th IYPT. Schedule: July 22–28, 1991. Venue: *Olympiets* Youth Center, outside Moscow, Soviet Union; final stages hosted at Department of Physics, Moscow State University. Participants: Czech and Slovak Federal Republic, Great Britain, Hungary, the Netherlands, Poland, USSR SUNC MGU-Moscow, and Soviet Combined team. International observers: team of France, team of Italy as out-of-competition observing teams; J. Depireux as representative of European Physical Society. Number of teams: 7. Number of countries: 6 (or 7, if Russia's capital Moscow and the progressively desintegrating USSR are recognized de jure independent entities, which LOC and participants are unlikely to have assumed.) Working languages: de facto mostly Russian, LOC provided interpreters from/into English, diplomas in Russian, an English translation of problems by LOC is known. Gold winner: Hungary. Silver winner: Soviet Combined team. Bronze winners: the Netherlands, Poland, USSR SUNC MGU-Moscow, Great Britain. LOC and IOC: no direct information, most probably Sergei Chudinov is President of IOC, Evgeny Yunosov is Vice-President of IOC; diplomas signed by Evgeny Yunosov as OC Head and Sergei Chudinov as Jury Chair. Miscellaneous: a shortened list of 5 problems (selected out of original 17) is pre-published as Problems for Finalists, challenge procedure in the Finals suspected; the one of few known IYPTs with all teams recognized winners.

5th IYPT. Schedule: June 24–July 1, 1992. Venue: Protvino, Russia. Participants: Belarus, Czechoslovakia, Georgia, Hungary, Kazakhstan, Moldova, the Netherlands, Poland, Ukraine-Odessa Richelieu Lyceum, Russia-Buryatia, Russia-Moscow SUNC MGU, Russia-Novgorod. Working languages: de facto mostly Russian, OC provided interpreters from/into English, diplomas in Russian with non-Cyrillic names in original spelling, Finals consecutively interpreted and thus 20 min allocated for Reports in the Finals. Gold winners: Belarus, Czechoslovakia. Silver winners: the Netherlands, Russia-Moscow SUNC MGU. Bronze winners: Georgia, Hungary. Number of teams: 12. Number of countries: 10. International observers: none known. LOC

and IOC: no direct information; diplomas signed by Evgeny Yunosov as OC Head and Alexei Yarov as Jury Chair. Miscellaneous: a ranking system confirmed to be used to select Finalists; challenge procedure throughout all 17 problems in the Finals; results in the Finals: Belarus, 55.5, Czechoslovakia, 54.0, the Netherlands, 51.0, Moscow-SUNC MGU, 49.6; results of the Selective PFs: Czechoslovakia, 199.4, Belarus, 196.9, the Netherlands, 195.1, Russia-Moscow-SUNC MGU, 193.7, Hungary, 192.1, Georgia, 189.2, Ukraine-Odessa Riche lieu Lyceum, 188.1, Poland, 186.3, Russia-Novgorod, 183.8, Moldova, 180.5, Russia-Buryatia, 178.0, Kazakhstan, 159.7; the first IYPT to encounter a team confirmed to have brought a laptop for visual aids (Dutch team.)

6th IYPT. Schedule: June 18–25, 1993 (June 17–25 reading on a few diplomas.) Venue: Protvino, Russia. Participants: Belarus, Czech Republic, Georgia, Hungary, Moldova, the Netherlands, Poland-Katowice Quark, Poland-Warsaw, Slovakia, Ukraine-Luhansk, Ukraine-Odessa combined, Uzbekistan, Russia-Buryatia, Russia-Fryazino, Russia-Moscow, Russia-Novgorod, Russia-Protvino, Russia-Yekaterinburg. Number of teams: 18. Number of countries: 11. Working languages: de facto mostly Russian, stamp on the Diplomas in English and Russian, OC provided interpreters from/into English but on some occasions participants volunteered to interpret stages themselves (e.g. PF 2 between Netherlands, Odessa, Novgorod on June 20), diplomas in Russian with non-Cyrillic names in original spelling, Finals in Russian with reportedly no consecutive interpretation. Gold winner: Georgia. Silver winners: Ukraine-Odessa combined, Hungary. Bronze winners: Poland-Katowice Quark, Russia-Novgorod, Czech Republic. International observers: none known. LOC and IOC: no detailed information; Evgeny Yunosov as Vice-President of the YPT cited in invitations, diplomas signed by Evgeny Yunosov as OC Head and Alexei Yarov as Jury Chair. Miscellaneous: 4 selective PFs, 1 Semi-Final PF, 1 Final PF; challenge procedure throughout all 17 problems in the Finals; Ukraine-Odessa combined reported in Finals a problem on Capacitors, Georgia Dominoes, no information on Hungarian report.

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V. DISCLAIMER

The preprint attempts to restore the essential details of the early IYPTs as completely and reliably as it was possible. The author fully realizes that the narrative may currently be not enough structured, and particular facts not enough clarified. The preprint is to be revised. The revised version will attempt to encompass events, accounts, or details which become known after a previous release, and will automatically replace the earlier version, as the author's actual and best knowledge. If interested in the research progress, please check this preprint regularly or contact the author, to ensure you are familiar with the most recent updates. It is kindly advised to contact the author if you plan to cite or quote particular information.

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