
ICM 2018 in Rio – A Personal Account Part I

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Arrival

As few mathematicians can have failed to notice, the most recent International Congress of Mathematicians took place in Rio de Janeiro. There is always a first, and this time it was stressed that the congress in Rio was the first one to take place in the Southern Hemisphere, just as Kyoto was the first to take place in Asia; Beijing and Seoul were next, to be followed by Hyderabad and now Rio de Janeiro.

The congresses are by now considered to be monstrous affairs very different from the original intimate gatherings where group pictures could be taken. In the past you attended them as part of a national delegation, as exemplified by the Strasbourg congress in 1920 when the Germans were not invited, and not as an individual. This of course made attendance a privilege, not to say an honour, and of course the social mathematical landscape was very different back then. There were

fewer mathematicians, and perhaps more to the point, many fewer conferences, so the congresses served very important functions when it came to spreading ideas, functions which are now more or less superfluous. Thus there is widespread criticism of them, and most mathematicians choose not to attend, which of course from a logistic point of view is a blessing: a meeting involving say fifty thousand people would present a nightmare to most organizers. Maybe only the Chinese could manage such challenges. Thus one may a bit cynically claim that there are two kinds of people attending an ICM: those who have to, i.e., invited speakers and prizewinners and a few others serving important functions due to their mathematical status, and those who volunteer to go and are considered tourists. Personally I did not have to, and I did not want to think of myself as a mere tourist, but luckily there is a third category, namely a handful of journalists and representatives for mathematical pub-

lishers.¹ My purpose was to interview the Fields medalists for the benefit of the readers of this Newsletter, as I did in Hyderabad and Seoul,² but I would be dishonest to dismiss the attraction of the touristic opportunities, this too was my first visit to South America.³

My trip to Rio was a long one, with a tight connection at Charles de Gaulle at midnight. Consequently I arrived early in the morning in Rio and as usual being impatient and with a quick step I overshot the welcoming committee strategically placed close to the arrival gate. Its purpose was to provide transportation to the venue. As a result I paced the arrival hall back and forth looking in vain for the ICM transport (was I too early?) attracting the attention of all the cab drivers, one of whom was kind enough to direct me to an ATM machine on the second floor.⁴ Eventually I located the welcoming staff and was whisked to the venue in a bus. I then realized that the congress was really taking place far out of central touristic Rio and that I had been lucky indeed to choose a hotel on the premises, and not a more central one for touristic purposes, (but after all I had decided right away, that this is work and not play).

Arriving at the somewhat bleak venue (what else can you expect regardless of location?) there seemed to be some general confusion and large parts were cordoned off for some reasons. There was then rumors of a fire, the effects of which might jeopardize, if not the congress as such, but at least the opening ceremony. Inauspicious beginnings indeed.

Furthermore, the first thing I did at the desk of the hotel was to enquire about transport to central Rio. My enquiries did not meet with any enthusiasm and some rather complicated instructions were given to me, with the caveat that the local bus, necessary for the first step, did not run on any schedule but only intermittently. Then I was given definite warnings that as a tourist I was very vulnerable in central Rio, and it was not a matter of finding yourself unwittingly in a favela, that most likely I would be stripped of my camera, wallet, iPhone or what-

ever with marketable value. But they added to console me, that most likely I would not get killed, but would probably be left physically unscathed. Although initially somewhat taken aback, my instinct was to scoff at the advice. Was it not their duty perhaps to warn their hapless visitors, maybe to escape possible litigation? I consider myself a seasoned traveller, and during my stint at Columbia in the late seventies I lived on the border with Harlem, and often took the subway late at night. And nothing ever happened to me. So I contacted my Brazilian friend and colleague, whom I think of as a tough lady. Her view was even more dire than that expressed at the hotel desk. That put a stop to my plans for solitary forays and I realized that any touristic initiatives would have to be through the officially arranged tours. It is of course in the spirit of a congress to encourage informal contacts between the participants, and tours are part of a long ICM tradition. And for the benefit of the readers curious about those aspects I will add some comments at the end of the article.

Opening ceremony and the Fields Medalists

The opening ceremony took place as scheduled, although in a different building. There were rumours that due to the fire, things had to be improvised at the last moment. Unlike the cases of all previous Congresses I have attended, since as a young man I stopped after Helsinki in 1978 (with the exception of Kyoto in 1990), there was no security, which of course was very convenient: no long lines, no tedious checks, no humiliation being treated as a potential terrorist. On the other hand there was a simple explanation for this: unlike in the cases of China, Spain, India and South Korea there was no head of state at the ceremony. Is this a sign that Brazil does not take such a congress seriously? In Beijing we were bussed to the opening ceremony along a street closed off for other traffic as befits the VIPs we may in secret consider ourselves to be, but for most of us, that event will turn out to be the only occasion to be subject to such considerations. The opening ceremony also took place at the very centre of Chinese power – the Great Hall of the People – to which, in spite of its name, few people have access. Admittedly the ICM in Beijing was exceptional in this respect and it is unfair to make the comparison. And besides, what can a head of state really contribute to the event, except to signal that it is important? But perhaps Brazil does not really care about mathematics, and by implication other intellectual pursuits; instead it is a hedonistic country geared towards soccer and dancing samba on the beaches. Maybe the congress did not even appear on national news?

In the absence of constraining facts there are no obstacles to speculation which is thus allowed to expand unfettered in all directions. But the opening was in fact spectacular in other ways. Half-naked dancers, billed as Aborigines, with fancy headgear and elaborate tattoos took to the stage as well as to the aisles of the auditorium, performing to loud primordial music. This surely would never have been allowed in the stately Great Hall of the People. Many members of the audience could not contain themselves but stood up, arms outstretched, gazes fixed,

¹ There is also a fourth category, once you take a less cynical view, namely mathematicians from the Third World whom the congresses are making increased efforts to fund. The upcoming one in St. Petersburg has promised to fund a thousand. It stands to reason that this category will become more and more important and add significantly to the *raison d'être* of the congresses.

² I take this opportunity to thank the Swedish SveFUM headed by K.O. Widman, whose generous support made possible not only this excursion of mine, but also that of the previous congress in Seoul, as well as incidentally the recent interview with R. Piene which appeared in these pages.

³ As a mathematician you want to be precise and truthful, traits which outsiders may find pedantic, but back in 1979 I visited the islands of the Netherlands Antilles in the Caribbean, which, I understand, are part of the South American continental socle.

⁴ Later I found out that the ones at the airport are notorious for being regularly skimmed and sure enough a few months later the credit card company contacted me concerning a suspicious post. I had the card promptly canceled and suffered no economic damage.



catching the moment on their iPhones, for possible later delectation.

The initial formalities having been dispensed with and some anonymous governmental minister having played the role of the absent head of state, there was time for the climax of the opening ceremony, nay the climax of the whole congress, namely the announcement of the Fields medalists and the presentation of their medals from the hand of the minister. When I was a young man the Fields medalists were old established men whom I already knew of. Nowadays they are mere babes and in most cases carrying names on their badges I am ashamed to say I have never heard of. Is it that mathematics has grown so much in the last forty years, or simply that I have lost touch? But that will of course not stop me from doing my assignment.

In Hyderabad I had no problem getting in touch with the medalists after the ceremony. In Seoul it was very different: a typical medalist was swamped with over a thousand e-mails of congratulations or other attempts at getting their attention, and I was just part of this mob. Eventually it worked itself out. Maybe the situation would be different in Rio; after all, Brazilians do not care about Fields medalists, they are instead heading for the beaches or the soccer stadiums. Maybe I will be able to promptly catch their attention after all? In fact the situation in Rio was somewhat better, although not much, and they all got their share of unsolicited attention. As a result I only got in touch with two of them, namely Alessio Figalli and Akshay Venkatesh. Unfortunately Peter Scholze was already at the airport leaving early for Germany when he read my message,⁵ and Caucher Birkar regretfully wrote to me that he only came across my e-mail after he had returned home, so they were counted out. Thus in the previous issue of the Newsletter there were only two interviews, but I hope to complement them with the remaining two in a later one.

The conclusion of the ceremony involved the return of the dancers, now including some on stilts towering high above the audience. But the real drama of the ceremony,

⁵ Ironically he was the one I was sure I would catch as I could use the channel of his mentor and my old friend Michael Rapoport, who actually introduced us at an early stage of the congress, and I could have easily set up an appointment on the spot, but failed to do so, as I thought it would be unnecessary!



and which later made the news and put the spotlight on one of the Fields medalists, went unnoticed at the time. It involved the theft of Birkar's Fields medal, whether by design or accident I am not sure; anyway his bag, which he left momentarily unattended on a table in connection with the aftermath of the ceremony, was stolen, containing among other things the magic medal. So this is what happens when you do not have strict security. I do not know whether the culprits were ever identified and apprehended, but I doubt it, and anyway the organizers took no risks but managed to fix a second medal in just a few days (for some reason they had an extra base for one, only needing to be properly engraved), and as a result Birkar got the distinction, surely never to be repeated, of getting awarded the Fields medal twice.

But the Fields medal is not the only prize given out: we all know of the Nevanlinna Medal to be given for work in computer science⁶ and in later years there have been further additions such as the Gauss Prize, the Chern Medal, and the Leelavati Award, the latter for the communication of mathematics to a wider audience. Those distinctions were given this time respectively to Constantinos Daskalakis, David Donoho, Masakazu Kashiwara and Ali Nesin, but nevertheless the Fields Medal is the one which gets the attention. While most prizes merely confirm greatness, the Fields medal actually bestows it, and with the increasing number of mathematicians and the concomitant anonymization of the same, the need for it has increased as well.

Part II of this personal account will be published in the next issue of the EMS Newsletter.

⁶ It has been suggested that the name should be changed, because seventy years after its end it has been decided that he was after all politically unsavory, in short a fascist, during the Second World War. It was discussed at the General Assembly and it was decided that the Nevanlinna Prize should be discontinued and the IMU Executive Committee be saddled with the task of setting up a new prize with appropriate funding but with the same scope and purpose as the former. And of course with a new name. Politics aside, one may wonder what Nevanlinna had to do with computer science. The prize was set up and funded by the Finns in connection with the Helsinki Congress in 1978, and was awarded for the first time at the next one, and they naturally wanted to secure a Finnish connection to it by naming it after one of their very great mathematicians, who was incidentally still alive at the time.