

A TRIBUTE TO MAURO ANSELMINO ON HIS 70TH BIRTHDAY

Reminiscences of a long friendship and collaboration

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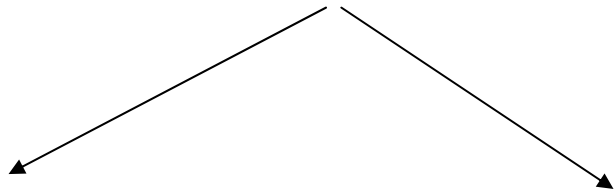
All previous speakers have thanked the Organising Committee for their kind invitation to attend the Workshop, and I would have liked to do the same. However, I hesitate because of a strange decision of the Organising Committee, who came to the unjust conclusion that because of the catastrophe of Brexit the UK would become the 51st State of the USA. Consequently my Workshop Badge reads: Imperial College, London , USA. With apologies to my American friends in the audience, I have to say that I am not sure whether I should regard this as a positive or negative consequence. But, of course, I am indeed grateful to the Organising Committee for their support.

I think it is my duty, at the start, to remind you of Mauros illustrious credentials, by presenting to you his academic ancestral tree:

ADAM+EVE

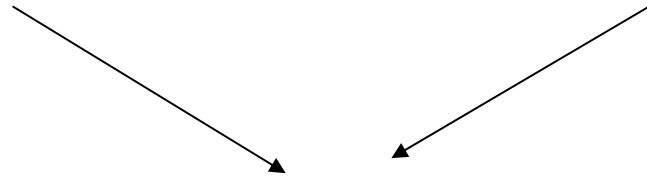


MARIO VERDE



PREDAZZI

DE ALFARO



MAURO ANSELMINO

I have no idea whether Adam or Eve did any Physics research, but Mario Verde was a much respected theorist and both Enrico Predazzi and Vittorio de Alfaro are highly regarded theorists, so it is not surprising that Mauro emerged as a very talented physicist.

Now I had the pleasure of being present at the 70th birthday of Enrico Predazzi, so it is a kind of doubly great pleasure to be able to participate also in the celebration of his disciple Mauro Anselmino's 70th birthday. On the other hand you might think it is getting a bit incestuous if I tell you that Mauro gave a talk at my 70th.

I have known Mauro as a close friend and collaborator for a very long time, certainly from at least 1978. But what Mauro does not know is that this interaction between us was predestined long before that, indeed when he was about 12 years old.

I was lucky enough to be a PhD student at CERN in 1959, when the Theory Division was dominated by the three High Priests of Italian Physics:



HIGH PRIESTS OF ITALIAN
PHYSICS

CARDINALE VICARIO

FUBINI

VESCOVI

AMATI

VITALE

One day I was summoned to the Holy Sanctuary and told:

**GO FORTH AMONGST THE ITALIAN
PHYSICIST HEATHEN**

IN ORDER TO

CINI-FUBINI-IZE THEM

The younger members of the audience may not be aware that at that time there had never been a really successful calculation of a strong interaction process like e.g. proton-proton elastic scattering. The invention of the Mandelstam representation seemed to offer the possibility of progress and what the Cini-Fubini approximation did was to turn that into a concrete practical method of calculation.

Anyway, my first stop on my pilgrimage was Torino, where I met and became friends with Enrico Predazzi.

The die was cast and many years later Predazzi reciprocated by sending the young Mauro to civilize the heathen British physicists.

Mauro, Clara and Erica spent a year at Westfield College in London in 1978, during which time Matteo was born.

At that time the University of London had 11 campuses and Westfield was one of them. But Westfield was a kind of anomaly:

WESTFIELD COLLEGE

founded by the Church of England 1882

in response to the

GODLESSNESS

of

Girton and Somerville

For some 5 or 6 hundred years there had never been a female student at Oxford or Cambridge. Then late in the 19 century two Colleges for women were founded, Girton at Cambridge and Sommerville at Oxford. That was bad enough for the more conservative members of society to swallow, but to add insult to injury, these were the first Colleges ever to be built without a Chapel. Hence the tresponse of the Church of England.

The College was quite idyllic: the theory group consisted of just 3 academics, a couple of post-docs and PhD students, perched on the top two floors of an old Edwardian house in Hampstead, one of the prettiest areas of London. We were surrounded by 1500 students, mainly attractive young Christian ladies, so perhaps it is not surprising that Mauro persuaded his family to return, in 1980, for a further two years .

One of the noteworthy aspects of Mauros stay in London, due to his warm open and friendly character, was the number of people outside the College whom he managed to meet and become friends with .people who remained friends of the Anselminos long after they left London.

Concerning our work together:

Mauro and I have collaborated on **27** papers

I am particularly proud of three of these collaborations

**Angular distribution of DEC's in the vicinity of
Birkbeck College, Central London**

Mauro Anselmino and Elliot Leader

Birkbeck College, University of London

Unpublished

Rejected by

PRL, Phys.Rev.A, Phys.Rev.B, Phys.Rev.C,
Phys.Rev.D, Phys.Lett.B, J.Phys.G, Zeit.Phys.C

Anstract

In a study spread over two months, the authors investigated the distribution of **Drinkable Espresso Cafés (DECs)** in an area of $1km^2$ centered on Birkbeck College and found 2 ± 2 at the 5 sigma level.

OTHER NOTEWORTHY, WORLD-WIDE, ALAS UNPUBLISHED RESEARCH PROJECTS

- **California: On the volume/quality ratio of commercial MARGARITAS**
- **Charlottesville: On attitudes within the Physics Community towards Republican supporters in the 2008 Presidential Election**
- **Rio de Janeiro: A comparative study of Brasilo-Italian and Brasilo-British cultural attitudes**
- **Virginia: On the price/quality ratio of Californian Zinfandel**

On a more serious level, I love our paper

A crisis in the parton model: where, oh where is the proton's spin?

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für Physik C **Particles
and Fields**
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It was the first to point out that there are problems in constructing the spin of the proton from the spins of its constituents

And it had a most [poetic title](#)! It was not easy to convince the Journal to accept that

A third favourite was our paper with Boris Ioffe

**OUR ONLY PAPER EVER TO BE PUBLISHED
IN A RUSSIAN JOURNAL**

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On Possible Resolutions of the Spin Crisis in the Parton Model

M. Anselmino (Cagliari U. & INFN, Cagliari) , B.L. Ioffe (Moscow, ITEP) , E. Leader (Birkbeck Coll.)

Jun 1988 - 18 pages

Sov.J.Nucl.Phys. 49 (1989) 136


Yad.Fiz. 49 (1989) 214-222

NSF-ITP-88-94

Keyword(s): [INSPIRE: talk](#) | [muon hadron: deep inelastic scattering](#) | [deep inelastic scattering: muon hadron](#) | [muon: polarized beam](#) | [polarized beam: muon](#) | [hadron: polarized target](#) | [polarized target: hadron](#) | [p: spin](#) | [spin: p](#) | [model: parton](#) | [effect: higher-twist](#) | [sum rule](#) | [numerical calculations: interpretation of experiments](#)

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This Russian paper was written at a workshop in Santa Barbara in 1988. The workshop was unique:.....for the first time in living memory the Russians who turned up coincided with the Russians who had been invited! Amongst them was Boris Ioffe. For anyone under the age of 50 the significance of this will be lost.....Pre 1985, if you wanted to invite Professor X to a conference you did some research one year ahead of the conference and found out the name of Xs boss and the name of the boss of Xs boss. You then sent identical letters to all three inviting X to your conference. for almost a year nothing would happen. then one week before the start of the conference you would receive a long telegram. We are most grateful to you for your interest in Professor Xs fine work and for your kind invitation to him.....unfortunately Professor X is unable to attend, but we have pleasure in informing you that we will be sending Professor Yin in his place
You then went round asking who on earth is Y??? has anybody heard of Y ????.and of course nobody had. In fact Y is some party hack who has earned a holiday in the west.

Hence, having genuine Russian colleagues present at a workshop in America was so extraordinary that Mauro and i decided we had to do something symbolic to mark the occasion. So, when we had produced a paper in collaboration with Boris Ioffe, we suggested we publish it in a Russian journal. Boris nearly exploded:

“Are you crazy? Don’t you want anybody to read it?”

Anyway, after much persuasion we write the paper in English and Boris agrees to translate it into Russian and publish it in Yadernaya Fizika.

Some months later we get a call from someone who says he is translating our Yadenya article into English for some journal and wants to clarify one or two points. We tell him its a waste of time translating it, because we have the original in English.

“No way. our policy is strictly translation.”

Anyway, some more months later Mauro and i read the translated article. The result was, to put it mildly, interesting. Without bothering to tell either Mauro or me, Boris had more or less rewritten the entire text! Despite this, I , and I think Mauro also, still love this paper.

I also loved **our Annual Group Meetings**

Choosing the Venue: Key Necessities

Sun and Sea

Colurgiones and Bottarga

Pane Carasau and Peccorino

Vermentino

Add to this that Francesco Murgia and Umberto D'Alesio were foundation members of the group and it becomes obvious that:

Hence, obviously: CAGLIARI

But don't jump to the wrong conclusions

WE WORKED VERY HARD!

It was at one of our group meetings that I discovered a hitherto unreported connection between Mauro and Paul Dirac. I once found myself at the ICTP in Trieste while Dirac and his wife were there. We were sitting on the beach one day when Dirac, without a word, stood up and disappeared into the sea. Half an hour later his wife said. "Paul will certainly drown. I have scolded him many times that he should not go out so far that you can't see him. He is impossible to deal with." Well, anyone who has been on a beach with Mauro will recognise the perfect similarity. But to her credit, Klara never made the kind of horrific prophecies that Mrs Dirac did.

So, looking back over many years of collaboration in London, Torino and Cagliari, it has been a delight to work together with Mauro.

But clearly it is not just me who has found it pleasant and stimulating to work with Mauro.

I mentioned that we had written 27 papers together. but this is a very small fraction of the papers Mauro has co-authored with other people. He has published on an incredible range of topics: Cluster Models; Polarization in elastic scattering; Spin asymmetries in DIS; QCD jets and tests of QCD; Possibility of Higgs bound states; Diquark models of the nucleon; Gottfried and Bjorken sum rules; Baryon masses; Charmonium decays; Higher twist in DIS;...and even Instantons.

But perhaps most noteworthy of all: he has been an absolute pioneer in the study of TMD Distributions and Fragmentation Functions: the Boer-Mulders, Collins, Sivers and Transversity functions. I think it is not an exaggeration to say that for the past few years Mauro and his group have completely dominated the field of extracting information on these functions from data.

Looking back at the list of publications, it is simply amazing to see with how many different people Mauro has written papers, both in the role of encouraging young Post-Docs and PhD students and as a co-equal with well established and eminent colleagues:

MAURO

+

**AIDALA, AVAKIAN,
BALLESTRERO, BARONE, BOGLIONE, BOER,
BRODSKY,
CANTALBRIGO, CARUSO, COURTOY,
D'ALESIO,
FORTE,
GAMBERG, GIOVANNINI, GONZALEZ HERNANDEZ, GENOVESE,
IOFFE,
KOTZINIAN, KROLL,
LICHTENBERG, LIUTI, LORCE,
MELIS, METZ, MURGIA, MEZIANI,
NOCERA,
PASSARINO, PASQUINI, PIRE, PROKUDIN, PISANO, PREDAZZI,
ROSSI, SCADRON, SCHLEGEL, SOARRES,
VERCELLINO, VOGELSANG**

All of this is remarkable, but all the more so when you take into account the time Mauro has spent on Program Advisory Committees in various international laboratories, and his work on technical and design reports for future accelerators, such as an electron-ion collider, or for polarized beam facilities at several laboratories.

Yet, even the time spent on these service roles pales into insignificance when you realise what Mauro has done in the Physics Department at the University of Torino. If I simply tell you that he has served as Head of Department on several occasions, that will not sound very impressive. But you will appreciate its dramatic significance when you realise that being Head of that department is like being Daniel in the lions den **without** the help of God.

Mauro, we all congratulate you on your 70th birthday and we not only wish you a long, healthy and fruitful continuation of your research, but, please take note, we **expect** it from you.