

**Personal memories of Claude
Bouchiat**

I started as a student at the Orsay Lab in September 1969 where I met Claude .
My thesis advisor was Daniele Amati who was visiting Orsay for the year.
My thesis subject was the factorisation properties of dual resonance models.
In the mean time Adler's paper on anomalies appeared.

Claude became very excited and started working with Amati and Gervais on anomalies and wrote together the paper *On the axial current Ward-Takahashi identities (Electromagnetic anomalies of axial current divergence)* D AMATI, C BOUCHIAT, JL GERVAIS - 1969

Probably this work influenced the later famous paper of Bouchiat Iliopoulos and Meyer on the formulation of the standard model where anomalies cancel.

The cancellation of anomalies is one of the fundamental ingredients of the standard model.

In the spring of 1969 Daniele visited MIT and brought back the yet unpublished Fubini Veneziano preprint on the factorisation properties of dual resonance models.
(Fubini and Veneziano had beaten me).

Amati Bouchiat and Gervais computed then the one loop correction to the dual correction to the dual resonance models and found it divergent.

On the building of dual diagrams from unitarity (One loop dual diagrams from unitarity) D AMATI, C BOUCHIAT, JL GERVAIS, 1969

This paper prompted the work of Neveu and Sherk on the renormalisation of dual resonance models.

Amati left in the summer and I started working with Claude and Jean-Loup, mostly with Claude.

Meeting in the morning and working together all day. I finished with Claude and Jean-loup my first paper.

Two particular memories from that period. Claude got in his mail the Glashow Maiani Iliopoulos paper on charm and GIM the papper was sent to him by his former student Jean Iliopoulos (Jean was still at Harvard and arxive did not yet exist).

The other memory is the birth of Vincent Bouchiat.

A new student of Claude arrived: Pierre Fayet.
The former summer I met Bjorken in a
summer school
Bjorken had lectured on the infinite
momentum frame quantisation and I brought
the unpublished paper to Paris.
With Claude and Pierre we worked out the
one loop renormalisation of the
infinite momentum frame quantised theory.
With Claude, Pierre and Philippe Meyer
we wrote another few papers.

Then another student of Claude,
Bernard Julia, arrived.

He started working with Pierre Fayet

The last student was Marc Mézard.

He worked with Claude and Philippe
Meyer on multijet production.

and with Claude on parity violation in
solid state physics.

Claude worked also with the later students,

Antoine Georges and Pierre Le Doussal

although formally they were not his own stu-
dents.

*Almost all of the members of the Laboratoire
de Physique Théorique de l'Ecole Normale Supérieure*

Piketty, Iliopoulos, Neveu, Sherk, Sourlas,
Fayet, Julia, Mézard, Le Doussal, Georges,
were former students of Claude!

With Philippe Meyer and the help of Jean Iliopoulos he created the series of summer institutes, initially at Orsay later at ENS

They were of the highest scientific standards *Glashow, Veltman, 't Hooft, Wilson, Gross* were regular visitors, well before awarded the Nobel prize, together with Curtis Callan and Sidney Coleman.

Claude served as director of the lab
two terms, five years long each.

Thanks also to his
very close association with Philippe Meyer
one cannot underestimate his contribution
to the creation and the final evolution
of the LPTENS.

Every year at CNRS we have to write an activity report. Near the end of Claude's career I was a member of the CNRS 'commission' and I saw Claude's activity report. It was very brief.

He wrote that the greatest achievement of his career was the formation of his students and provided a list of his most prominent students.

I do not remember him mentioning his contributions to the standard model or parity violation in atomic physics or other important contributions to physics by him.