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I don't remember most of the details of the deliberations. Probably if I see the final report some elements may come up. But I am not doing it. The details of all proceedings will be in some archives.

What is most important was that the first Christchurch 1982 conference in which India played a major through ~~not~~ giving (elects) a Chairman, ~~as~~ ~~it~~ was a grand success with unanimous recommendations. For many ~~not~~ countries which had not

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thought of Space programme
at all (during 1982 there were
many) it would serve as a good
reading materials: be it
for Space sciences; atmospheric
sciences; various applications etc.

* *

Back home in India, there
were many items waiting. I had
to plunge into them. SD had
returned long ago leaving things
to the leadership of URK. In a
way, it also paved way for
URK taking as Chairman ISRO
not so much because of handling
UNISPACE but because YP's

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going away for UNISPACE
leadership made him lose
his chance though he was
the senior most in ISRO after
SD as he had joined in the
then Addl. Secretary rank (BP who
was in Secy rank had retired.
Any way he was too old to for
Govt to give him. He was elder to
SD). Though YP had calculated
the timings well, that is, he
would finish the Conference and
finalise the report, present to
the relevant UN bodies, get their
great support and return to
India by 1983 - he was sure

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That SD will go upto 1984 - YP
~~planned to go~~ went in 1981. So ideal
to settle down & take over. But
SD had made up his mind
and told me several times that
& if YP ~~go~~ went away to UN
he won't come to lead ISRO. In
a way SD would have been relieved
as he was concerned about YP's
ability to lead a strongly hardware
& engineering oriented organisation.

In retrospect, it was
good for YP too. ~~He~~ Had he become
ISRO chairman, he would have
done it in ~~most of~~ one of the

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most difficult periods after SLV-3.

He even found it difficult to handle INSAT-1 which was fully foreign procured satellite. Also he would not have got the visibility he had got when he went to DST, then to UGC, etc. He emerged as the most charming science communicator. Known in media and political circles.

For URR, it was something he had been aspiring for. He, of course, had a formidable rival in VRG. Even about YP's return & his possibility of taking over as Chairman ISRO, URR had no worries.

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For him the uncertainty remains; URR knew that YP had a strong backing ~~in~~ from MGK Menon (TIFR connection) and MGK had a strong friendship with SD. He could put pressure on SD. Also the UN connection could get many international support for YP trying to influence GOT.

For URR the only support should be from SD (URR knew that!)

I remember when YP returned from NY (USA) after his tenure ^{at UN.} & TNS was AS; I was SS. ~~Taking~~ He would normally return to ~~the~~ ISRO HQ as SAC had a full time Director. My task as SS was to give him a comfortable place to sit within the constraints of

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of ISRO HQ Canvey Bhavan building.
To put him in some corner in the
building is not fair. Though parafailures
were not common, if ~~there~~ it was
in upper floors, he may be inconvenienced.

A room in the ground floor
where SD, Add. Secy, JS et al were located
was chosen. Fortunately it had a
room with a commode & wash basin etc.
That building being in a rented
~~part~~ part of CBAB Complex (Canvey Bhavan)
we could not make structural changes.
But I knew that YP loved to have
good wooden panelling in his room.
So when he came I accompanied

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him right from the entry gate to that room. He sat down. We had cleaned it up well. When I asked him the type of wooden panelling or other things he would like to have us do, he said "Arre yaar! itnaa hurry math karo... Don't hurry much... Let us see how long I am here!" I did not press him further.

He would have finished some formalities to have his salary etc can ~~restart~~ restart...

I knew he would go away soon... Actually it was very soon... He left for Delhi; he took charge

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as Consultant in the Planning Commission at the Secy GOI level. That was a "parking orbit" post, probably got created by MAK with perhaps some support of SD as he would ~~have~~ need to relieve of the burden of creating some work for YP sitting at ISRO HQ. He could not leave it as it was done for Wg Cdr K.R. Rao or Dr. B.S. Rao who were "thrown away" from SAC earlier.

There are a whole lot of things ~~to~~ which happened in UN which were some crucial initial major steps in the formulation of Space Law

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They ~~were~~ related to

— Direct Broadcast Satellite
Resolutions

(Pushed by West for their
freedom to broadcast to any country)

— Remote Sensing Principles.

— NPS (Nuclear Power Sources)
(mainly to embarrass USSR)

In addition there were continual attempts to tighten the specifications for placement in GSO etc mainly to create new hurdles for nations like India, China which were trying to catch up. Then attempts to allow operations of commercial type activities in Moon etc.

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We had to do balancing act cleverly. West position was one extreme; they wanted the Space to be a "wild West" for them as they were advanced. Many of the developing countries had practically no stake in Space — they did not even have good telecom network based on Space, even given by developed country. Some of their soils were used by USA & USSR for placing their Tracking stations for world wide TTC support. So they would take some extreme positions of sovereignty of nations — even asking regulations of own

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the antenna foot print to be shaped according to political boundaries of the countries, there should be no spillover of signals to other countries. Similarly for remote sensing before taking data ~~the~~ imaging data over a country its prior approval had to be taken! They ~~took~~ believed that their natural resources ~~will be~~ would be snooped at and plundered. All these things are not finished in one meeting or in one year. They linger on with several "improved" drafts over years. We had dealt

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with some of these when YP led the team; then USSR. Chandra & I were there in most of these items. Later I led the Indian delegation with Chandra & KRS with me. I had dealt with DBS, Renuka Sensing fully — faced some tough (rather delicate situations).

There were also some aperiodic introduction of papers which were against Weaponisation of Space — mostly introduced by USSR to embarrass the West. While Soviet Union's info on their programmes and even satellite designations were totally ~~opag~~ opaque (as they

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were mostly tied up with some military aspects), West info was much more open. They had to face the equivalents of ~~the~~ elected Parliaments, ~~politi~~ domestic political opposition, ~~need~~ ^{needs for} demands for more and transparency and open statements on compliance with domestic and international laws, they had to be ~~ext~~ extremely careful as to what they commit. In such elements also we ~~are~~ were careful so that such drafts die their natural deaths - may be resurrected in different form later.

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We will revert to this after some time. ~~In the~~ Now we will get into another ^o ~~map~~ ^{important} if not major ISRO programme Space Sciences:

ISRO had its origin from Space Sciences. They ~~do~~ explore atmosphere, ionosphere, all upwards to any where in Space, thus spanning planetary studies, astronomy, astrophysics, cosmology..... Since resources were limited ISRO's work on Space Sciences were limited. ~~Last~~ I began my scientific career post M Sc from Bombay Univ,

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by joining PhD programme in PRL. It was a great learning period for both experimental & theoretical aspects of physics.....

Fast forward....

India's first satellite later named Aryabhata had some payloads addressing Space Sciences. There was competition from TIFR only organisation in India other than PRL having experience in Balloon experiments, and space sciences from ground. PRL (VAS time onwards) and TIFR were in competition. PRL was ahead in using electronics as it had constraints of budget and could not send tonnes of payloads

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including oscilloscope ~~into~~ in the balloon. They took photographs of the oscilloscope — the old habit of doing high energy cosmic ray studies with photographic emulsions and reading. Prof. R. R. Daniel was a senior scientist from this group in TIFAC. Another was Dr. Devendra Lal (D. Lal); who switches over to geochronology using carbon dating methods (became ~~is~~ well-known in the field), who moves over ⁽¹⁹⁷²⁾ from TIFR ~~to~~ as PRL, Director [Excellent scientist personally but lacks admin/managerial capabilities. In later

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years got into lots of admin
troubles, most of which were his
own making. DOS ~~should~~ not
interfere except for budget passing.
But when things became very difficult
DOS had to step in. There was a
difficult period when D. Lal gave
too much of lift to a person
called Mukul Sinha praising him
to the skies. The main trouble with
Lal was that he was unable to
adjust to the ~~existing~~ existing scientists of
PRL, who were not brilliant but
like any other working scientists of
the country those days. More active
ones like U.R.R., Bhargava et al

~~(949)~~ (948)

had moved over to ISRO. I could see the ~~steady~~ decline in PRL's "scientific contemporariness" when I was student; ~~in my s to~~ during the special discussion VAS had with me (as Director PRL) would have clearly indicated as to how obsolete they were. The VAS idea of giving boost through instrumentation expert U Desai^o did not materialise. His student URR gave a boost but moved as Project Director to First Satellite.

More importantly, by ~~the~~ the late 1960's & early 1970's onwards space technology — that is the launching capabilities for heavier satellites &

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Satellite making technologies (which enabled placement of much sophisticated scientific payloads to study cosmic rays, planetary system etc) — had progressed so rapidly that USA (NASA), and USSR had started making many sophisticated/advanced science experiments. Moon, Mars etc were studied. Interplanetary systems ~~are~~ were explored & very much and also distant stars were mapped in various EM spectrum (^{microwave,} Infrared, visible, X-ray, γ -ray etc) & also ~~in various~~ through measurement of various particles like neutrons, electrons, ~~ions~~ etc in different energy regions (energy spectrum).

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Thus the amount of data —
in qualitative & quantitative terms
— were so numerous that Space
Science knowledge was marching
leaps and bounds. Thus the
scope for ~~see~~ squeezing in a
Space Science experiment in this
huge canvas being filled rapidly
was very small for Indian scientists.

Nor was the theoretical capabilities
were very high to use others' data.

(Moreover using data ~~from~~ generated
from The Western or Soviet sources will
only put us as a late follower
as the Principal Investigating ^(PI) Scientists
and their colleagues would have
taken the best of "juice"!)

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Naturally, in such a ~~the~~ situation ~~to find~~ when some opportunities arose for an Indian payload in rockets or satellites, there would be a severe competition. Earlier, the rockets were allotted ^{to} more or less ^{those} from PRL — as a follow-up of the work done by PRL researchers i.e. those who went abroad after doing a Ph.D. in PRL as a research associates and came back to PRL as regular faculty. Because they had all necessary details (and experience) of building payloads for rockets and were

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able to get critical components
through ^{their} scientific cooperation
partners.

Actually this gave a
jump start to ~~the~~ scientists
from PRL like ~~the~~ ~~PB~~ PD Bhansar,
Satya Prakash, TSG Sastry, ~~Bans~~
~~name a few~~ ORR. Unfortunately
nothing concrete was built by
PRL around these teams to
graduate further to build a
new payload which was different
and would have contributed to
new Science in the fast growing
Space Science field. Partly because
PDB ~~was~~ who could give management

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leadership & a good number
contacts in NASA, CNES, DFVLR
etc ~~(He was the Scientific~~ ~~to~~ status
building up INCOSPAR as its
Scientific Coordinator allotting
rockets etc ~~and~~ ^{and} ~~when~~ after VAS
became first Scientific Secretary ISRO
under SD's new version of ISRO.
And URR went to build satellite
leaving his ~~to~~ X-ray astronomy
The Great Leader VAS was gone as Director PRL
rocket experiments. And D. Lal
who came as Director PRL had
little interest in Balloon, Rocket
& Satellite Experiments. So

PRL's Satellite Science Payload
Capability ^{stagnant and} languishing.
The Aeronomy group especially Shirke did

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not ~~west~~ venture beyond ground experiment. Shirke
could have. I don't know why he did not move.
TIFR too started getting

stagnant as they had little
capability in electronics payload
capability. Govind Swarup had
excellent ground astronomy
capability & was engrossed in it.

The photo emulsion group ~~there~~
with its army of scientific
assistants could not stand
before the new space sensors
like particle counters, scintillators
etc. It started winding. A couple
of them worked ~~some~~ for some time
with NASA and got some contacts
& capability.

So when the opportunity
of putting some scientific

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payloads in the first Scientific satellite ~~Aryabhata~~ ISRO satellite (SLV-3 under design with its Rohini satellite RS was too small & uncertain in 1970's). Indo-Soviet venture at least offered some higher ~~than~~ weight capability for the payload plus some ^{reasonable} price for the payload.

So there had been a competition from TIFR. None from PRL. UPR was also a competitor! This was at a time when I was not in India; not that it would have mattered if I were in India, I had been transferred to TVM; so

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I would not even get updates
info ~~of course~~ on these matters. Post
death,
VAS & things were in turmoil at
Ah's; HQ was in formation....

I had seen these papers
many handwritten in ISRO HQ
files left behind by PDB
after he left the Sci. Secy ISRO job
and went to Ah's. There was
a lot of acrimonious correspondence
about the selection of payloads
for ~~the~~ ISSP (first satellite)
URR's vested interest was pointed
out - with some scientific
arguments. I could not judge

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~~What~~ who was right. The trouble was that there was no adjudicating mechanism. PDB was not very sure as to what he should do as VAS was no more. He confined himself only to Rocket Allocation. EVC was weak as VAS had gone away and a new admin had taken over.

Though MGK was interim Chairman ISRO (he who had pushed all TIFR persons into ISRO YP & D Lal and also in the whole of Dept of Electronics & other places) would not have time to

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get into these details. He had one major decision to do to realise the first Satellite Mission was to shift the Satellite Project out of TVM's (SSTC's) Satellite Syst. Division (SSD) vacated by PPK to go to USA ~~INSAT~~ ATIS-F SITE project.

Actually SSD was under @ Avionics Group headed by Dr. S.C. Gupta (Group Dir.) under & the reorganisation done by BP after he took over! URR never relished & that!!

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U KR had managed to get his payload (X-ray astronomy related into the first satellite with one more from TIFR with PI as Dr. S. V. Damle)

He had made his balance but this selection was considered unfair.

Any way MGK did not disturb it. So when SD took over — he did not disturb.

A major decision to move the ^{Satellite} Project to Bangalore/Peenya had been taken by MGK
(I wonder if ~~SD~~ SD would have

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taken the decision, given his temperament ~~for~~ for analyses and Systems View!)

I was not there in India when this shift took place — learnt from RMV who was a vehement opponent of such a moving away from SSTC, TVM of SSD (many ~~to~~ were like him; but he was too passionate — and therefore angry about it. He used to say that they gave all technically wrong reasons for example he used to say "Solar cells of the Satellites will be affected by the salty waters of the coast and resultant air. But you see, most

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Satellite makers are in West Coast. Hughes' solar cell manufacturing facility is in the Coast! ~~#~~ All lies.... "

But whatever be it, one instinct of URR (mostly born out of his desire to be a boss of himself) that ~~was~~ in the geography of TVM he would be suffocated ~~from~~ in decision making. # He could not meet the deadlines. If we look at the experience of # Liquid Engine Project, he was dead right on that. Similarly SHAR projects were insulated from VSSE ~~man~~ management processes through SHAR Board ^[Chaired by Dr BPR] which empowers YJR, VRG for SPROB & STEX(AEM).

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URR achieved it through geographic separation from TVM and having a separate ISSP Board but one step ahead by having ~~the~~ ^{Chairman} ISSP Board as ^{Chairman} the ISSP Board and Dr. BP Director VSSC as member. It was technically a project of VSSC. Logic would have been that unlike SHAR projects, ISSP required more frequent consultation & approval by the Chairmanship ISSP Board.

But ISSP Board apparently was not too much engrossed in trying to find out which Spac Science payload would be proper — as only

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the payload was only a small (minor) part of the first Satellite Mission.

It was really technological. So

ORR managed the payload selection to himself and had only TIFR payload.

~~In~~ Post launch the problem which happened with his payload ^{defect in} which also cut off power supply to

TIFR payload (It had not provides an independent power supply to it). This failure had it not been a failure, ORR would have been on the top for Science Payloads. But

the failure triggered the question of "conflict of interest" of between

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the ~~proj~~ ~~proo~~ interests of Proj Director
& PI, both being URK. Ideally
~~he~~ he should not have been ~~at~~
any PI at all. But whether we
could have got a better payload
or even equivalent one ~~was in question~~
is is a question, given the poor
shape of Satellite payload making
(or capable of making) scientific
community as described above.

But in the overall SD
I saw a merit in having a separate
mechanism to take care of
Space Science development in India
away from PRL, FICR & URKao

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~~PDB~~ PDB could have fulfilled the role but he was keen to go to Ah's leaving his position as Scientific Secy ISRO, mainly due to health reasons; perhaps he also did not fit in well with SD's mode of working. Also the use of rocket science payloads was coming down globally, in which area he had some special passion.

So after his departure SD discussed with me and finally narrowed down on ^{Prof.} Roy Ranjan

Daniel • Might have had a strong recommendation from MGK.

~~When~~ RRD had helped MGK a

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lost and had lost a lot of his
own prospects in TIFR. When MGR
became Secretary in 1970, a

post worked out by VAS for him,
Director

MGR continued to be TIFR as

well till Morarji Desai ~~was~~ became
1977

PM and made him to relinquish it

(One-man one post concept, the
only exception he gave was for SD

to be Director IISc & Chairman ISRO).

For those ~~to~~ seven years MGR was
the non-resident Director making
RRD to run day-to-day matters
of TIFR. He did not give a free
rein to RRD. For example, for allocation

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of quarters, there had been a well laid out Govt norm which TIFR was following. ~~MAK~~ Director had very limited discretionary quota.

Instead of following it, MAK would pose a question: "Why follow the worn out Govt norms; we should evolve our own norms, seeing the needs of ^{our} programmes etc...."

One can make it look rosy. But ~~the~~ It held up the entire procedure...

Quarters (which was precious in Bombay) were empty. His new norms never came about as MAK was busy with hundreds of things in Delhi!

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Similarly since foreign exchange was limited, purchases involving import had to have Director's signature for Foreign Exchange release. Actually it was a Secretary level and for science departments some special waiver at Director's level was given. Since purchase procedures had well laid out methods of scrutiny and strict administrative controls, such signatures by Director was only nominal. Instead Mak would get into an equipment details and put a remark on the final whether such - as - such equipment is used in some foreign lab 'X' or 'Y'

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was considered! So action will be taken to find out which may take months, as in those days e-mail speeds were not possible.

Also the 'X' or 'Y' lab abroad were not obliged to give ~~us~~ ^{TIFR the} data. So by the time some info is ~~not~~ collected, the tender justification period for the purchase (usually 6 months) would have lapsed and one had to re-tender.

These were told to me by more than one TIFR scientist and they used to lament on delays. The quarters ~~is~~ being vacant ~~is~~ became an ~~and~~ audit question. MAK was so powerful with access to IQ that

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he need not bother. At TIFR
~~the year~~ "yours faithful" RRD
to was the person "doing the
day-to-day duties of Director TIFR"
bore the brunt of frustration of
TIFR scientists. Also by himself
RRD gets into too much of nitty-
gritty details not really necessary
for admin purposes. So when
MAK relinquished the Directorship,
though RRD was senior, there was
~~an un~~ a near-unanimous
reluctance to have him as Director
and B.V. Sreekantan was given this
job. RRD continued as Sr. Prof

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at TIFR.

So when SD was looking for a neutral umpire to take for Space Science (as Lal ~~was~~ as Director PRL ~~he~~ was also in verge of quitting & he never showed interest in such Programme Mgmt) for ISRO/DOS, RRD was a good choice. MAK would have supported it strongly with SD as he could not help him in TIFR.

" Thus was formed the "Advisory Committee for Space Sciences" (ADCOS) with RRD as 1st Chair.

I recall a few members like Dr. A.P. Mitra as members. It was

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located at ISRO HQ. RRD used to come & go. Actually speaking Dr. S C Chakravarty (sec or Chak as he was called) was to service as he was supposed to take care of Space Sciences. But RRD was not comfortable with it, as ~~Chak's~~ Chak's knowledge base on these subjects was limited though he was also a student of PRL, like Dr. MS Narayanan, ^{Dr. V R Rao} ~~Sharma~~. ~~He~~ were. MSN had gone to active work in Meteorology. RRD preferred ~~one~~ Dr. Teivai who was a Ph.D, not on Space Science but recruited to ISRO HQ (recall by PDB). He was definitely

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good. But suddenly he would ~~to~~
disappear without informing
anybody. I was annoyed but
did not want to find out. When
I normally ask he would mumble.

ADCOs had lines.

RRD made attempts to
reach out to the Space Science
community in the country. Most
of them were ionosphere, atmosphere
based scientists (as their access
to balloons, rockets & satellites were
almost nil.) Some of them were
keen to use the Rehimi / M-100
rockets based lower atmospheric
wind data, obtained through
regular weekly flight and the

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Tracking of Copper-chaff released by them by TERLS Radar.

ISRO HQ received a lot of NASA reports on variety of subjects. Space Sciences ~~is~~ covers a good bulk as they that in ~~the~~ period of rapid growth of Space Science researches through ~~sat~~ earth orbiting satellites & planetary missions. National Science Foundation (NSF) of USA or NAS & NASA used to have a lots of discussions on new areas for Space Sciences / Astronomy etc. Use of library was poor: a lot was used by me and Chandra. VS used to look at

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policy relates ones and give wide publicity through ~~cover page~~ cover/content page copied & sent to Centres; most of them ignored! Some in SSTC ~~the~~ (which also receives parallelly) uses NASA reports well.

My attempts to enthuse SCC to read Space Sciences part was not successful. VKR was interested only in RS' part and was full with his work (as he was trying to pursue independent research himself) as ~~B~~ we have written here earlier. He & SCC put up a note; we have written about it here.

I enjoyed reading a lot of them. For Space Sciences we

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instituted a special methods to reach Univ. Scientists. As xeroxing was costlier then (also limited, except for the NAL type thermosensitive paper), ~~it~~ after reading, I used to have a summary written (mostly dictated by me) and extracts were typed. Such cyclostyled extracts of about 100 or more used to be sent. RRD was happy on that.

Other source was COSPAR.

~~With~~ With a large number of parallel sessions in super-specialised Space Sciences areas, it gave opportunity for researchers to ^{present} ~~publish~~ papers. Better ones get selected

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for COSPAR journals. ISRO gave some travel support also through RESPOND.

Though in theory ADCOS could start ~~his~~ studies for placing payloads on Indian satellites or develop payloads for other possible opportunities (rare as there were severe competition for a place in NASA satellites even within USA, France, UK etc from their country PI's) or even define a new satellite dedicated for science, the major issue was ^(a possibility) where was an Indian satellite. Even the second satellite SEO-1 was strongly RS' applications oriented. So was SEO-2. APPLE did not have enough capability other than its own payload....

So it was clear that Space Science community in India

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had to be content with ground based experts or data analysis from foreign satellite data released after a few others for others or at best Balloon, Rocket payloads. Cosmic ray, ~~type~~ ^{planetary systems} type of studies were difficult to study with these as Satellites ~~is~~ outpaces them in results and advancing frontiers.

So ADCOS got mostly got confined to Atmospheric / Ionospheric type of studies. The new feature explored was to have ~~st~~ researches which were synchronised in data collection with world-wide researchers in a pre-planned way. That would enhance the value of the research.

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Coordinating of experts / scientists in India was (is) not an easy job. There were many Prima Donna's! In addition the Management ~~to~~ persons of the Universities / National Labs had their own ego hassles — not all but some of them ~~at~~ would not like to give freedom to ~~these~~ ^{the} P.I.'s employed in their institutions. Then above all UGC which gives ~~some~~ grants to the University persons wanted to have its own selection process, which was slow & cumbersome.

RKD did a remarkable job in trying to help the coordination process through ADCOs. Two major ones were

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~~to~~ - MONEX

- IMAF.

Indian Middle Atmospheric Programme.

(IMAF). There was an international

middle atmospheric programme (MAP).

In those days there was a paranoia

[participation in]
against international programmes especially
when Western Scientists were involved.

Fears ~~are~~ were risen that they would

~~steal~~ ^{get} data over India which ~~are~~ ^{were}

"Vital" and use it against India.

These were ~~of~~ vague accusations and

none had a clear idea as to

what data ~~would~~ would be used, how?

In fact powerful scientists like

MGR supported such vague political

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~~the~~ fears and scored some "brownie" points from the powers - that - be in Delhi. They opposed reception of Landsat data ^{since 1972/73.} Dr. A. Ramachandran then Secy DST ~~DST~~ pushed it through. But for experience in installation & disseminating data from that station built ably by Wgr Cdr K.R. Rao around which NRSA grew, India/ISRO would have been thoroughly ~~unprepared~~ unprepared for IRS-1 ~~operations~~! So was with LACIE experiment. ISRO nicely found a via media! Such attitude continued even much later for Indra's participation in Human Genome project in ~~to~~ later 1990's, on the pretext

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that West will have all genetic data about Indians and would enable them to launch easily a "bio warfare" on India, even without its knowledge. It put back the growth of ~~biotechnology~~ Biosciences in India.

Indian Science / Engineering / Agri Academies were ^(are) all funded by Govt and populated with ~~their~~ scientists / academia from Govt funded Univ / National laboratories. So they were all "yours faithfully" followers of the "science bosses" in Delhi who were
↳ either directly as Secy to I or through powerful Govt appointed committees like SACC etc (later SAC to PM)

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There would not even be a healthy debate on such topics. Individually they would ~~be~~ complain in "hush hush" manner.

Similar ~~was~~ was some blockades for ^{India} ~~to~~ joining MAP: the paranoia was that it will help environmental (modification) war against India. So we have to be careful in sharing data. Any ~~a~~ cooperative arrangement that has a clause on sharing of data need to be shunned. Or we have to insist on special clauses".

~~ISRO~~ For organisations like IMD, this was "heaven sent"!

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They were (barring a few scientists in it) in general wanted to be left alone. Even for INSAT-1A etc they were happy that they were the only sole dealers of INSAT-1A VHRR meteorological data. They will use their WMO channels which were more routine and not catering to researches.

~~They~~ IMD was in general reluctant to get into use of satellite based ~~data~~ atmospheric data such as Vertical Temp. ~~Rain~~ Profile Radiometer (VTPR) data.

So ISRO had to be the Patron for MONEX, IMAP. Earlier

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SD left that task of getting
Govt Approval for MONEY (see
earlier period 1970-80) write up.

For IMAP also SD was
very supportive. ~~It is~~ Being ISRO
we did not want to directly
confront the "paranoids". So we
devised a strategy of adding "Indian"
to the MAP. "Yes we will draw
from them; try to synchronise
with them when we think it is
appropriate. We will share data
only when we benefit more..."
etc etc.

That is how we had
to proceed and get ~~see~~ "security"

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clearance for the project before other financial approvals. It is safer because issues may come up later putting everybody in "soup"!

~~Then came~~
~~Lots of~~ Many specialised

groups were set up (about 10 or so)

for different types of experiments.

Special Committees were set up for each of them. ~~as~~ The scientists who desire to do experiments and receive funds had to satisfy their processes.

Those who were selected were to be

funded by UGC for University persons

and for others by ISRO. UGC suddenly came up with ~~a p.~~ an announcement

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~~That~~ that UGC scientists cannot take the ^{National} IMAP Committee approval as the final date but have to go through ~~the~~ selection & approval by UGC appointed Committee. That panicles University scientists. UGC system was notorious for delay in release of funds ~~and~~ (and even in ~~and~~ conveying of approvals) and IMAP which had to be done with full synchronism with Indian ~~and~~ observations and other global observations ~~to~~ needed from approvals and automatic release by UGC based on those approvals. The irony was that there was a ~~UGC~~ UGC rep at the highest level of IMAP.

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It was Dr. B. Ramachandra Rao
Vice Chairman UAC himself an
② Atmospheric Scientist (more ionosphere
I guess). Actually the trouble
was, as was (is) with many Indian
Scientists (who ~~don't~~ didn't (don't)
have power in Govt systems) to
acquire some power through ~~the~~
staff selection committee, or financial
appraisal committees. The way
many of them lobby in DST (DBT,
etc) to get into their PAC's
(Project Adv. Committee), Monitoring committees,
SERC etc (as Chairman, members etc)
is unbelievable. That make Secy DST
"powerful" — and also those who
select Secy DST, DBT etc (Science

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Superbosses much more powerful!!
They can "instruct" say DST, DBT,
who would be looking forward to
extension - in those days from 58 years
upward, then beyond 60, to 62 to 64
& even more!!)

It appears he had
played a double-game: nice with
~~SD~~ during SD's meetings with him,
RRD etc and quietly tweaking
VAC as he was big boss. ~~He~~

~~was~~ ~~He~~ RRD naturally sought
BR's assistance. He was wishy-
washy citing some special status
of VAC and had to follow those
rules.

We had to devise a strategy.

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Decided to meet Chairman
of UGC, Smt. Madhuri Shah
directly. We prepared for it. My
ISRO experience of working with SD
was of great help. Made a
simple systematic system level
picture of the evaluation process for
the IMAP. Under each specialist
group ~~was~~ wrote the name of the
Evaluation Committee, each individual
^{member's} name. ~~It~~ Underlined the names
of those ^{members} who were from University in
RED. Actually they were in majority;
often Chairpersons too! The red
colour will "speak" loudly.

There was one top sheet

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explaining goals and significance of IMAAP and how arrived at our scope.

Then this Evaluation process sheet.

Dr Smt. Madhuri Shah had B. Ramachandra Rao
~~and~~ a couple of others from UGC.

RRD & I were there. RRD briefly explained the significance of IMAAP even when the sheet was shown.

Then Evaluation process.

Then he slowly said about UGC announcement of an independent evaluation and the possible impact on delays & concern of Univ. scientists.

She looked at B.R. He tries some feeble attempt to justify how we need to assess from UGC point of view. But ~~to~~ MS straightaway

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told him " Yes Dr. Rao. You see their list. I find most of them are from Universities. Pl. tell me who else, you will have if UGC has to evaluate? "

BR was clean - booker. He could not tell a word.

She did not leave it there.

" If you desire some ~~one~~ other person also added, pl. include them in that Committee. I see it clear.

The Committees are truly national and they have covered University sector very well. We can issue a circular that if the IMAP committees have evaluated & approved, it is also a deemed approval by UGC! Let

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the UAC Finance Division accept that and release funds!"

She looked at Sh Chabra Secretary UAC. ~~Then some~~ BR could not utter a word. Then meeting ended with ~~tea~~ tea and some pleasantries.

While going out Chabra drew me to one side and said "Mr. Rajan do not ask for minutes or send draft minutes. I will issue ~~an~~ a UAC order just now. It ~~was~~ ^{will} go to all Universities and also to ISRO, IMAP. Just go ahead on that basis! Nothing more!"

I could guess why he said so. These old institutions have

(1003)

developed their own bureaucracy
— mixed "sciento-crazy" and
~~an~~ "academo-crazy" which ~~was~~ ^{was (are)}
deadly! By normal process
of minutes, then a paper to
UGC Commission meeting ~~it~~ would
have given an upper hand to
BR the Vice-chair in the Commission meeting
and scuttle the decision.

That was an extraordinary
~~the~~ quick decision from a person
who saw fairness in the whole process,
adopted by IMAP / RRD. Also it
was exhaustive. Chabra was a able
hand of UGC & he knew how to
handle. Once the Order issued with
approval of Chairperson, seldom it will be