

X-76 Monkey metabolism, ⁴⁰⁰ response to weightlessness. Prime P5₂, backup MS

^{or ~~not~~ series of experiments}
This experiment was built around ~~monkey~~ pods for constraining

two monkeys in an upright position & integral LBNP apparatus & supported
^{automatic} by feeding, watering & manual urine collection / volume system. There was
~~some political~~ out 21 nov. of C. developed these pods & LBNP & metabolism.

There was ~~some~~ ^{obvious} political turmoil over these experiments and
shifting of PI's experiments [&] not early on, with the result several experimenters
'shared' ~~on~~ ^{among} the two animals. Originally it both ~~some~~ animals were to have
transmitters implanted & ^{cardiac} pressure & electrical signals from continuously, & special
~~attendants~~, were to have radioactive microspheres injected via arterial and venous
catheters and were to ~~have~~ ^{metabolic} ~~two~~ gas studies. An almost continuous series
of misadventures befell this collection of experiments. Apparently the micro-sphere
injections had only been done in dogs for when the procedures were tried in monkeys
they simply would not work. After several ^{'training'} ~~at~~ days ~~of~~ ^{from} MS P5₂ & PI
spent a day in the ^{ARC} mock up ~~making a new set up~~ until we ~~was~~ devised procedures
(not paper) which would work, ~~and demonstrated~~ made a check list &
confirmed that it would work a day or two later. All this time was wasted
when it was found some weeks later, after repeated deaths, that the monkeys could
not tolerate ~~this procedure~~ the surgery required for preparation.

He were trained on the implanted transmitters, ~~on~~ a system designed
in early '60's which is outmoded & required frequent adjustment & retuning.

He did not see the metabolic/LBNP portion until mock up check out in Jan -
 Task training had not been completed but we were supposed to return
 to ARC after mockup shipment but they could never accomodate us.
 Finally much of the ARC colony was found to have Herpes Simiae
 and had to be destroyed leaving Exp 76 with 5 monkeys one of
 whom died from late surgical complications. Because of
 late he had two animals & poorly operating instrumentation (eg totally
 inadequate cal signals ^{& other problems} to train on, and Training time was inadequate &
 PI was unwilling ^{and/or unable} to replace the monkeys in the pods for ^{their} ~~the~~ team then had
 to return to ARC to prepare flight animals. One of the flight ^{candidate} animals died from
 late surgical complications. The ^{remaining} two flight animals were kept in the pods
 on the sim and Larry @ Q (Pod B animal) was obviously ill
 apparently 2° to hunger & dehydration. There was question of putting him
 in the test & at a management meeting 5 crew, vets, PI, ARC
 managers it was requested that we take the animal and if he again became
 ill would be removed at the crews discretion. It was the consensus of
 everyone in this group

$$\begin{array}{r}
 3.50 \times 10^2 \\
 \underline{2.4 \times 10} \\
 1400 \\
 \underline{700} \\
 8.4 \times 10^3 \\
 \underline{3.6 \times 10^3} \\
 3.2 \times 10^3
 \end{array}$$

$$\begin{array}{r}
 3.2 \times 10^7 \times 2 \times 10^5 \\
 \underline{6 \times 10^{12}}
 \end{array}$$

25X

that the overriding priority was to keep the animals³ in the test as long as we could. Everyone was hoping for a maximum of 3 days² ~~Joe Lang~~. We were to hand feed coddle or do whatever to achieve this. No mention was made of attempting to maintain a metabolic experiment. It should have been clarified and was not that the PI's wanted to maintain a metabolic experiment on Joe but when after 2 days of no food² (water intake or urine production) it was so obvious that something had to be done, that when the PS said he had gotten the animal to eat an apple of known size I could only concur and still defend the action.

~~It~~ In retrospect we should have given the PI's the option that had already been agreed to - either let us feed the monkey or remove him for that animal was in the process of dying - ~~at~~ If someone wants to speculate on whether he would last 3, 5, 7 or 10 days ~~so~~ - indulge yourself however the stated and understood name of the game was to return live animals or to remove them without argument when in the judgement of the crew they were in any danger).

~~It~~ For someone to talk of damaging a metabolic experiment on an animal that has not eaten drunk or urinated in

two days is the height of self-deception). An animal that is not eating ^{or drinking} at all is ~~for an order of magnitude~~ more compromised in a metabolic situation than an animal eating material of poorly known composition. The crew felt they had been given a responsibility and above & beyond the accomplishment of an experiment and that was the demonstration of the feasibility of keeping animals alive & reasonably healthy in a space simulation. If ~~the support~~ we had to take over failed equipment & procedures to do this we expected it to be recognized that we had done a job as briefed & not to be publicly chastised for "spilling an experiment that had ceased to exist". ^{Management} Someone badly misled the crew as to objectives or else someone lost all sense of perspective.

~~We were all~~ ~~extreme~~

While on the subject of criticisms Dr. Sharp was critical of naming the animals. The only reason I can imagine for not naming animals is to avoid some identification