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Hi Woody,

Here is the Umatic SP tape of the '84 video feedback tape and several slides showing my Sandin IP circa 1984. There are also a couple of mug shots for drama.

I have had no luck finding the earlier 1/2" video work on our analog simulations and drip experiment. This was done in '78 and so probably fits better into your history constraints. Though it was not VFB.

Every half decade Rob and I wax nostalgic, wondering where this early thing has gone. Perhaps it will show up in time for your Mondo 2000 show. How about a nonlinear dynamics component to that event?

You also asked for a bio that dealt with the VFB work. Here's an attempt .. probably too long ... still undisciplined after all these years ...

The notion of feedback was one constructive product of WW II. It may very well be one of the few with permanent value.

The discovery of feedback, and the oscillations it leads to, provoked a minor revolution in thought on how systems process information and behave dynamically. At the time the revolution was labelled "cybernetics"; though today this label is seriously out of fashion in the US, for example.

Much more than scientific fashion has changed since the war. We now know, for example, that feedback is the main architectural property underlying many unpredictable, now labelled "chaotic", oscillating systems. A December 1986 Scientific American article "Chaos" describes a particularly mundane, but unpredictable system: a dripping faucet. The faucet's complicated oscillations are due to the feedback of one drip's shape and weight to its successor.

At about the time of the "drip" experiments, late '70s and early '80s, I began to look at another everyday feedback system formed with a camera and television monitor connected in a loop. The camera converts light coming from the TV screen to an electronic signal; the TV converts the signal to light. This is called "video feedback" since images literally flow around in a cycle: dozens of times each

second the images alternate between electronic and light forms, the image at one time affecting those that follow.

Video feedback is arguably one of the richest pattern forming systems. The complex and often chaotic image sequences mimic the pattern dynamics found in superconductors, crystal growth, fluid turbulence, chemical oscillations, and biological development. Scientific and engineering investigations of video feedback continue today in the US, Germany, Russia, and Australia.

Best,

Jim

*Enclosures:*

Five 35mm slides (3 IP, 2 JPC)

One Umatic SP copy of **Space-Time Dynamics in Video Feedback**

P.S. I just remembered that I have (somewhere) earlier VFB done on my Sony 1/2".

But I will have to look at the tapes, after rejuvenating the reel to reels...