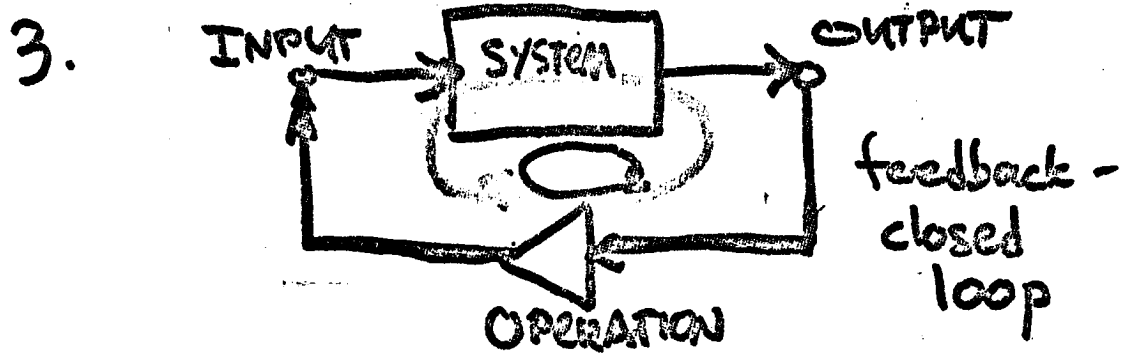


FEEDBACK SYSTEM



Bill ~~Stephens~~ NAME ~~WALK~~ should appear at end of this.

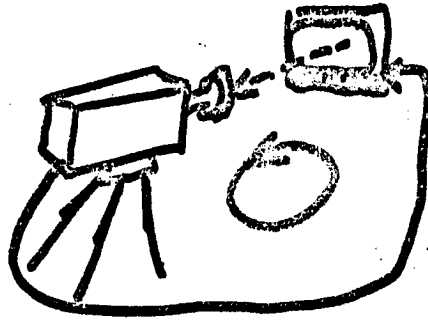
Also, title:

Video Feedback: A Systems Approach

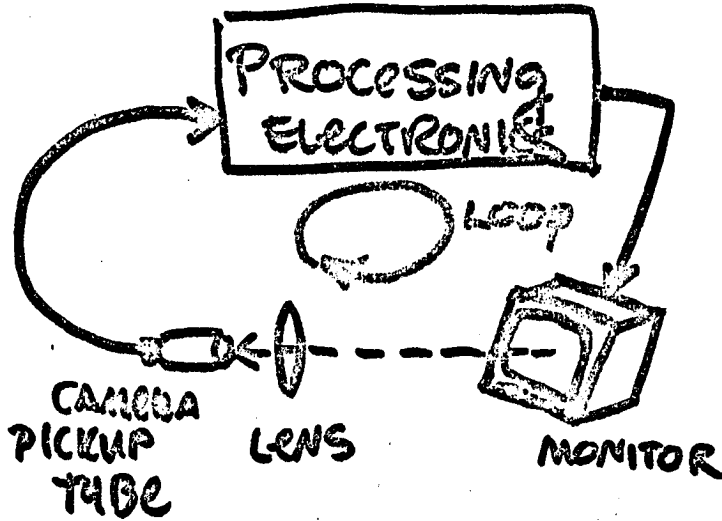
W

3.

4. VIDEO FEEDBACK



CLOSED
LOOP



CAMERA
PICKUP
TUBE

LENS

MONITOR

OPERATIONAL FEEDBACK CONTROL ELEMENTS

OPTICAL PATH

ELECTRONIC PATH

1. LENS FOCUS & FRAMING
2. CAMERA - MONITOR ORIENTATION

1. MONITOR ADJUSTMENT
BRIGHTNESS
CONTRAST

- (1) SCAN ANGLES
- (2) SCAN PLANE ANGLES

2. PROCESSING ELECTRONICS;
PICTURE LEVEL,
POLARITY,
NON-LINEAR
EFFECTS ..



"KEY", EDGE DETECTION;

3. OPTICAL OBSTRUCTIONS,
REFLECTIONS

3. SIGNAL PATH TIME DELAYS;

4. USE OF COLOR.

NATURE OF CLOSED-LOOP VIDEO FEEDBACK

CERTAIN CONDITIONS OF FEEDBACK CONTROL ELEMENTS →

SELF-SUSTAINED OSCILLATIONS,
LIGHT PATTERN OUTPUTS;

DIFFERING CONDITIONS OF ELEMENTS

→ DIFFERENT MODES OF OSCILLATION,

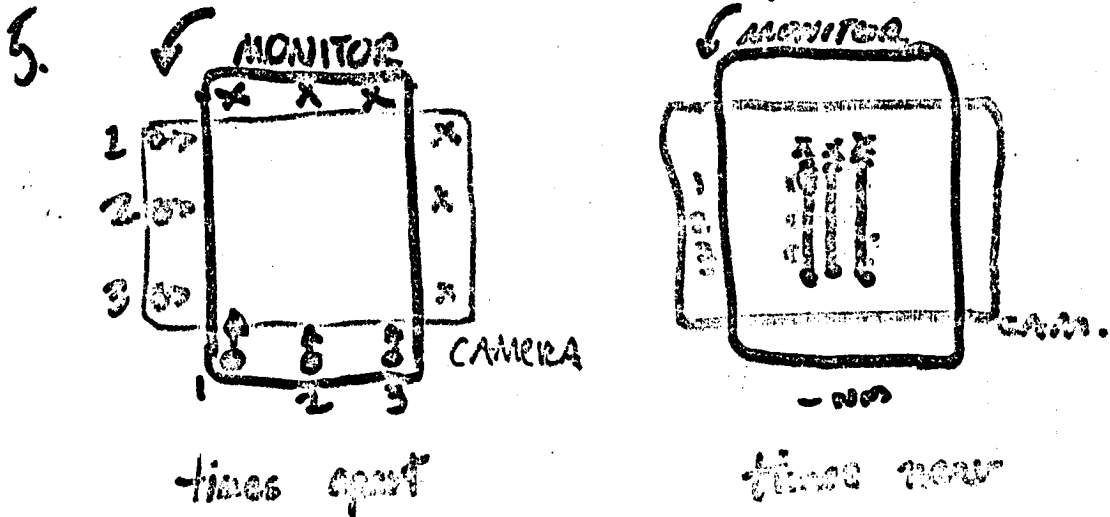
ACCOUNTING FOR THE DIFFERENT
~~SHAPES AND~~ VARIETIES OF FEEDBACK FORMS.

QUESTION: HOW INTERESTING THAT THE TELEVISION SYSTEM HAS NATURAL, SELF-SUSTAINED OSCILLATIONS IN THE FORM THAT IT DOES; WHAT IS THE SIGNIFICANCE?

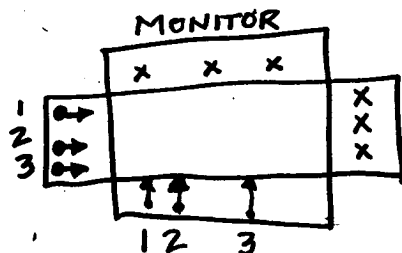
(i.e.; NATURAL RESPONSE OF PENNACUM, PERIODIC, (gravity mass) USED FOR "TIME".)

CASE OF A PARTICULAR FEEDBACK OPTICAL

1. CAMERA - MONITOR ORIENTED 90° TO ONE ANOTHER;
2. focusing and framing. establish this relationship between the camera scan area and the monitor scan area imaged on it:



combined effects of delay, brightness, focusing and framing → camera produces an output when monitor is producing an output within a certain distance dx (which depends) of the camera scanning point.

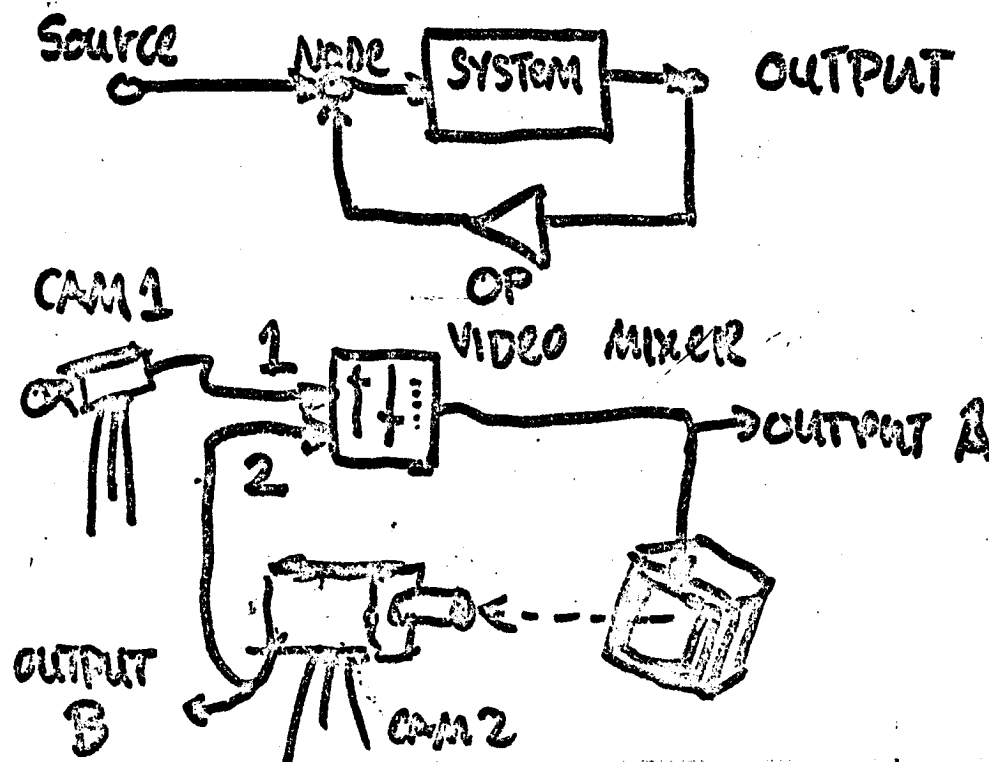


(of course the ~~small~~ distance is equivalent to a ~~small~~ time interval between camera and monitor scan points.

↳ circular motifs of feedback forms achieved with this technique.

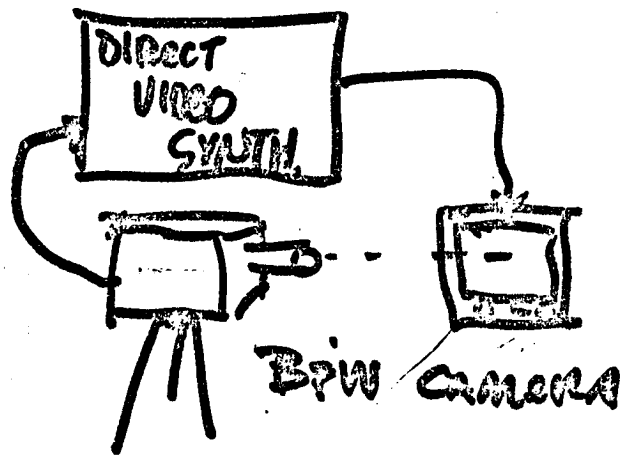
6.

FEEDBACK SYSTEMS WITH EXTERNAL INPUTS



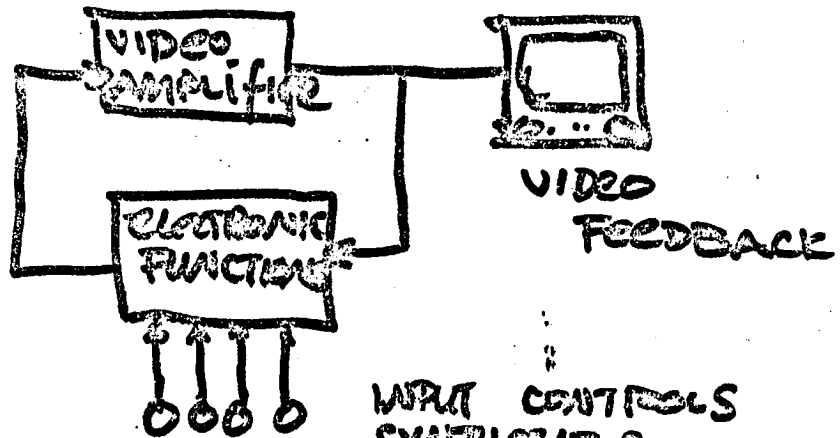
INPUT FROM C1 can act as a trigger to the feedback obtained from C2. Thus feedback forms may be selectively ~~and~~ placed in certain areas:

7. FEED BACK WITH ELECTRONIC SOURCE INPUT



ELABORATE NON-LINEAR PROCESSING,
"PRODUCTION OF FEEDBACK
"MASKS"

8. FEED BACK SYSTEMS WITH NO CAMERAS :



INPUT CONTROLS
SYNTHESIZE
DIFFERENT FEEDBACK
FUNCTIONS, →
VARIOUS NOTES.