

Reading for subsection 6 (*Analogic Amplification*):

Subject: *Re: Nature of Analogic Amplification*
Date: Thursday, January 29, 1998
From: DAVID MCSHANE
To: Tomkins-Talk

Another stimulating question.

I may not be addressing directly your concern regarding whether each of the correlated elements of an innate affect (facial expression, vocalization, vascular dilation or restriction, body posture etc.) mimics the neural firing profile of the affect activator but let me try out the following as an analogy to the affect mechanism.

Imagine a first generation six channel police radio scanner. There are six light emitting diodes on the faceplate of the radio. One diode for each channel. The diodes rapidly and sequentially flick on and off as the radio "listens" for a signal. Each channel is tuned to receive a signal at a particular frequency allowing the scanner to alert the listener whenever one of the six different radio stations to which it is tuned sends a message. The radio is "programmed" to do some different things when a signal matching one of the six preset frequencies is received. The serial flickering of the diodes ceases. The diode representing the station being received stays lit. The detected radio frequency signal is demodulated and the audio portion proceeds to the audio amplifier. The amplified audio signal proceeds to the speaker coil. The speaker speaks.

With the affect mechanism it is not so cut and dried because each affect has several simultaneous targets of its activation (not just one speaker as in the scanner analogy). The mechanism is programmed to coordinate several different things when a signal of a particular frequency and profile is received (facial expression, vocalization, etc., specifically configured to demonstrate that affect).

It would be possible to wire a police radio scanner so that each channel would bias the audio circuit differently making the volume different for each channel received.

Just such biasing takes place as the innate affects become coassembled in experience and memory. My wife and I had a new puppy once. She was quickly very much at home with us and a very happy dog. A few weeks after coming to live with us my wife and I were asked to make a half hour audio tape of weird, loud and frightening noises to be used by a youth group at a Halloween party. As we groaned, whined, screamed, shot a cap gun, beat on pots and pans etc. for 30 minutes the poor puppy became more and more distraught. Her new loving master and mistress had become crazed and her lovely home a mad house. The puppy tried to get our attention, hid, whined, trembled, etc. I still rue the day that I did not realize more fully what we were doing to the dog. She was scarred by that event for the rest of her 13 years. Thunder storms, and especially the Fourth of July were very difficult for her. She died, apparently of a heart attack, in her 13th year on the eve of the Fourth of July just as the first preliminary bangs were offending the neighborhood. So much for the biasing of affect that experience inevitably induces.

I return to the scanner. Scanners have a squelch control that adjusts the level at which an incoming radio frequency signal is allowed to proceed through the rest of the circuits. Set it too

low and the speaker chatters with background noise. Set it too high and no signal is strong enough to get through. One aspect of schizophrenia is too low an affect squelch setting. A catatonic's is too high.

It must be presumed that the threshold of activation (squelch control) for each of the affects may be innately quite different for different human beings. The threshold at which the neural firing profile for the affect of interest-excitement is triggered in my six-year-old granddaughter, Jackie, is far below optimal. Attention span very brief, inappropriate giggling, the slightest excitement escalates quickly to difficulty for her with peers, teachers, and parents, and sometimes even with grandpa. She simply cannot, and cannot now be expected to "learn" to control that innate condition. Taking her Ritalin spansules she is a very bright and happy child. Without it the red light emitting diode on her excitement channel stays on all the time and the noise out of her speaker is very hard to bear.

Like all analogies this one is flawed, but I find it useful.