

# "Peach Fuzz"

Toastmasters, 14Feb06

Intro to series:

"Real thing" now - work relevant to my paper

Only - could complete original paper, computer models & new architecture

- so if fail at engineering, turned it into philosophy, psychology

Too early in this series to talk about love and Valentine's day

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## **Introduction**

Cruise/buffet at end of week-long vacation in Portland OR

Near end of cruise Walter Freeman (chaos & brain) approached me

- strange aimless conversation (maybe I wasn't listening to what he was saying)

- I blurted out:

"You know, the more that neural networks develop, the more that we see the power of what the brain really does, it becomes more and more apparent that a lot of our capabilities are clearly pre-built. The examples of a fawn getting up and running away from danger only hours after birth, and Universal Generative Grammar in linguistics, are far too complex to learn quickly, and besides, the infant has no complete examples to go by, so they couldn't possibly have learned in such a directed fashion. And the power of connectionists systems seemingly goes far beyond what we can explain in traditional ways. The more I think of it, the more it appears that the sum total of our life's experiences, of what we learn and know, of our education - it's all like a thin layer of peach fuzz on top of a complex, unbelievably powerful, and beautiful brain that has largely been pre-specified at conception."

Example of quintessential thinking -> Einstein's theory of relativity. Definitely a great feat, but thousands and thousands understand and apply the theory. Yet after thinking about the brain since the beginning of time, nobody can really explain what is going on computationally at any level, from single neuron to whole brain. Maybe its mode of functioning is beyond our cognitive capabilities, and only hybrid machine/human intelligence will be able to grasp it?

In order to really get into "Peach Fuzz" in later presentations, I must first describe what it contrasts to, I must provide context.

## **The Blank Slate, Nature versus Nurture**

Following the line of presentation of Steven Pinker "The blank slate"

Renaissance ???

Thomas Hobbes (1588-1679) mechanistic view of the mind

René Descartes (1596-1650) Ghost in the Machine

John Locke (1632-1704) Blank slate (table rasa)

Jean-Jacques Rousseau(1755) Noble savage  
American Constitution: "...All men are created equal..."

Pinker – all three tend to occur together – bundled

- Social consciousness
- "Other side" (dichotomizing) – racism, class prejudice, torture, in-equality & in-justice

Everybody trapped in "Nature versus nurture" debate.

- Steven Pinker, Gary Marcus, Jean-Philippe Thivierge
- I consider it to be anachronistic
- Dichotomies – pedagogy or lies

Bottom line – well intentioned but D-cubed thinking can sometimes cause far more damage than the disease you are trying to cure.

### **"The road to hell is paved with good intentions."**

But thinking takes generations, or major events, to change. Sometimes, but not always, stability is good.

### **Conclusion**

In summary, for several hundred years or more, but especially according to the politically correct thinking of the last three generations, there has been a heavy emphasis on the:

- blank slate,
- ghost in the machine
- noble savage.

And in my opinion, in spite of the great strides in genetics, biology, and cognitive neuroscience, the nature side of the "nature vs nurture" debate has succeeded in restricting thinking that conforms to its norms, in designating a lot of important and original work as taboo. I think that in some respects some of our current-day thinking would look preposterous to agrarian societies, that their justified reaction would be that the urban populations and educated professionals have lost touch with biology, that we are blinded by the belief networks from our academic institutions.

"Peach Fuzz" is admittedly an extreme position as well, in that it proposes that a great deal of our capabilities are pre-programmed. It assumes that we'll find much more built into the brain than has ever been the case in the past. But it doesn't deny learning, environmental influences etc - after all, being able to successfully learn, strategize and compete in the environment, but even more so in a complex social environment, is what the brain is all about.

endmail