Accompanying Notes & Diagrams

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THE HUMAN EMOTIONAL SYSTEM

The computer model of the emotional system (Nathanson)

- Hardware: Brain, body (nerves, hormones, muscles, voice, etc)
- Firmware: Drives and affects
- Software: Learning, social conditioning, experience

Our BIOLOGY is our Hardware & Firmware.
Our BIOGRAPHY is our software. — Nathanson 1992

Definitions:

- Affect: Innate, brain mechanism, acts to amplify salient stimulus - causes physiological response, body + face. [BIOLOGY]
- Feeling: Conscious awareness of the triggering of an affect. [BIOLOGY]
- Emotion: Affect + feeling + associations to previous experience of an affect. [BIOGRAPHY] — Nathanson 1992

The affects acts like a bank of spotlights - drawing our attention to that ‘actor on the stage’ – the particular stimulus – to whom we should pay attention at a given moment. — Nathanson 1992

The Nine Innate Affects

<table>
<thead>
<tr>
<th>Positive (Inherently rewarding):</th>
<th>Neutral:</th>
<th>Negative (Inherently punishing):</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest–Excitement</td>
<td>Surprise–Startle</td>
<td>Distress–Anguish</td>
</tr>
<tr>
<td>optimal increase</td>
<td>sudden onset/offset</td>
<td>steady state overload</td>
</tr>
<tr>
<td>Eyebrows furrowed, track, look, listen; mild increase in respiratory and heart rate.</td>
<td>Blink, eyes wide, sudden inspiration, &quot;Oh!&quot; Resetting affect.</td>
<td>Sobbing/wailing; arched eyebrows, tears, red cheeks, flailing arms, legs.</td>
</tr>
<tr>
<td>Enjoyment–Joy</td>
<td>decrease</td>
<td>Anger–Rage</td>
</tr>
<tr>
<td>decrease</td>
<td>Face relaxed, mouth wide, smile, eyes bright, laugh.</td>
<td>General muscle tension, clenched jaw, scream, red face. (Tight-lipped is backed-up anger.)</td>
</tr>
<tr>
<td>Positive</td>
<td>Neutral</td>
<td>Fear–Terror</td>
</tr>
<tr>
<td>affect</td>
<td>affect</td>
<td>too rapid increase</td>
</tr>
<tr>
<td>Hunger auxiliary (smell)</td>
<td>hunger auxiliary (taste)</td>
<td>Upper lip raised, head drawn back; “Ewww.” (Root of racism, prejudice.)</td>
</tr>
<tr>
<td>Neck cranes forward, head down; lower lip and tongue protrude. (Relationship breakdown)</td>
<td>Eyes averted, head down, blush, slump; interruption of cognitive &amp; affective processing.</td>
<td></td>
</tr>
<tr>
<td>Shame–Humiliation</td>
<td></td>
<td>Dissmell (root of contempt)</td>
</tr>
<tr>
<td>impendiment to +ve affect</td>
<td></td>
<td>Hunger auxiliary (smell)</td>
</tr>
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<td>Eyes averted, head down, blush, slump; interruption of cognitive &amp; affective processing.</td>
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“Affects make good things feel better and bad things feel worse” — Tomkins 2008; Deppe 2008

The Physiology of Shame Affect

“On the face, shame-humiliation affect is signaled by the blush, but it is also expressed by a visible slump as muscle tone in the neck and shoulders is suddenly decreased. The look we call “shamefaced” includes this slump plus a tendency to turn away from whatever had seemed so interesting only a moment earlier. Shame-humiliation produces what I call a cognitive shock. No one can think clearly in the moment of shame.” — Nathanson 1992

Affective Resonance: Affect is immediately visible as facial display and body activity. We tend to mimic facial/body display of others, providing kinesthetic data analogous to innate affect, and thus a (milder) experience of innate affect.

Empathy: Whatever is experienced during affective resonance must be explained. We scroll through our memories to find applicable life experiences producing similar “emotions.”

The Empathic Wall: To some extent, we learn to (and need to learn to) shield ourselves from the affect of others. — Deppe 2008

Scripts: From birth, without realizing it, we begin to link things together, to learn, to try to predict what will happen, so we can try to get more good feelings and fewer bad ones. This is the realm of script. Even a one-year-old has many scripts. Most of adult life is scripted, with little pure innate affect. That is why we all may react differently to the same event. When stimulus-affect-response sequences happen over and over, we develop emotional "rules" for managing such families of scenes; the rules are called scripts. We are rarely aware of their operation. We are continually building and re-organising our scripts. They are the source of our emotional life, but they are usually incomplete (only partial guidelines). We also tend to try to fit new scenes into existing scripts, even distorting the information in the process. They can be hard to change — even if they don’t ‘work.’ — Deppe 2008

Attachments Scripts: People are INTERESTED in me and ENJOY me, and that makes me feel good, and I want to be INTERESTED in, and ENJOY, then.

“I’m interested in others being interested in me” — Kelly 2012

The Central Blueprint:

People are motivated to achieve the following:
- increase positive affect (interest, enjoyment)
- decrease negative affect (fear, distress, anger, disgust, dissmeil, shame)
- minimise the inhibition of affect (don’t bottle it up or fake your emotions)
- maximise the ability to do each of the above (nurture these capacities)

The Central Blueprint for Community:

Healthy emotional connections are most possible when groups:
- share and maximise positive affect;
- share and minimise (metabolise) negative affect;
- creates opportunities for public expression of affect; and
- anything that helps 1-3 builds community; anything that prevents 1-3 threatens community — Nathanson 1992

— Tomkins 2008; Deppe 2008
Shame Vs Guilt (emotions, scripts rather than pure affects)

<table>
<thead>
<tr>
<th>Shame</th>
<th>Guilt</th>
</tr>
</thead>
<tbody>
<tr>
<td>focus on the self</td>
<td>focus on specific behaviour</td>
</tr>
<tr>
<td>feel badly about the self</td>
<td>feel badly about something we've done</td>
</tr>
<tr>
<td>“How could I have done that?”</td>
<td>“How could I have done that?”</td>
</tr>
<tr>
<td>generally much more painful</td>
<td>generally less painful</td>
</tr>
<tr>
<td>shrinking, feeling small, feeling worthless, powerless</td>
<td>tension, remorse, regret</td>
</tr>
</tbody>
</table>

Shame:
We manage shame over wrongdoing adaptively
(through guilt) when we:
1. Admit the wrongdoing
2. Take responsibility for the effects of our action
3. Make amends for the harm done

We can avoid, deny, or by-pass what the painful emotion is trying to tell us by recourse to the:

Compass of Shame
Four ‘libraries’ of scripts …
each ranging from the ‘normal’ to the ‘pathological’

Scripts at each pole ‘mask’ the affect shame–humiliation with other affects:
- distress, fear – Withdrawal
- distress, self-disgust – Attack Self
- excitement, anger – Avoidance
- anger, dissimilarity, disgust – Attack Other

Shame-Proneness & Guilt-Proneness (Scripts around the attribution of causes in negative emotion):

<table>
<thead>
<tr>
<th>Shame-Proneness</th>
<th>Guilt-Proneness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Associated with self-oriented distress</td>
<td>Associated with other-focused empathy</td>
</tr>
<tr>
<td>Prone to anger/hostility</td>
<td>Less prone to anger</td>
</tr>
<tr>
<td>No evidence of inhibiting immoral behaviour</td>
<td>Evidence of inhibiting immoral behaviour</td>
</tr>
<tr>
<td>No reduction in recidivism</td>
<td>Predictor of reduced recidivism</td>
</tr>
<tr>
<td>Associated with anxiety, depression, low self-esteem, eating disorders, suicidal ideation</td>
<td>Associated with higher levels of psychological resilience</td>
</tr>
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</table>

Shame-proneness may be the human ‘default position’ since it is difficult for a young child to separate ‘self’ from ‘behaviour’ when being corrected. Their socialisation, environment and experience would then determine any ‘movement’ from shame-proneness towards guilt-proneness.

Forms of Pride (Scripts around the attribution of causes in positive emotion):

<table>
<thead>
<tr>
<th>Hubristic Pride</th>
<th>Authentic Pride</th>
</tr>
</thead>
<tbody>
<tr>
<td>attributes success to a global assessment of the self “I succeeded because I'm great!”</td>
<td>attributes success to effort made, i.e. to specific behaviour “I succeeded because I worked hard”</td>
</tr>
<tr>
<td>may underlie narcissistic aggression</td>
<td>promotes achievement</td>
</tr>
<tr>
<td>hostility</td>
<td>leads to pro-social development</td>
</tr>
<tr>
<td>interpersonal problems; self-destructive behaviours</td>
<td>genuine &amp; deep-rooted sense of self-esteem</td>
</tr>
<tr>
<td>diminished capacity for empathy</td>
<td>greater other-centred empathy</td>
</tr>
<tr>
<td>psychological symptoms parallel those of shame</td>
<td>psychological resilience parallels that of guilt</td>
</tr>
</tbody>
</table>

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Tangney & Dearing 2002
Nathanson 1992
Tangney, Steuwig & Mashek 2007
Tangney, personal communication 2011
Most behaviour is affect-driven... following the Central Blueprint, and therefore not cognitively driven, not conscious.

"highest levels of cooperative relations are found... when individuals feel a high level of pride (BELONGING) and a high level of respect (SIGNIFICANCE)"

- BELONGING = I’m INTERESTED in being a member of this group
- SIGNIFICANCE = I’m INTERESTED in others in the group being INTERESTED in me

The common characteristic among perpetrators of lethal school violence is social marginality - i.e. not having their dual needs of BELONGING and SIGNIFICANCE met.

Social ostracism (marginality) registers in the anterior cingulate cortex as does physical pain. **Paracetamol lessens social pain** in the same way it lessens physical pain.

Students:
- already have many established scripts — family, other groups
- are reframing (re-scripting) these (e.g. commitment/attachment scripts — movement through adolescence) and
- are developing (and re-developing) many more (e.g. affect management, shame management)
- are exquisitely sensitive to issues of inclusion/exclusion, and respect/disrespect
- are developing/re-scripting their values systems accordingly.

How we address relationships, conflict and behaviour management in schools can promote or prevent positive, pro-social values... We develop the healthiest personal scripts in environments which:
- provide love and support
- call us out when we do something wrong, without excessive shaming
- push us to be the best we can be
- give positive feedback
- require, and enable, us to respect others (which describes a restorative environment)

A ‘Restorative Process’ is one which: brings together all who have a stake in a specific incident; recognises who has been affected; explores and acknowledges how they have been affected; identifies what needs to happen in order to repair the harm caused; and puts things as right as possible.

A Restorative Process... helps meet the Central Blueprint for Community:
- by bringing people together in a safe place (Blueprint Goal 4),
- to express their feelings about an incident (Blueprint Goal 3), and
- to share and mutualise positive and negative affect (Blueprint Goal 1) & (Blueprint Goal 2).

Affective resonance during the process aids empathy development as the offender learns about negative effects of his behaviour, but within a supportive environment (promoting a move from a shame-like response to a more guilt-like response). The process aims to metabolise shame towards guilt. The focus on behaviour rather than the person... encourages the offender to move towards the victim, from shame to guilt.

His INTEREST in others being INTERESTED in him drives this movement. The motivating action of shame is only possible in the context of a relationship, i.e. to restore positive affect. RP re-scripts people towards guilt-proneness and authentic pride.

At the beginning of the process people are experiencing distancing, *toxic emotions* (fear, dissmell, shame, anger, disgust) but through a process of allowing *vulnerability* (characterised by affects of shame and distress), the group moves towards more *positive, community-building emotions* (associated with interest, enjoyment or, at least, relief).

The amygdala in the brain is involved in affective resonance, the basis of empathy. Neurogenesis in the amygdala has been recently demonstrated (given the right conditions) - which are those experienced in a restorative milieu. Restorative Practices helps build empathy -- biologically as well as psychologically.

Separating the SELF from the BEHAVIOUR is a key principle of Restorative Practices.
AFFECT IN TEACHING & LEARNING

All ATTENTION is affect. And not just positive affect.

“Rationality is fragile in the face of negative affect and flourishes best under positive affect.” — Tomkins 2008

Sources of Positive Affect in the Classroom:

novelty of work + relationships ÷ Interest–Excitement
understanding + achievement ÷ Enjoyment–Joy

Any impediment to these positive affects will likely trigger shame affect. The shame affect is magnified in the classroom because of the social setting.

All significant learning MUST bring the risk of shame affect being triggered — because we can’t all understand something straight up. The impediment to ongoing positive affect — when we don’t understand something, or we get something wrong — will inevitably trigger shame affect. The shame affect itself is not a problem — it’s triggered for a sound evolutionary reason, namely to alert us to what is not understood. The problem occurs if our BIOGRAPHY responds to this BIOLOGY with a strategy to avoid or deny the shame — i.e. a shame-like response evoking scripts of the Compass of Shame.

Compass of Shame behaviours occur in response to learning shame also. Students in the classroom can Withdraw (switch off from learning or not attend class), Attack Self (put themselves down, assume they are ‘dumb’), Avoid (be the class clown, focus on other aspects of their lives, take risks, use drugs) or Attack Other (put others down, belittle value of work, diminish someone, bully others).

Shame Spirals: Shame affect triggered in our students can also trigger shame affect in us. Any impediment to our pursuit of our interests will trigger shame affect in us. This can prompt shame spirals where the students’ Compass of Shame responses prompt our own Compass of Shame response, which triggers a further student Compass of Shame response and so on. Relationship breakdown is an obvious outcome.

Chronic Shame: Students who appear to have given up even before they enter your room, who seem to be in a constant state of withdrawal or attack self, may be suffering from chronic shame. Their experience of schooling is that it is mostly unrelenting negative affect. They often present as learning disabled. They are. They have learnt that each lesson will bring shame affect. They anticipate it. Attack Self and Withdrawal are ‘socially acceptable’ scripts in the classroom - and won’t necessarily draw the teacher’s attention. These students can therefore ‘fly under the radar’ in a busy room.

Shame affect is CENTRAL to Complex Learning:

Separating the SELF from the BEHAVIOUR is a key principle of good pedagogy.
SELF-THEORIES ABOUT INTELLIGENCE

Students bring a certain MINDSET (self-theories about their intelligence; sets of scripts around learning and their abilities)…

a FIXED (entity theory) mindset believes capabilities are fixed since they are part of the self, and the self is fixed, constant
a GROWTH (incremental theory) mindset believes capabilities can be developed through effort, i.e. through their behaviours

FIXED mindset attributes success to innate qualities of the self, and sees failure as evidence that the SELF is faulty (a shame-prone script).
“the world is about measuring your ability. It is a world of threats and defences”

GROWTH mindset attributes success to effort and behaviours, and sees failure as a need to work and study harder (a guilt-prone script).
“the world is about learning and growth. It is a world of opportunities to improve”

— Dweck & Master 2008

Description of the two Mindsets in terms of predominant Scripts:

<table>
<thead>
<tr>
<th>Core Belief</th>
<th>Fixed Mindset: Intelligence is fixed</th>
<th>Growth Mindset: Intelligence is malleable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student’s Goal</td>
<td>Look smart even if you sacrifice learning</td>
<td>Learn new things even it is hard or risky</td>
</tr>
<tr>
<td>Scripts around learning?</td>
<td>Native ability</td>
<td>Effort, strategies</td>
</tr>
<tr>
<td>Scripts around success?</td>
<td>Being smarter than others</td>
<td>Improvement and mastery</td>
</tr>
<tr>
<td>Scripts around failure?</td>
<td>Low intelligence “I’m a failure” (self)</td>
<td>Low effort, strategy “I failed, I’ll try harder” (behaviour)</td>
</tr>
<tr>
<td>Scripts around effort?</td>
<td>Effort = low intelligence</td>
<td>Effort activates and uses intelligence</td>
</tr>
</tbody>
</table>

Impacts of the two Mindsets:

<table>
<thead>
<tr>
<th>Approach to challenge</th>
<th>Fixed Mindset: Lower-level strategies, shallower processing</th>
<th>Growth Mindset: More self-regulation of learning and motivation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategy after failure</td>
<td>Less effort, more defensiveness</td>
<td>More effort, self-improvement</td>
</tr>
<tr>
<td>Self-handicapping</td>
<td>More</td>
<td>Less</td>
</tr>
<tr>
<td>Performance after difficulty</td>
<td>Impaired</td>
<td>Equal or improved</td>
</tr>
<tr>
<td>Grades in difficult courses</td>
<td>Lower</td>
<td>Higher</td>
</tr>
<tr>
<td>Grades over time</td>
<td>Tend to fall</td>
<td>Tend to rise</td>
</tr>
</tbody>
</table>

— Dweck 2012

Cognitions, Predominant Affects and Behaviours (Scripts) associated with the two Mindsets:

**FIXED MINDSET**

**THOUGHTS**


**GROWTH MINDSET**

**THOUGHTS**

Challenge → Self-Confidence → Aspiration → Interest—Excitement—Enjoyment—Joy—Authentic Pride → High Effort—Challenge—seeking—Cooperativeness—Persistence

Practices which Promote the two Mindsets (scripting for a Fixed or Growth Mindset):

<table>
<thead>
<tr>
<th>PRAISING</th>
<th>FIXED MINDSET: For person: talent, intelligence</th>
<th>GROWTH MINDSET: For process: effort, strategy, etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>PORTRAYING ‘GENIUS’</td>
<td>FIXED MINDSET: As inborn and effortless</td>
<td>GROWTH MINDSET: As achieved through passion and effort</td>
</tr>
<tr>
<td>PORTRAYING CHALLENGE</td>
<td>FIXED MINDSET: As something weak students encounter</td>
<td>GROWTH MINDSET: As a value and a way to learn</td>
</tr>
<tr>
<td>PORTRAYING EFFORT</td>
<td>FIXED MINDSET: As necessary for less able students</td>
<td>GROWTH MINDSET: As necessary for everyone</td>
</tr>
<tr>
<td>PORTRAYING THE BRAIN</td>
<td>FIXED MINDSET: As static</td>
<td>GROWTH MINDSET: As growing with learning</td>
</tr>
</tbody>
</table>

We can best promote (encourage scripting of) growth-mindsets in our students by:

- Establishing high expectations (not just high standards).
- Creating a risk-tolerant learning zone.
- Giving feedback that focuses on process – the things students can control.
- Introducing students to the concept of the malleable mind.

— Dweck 2012
How we Frame tasks, and how we give feedback, positive or negative, can encourage either a fixed mindset or a growth mindset in our students.

**FRAMING TASKS:**

Examples of Communicating: Learning Goals
- New material is an opportunity to stretch!
- Today’s learning objective will give everyone an opportunity to stretch.
- I am hoping that you all do not know this already; I don’t want to waste your time!
- I really want us to stretch beyond our comfort zone on this!
- This is just the first draft — you’ll have lots of chance to improve it.
- I want you to push yourselves to tackle this concept.
- We’re in the learning zone today. Mistakes are our friends!

Examples of Communicating: High Expectations
- I know that you all have the ability to do this, so I have set the bar high.
- This will be a challenging concept to learn, but all of us can reach the goal.
- I am going to push you all because I know if I do you will all do amazing work!
- This is challenging, but rewarding!
- When you master this learning, you can be proud because this isn’t easy.
- As you learn this, mistakes are expected. Your mistakes help me support you. Let’s make mistakes together!
- I have seen you stretch and succeed in the past. Let’s do it again.

**GIVING FEEDBACK:**

Examples for when they struggle despite strong effort
- OK, so you didn’t do as well as you wanted to. Let’s look at this as an opportunity to learn.
- What did you do to prepare for this? Is there anything you could do to prepare differently next time?
- You are not there/here yet.
- When you think you can’t do it, remind yourself that you can’t do it yet.
- I expect you to make some mistakes. It is the kinds of mistakes that you make along the way that tell me how to support you.
- Mistakes are welcome here!
- Look at how much progress you made on this. Do you remember how much more challenging this was (yesterday/last week/last year).
- Of course it’s tough — school is here to makes our brains stronger!
- If it were easy you wouldn’t be learning anything!
- I admire your persistence and I appreciate your hard work. It will pay off.

Examples for when they struggle and need help with strategies
- Let’s think about how to improve (the accuracy of) this section/paragraph/sentence/word choice/logic/description/problem/calculation.
- Let me add new information to help you solve this….
- Here are some strategies to figure this out.
- Describe your process for completing this task.
- Let’s do one together, out loud.
- Just try — we can always fix mistakes once I see where you are getting held up.
- What parts were difficult for you? Let’s look at them.
- Let’s ask - for advice s/he may be able to explain/suggest some ideas/recommend some strategies.
- If you make ______changes, we can reassess your score. Let’s discuss a plan for you.

Examples for when they are making progress
- Hey that’s a tough problem/task/concept that you’ve been working on for a while. What strategies are you using?
- I can see a difference in this work compared to ____. You have really grown (in these areas).
- I see you using your strategies/tools/notes/etc. Keep it up!
- Hey! You were working on this for awhile and you didn’t quit!
- Your hard work is clearly evident in your process/project/essay/assignment.

Examples for when they succeed with strong effort
- I am so proud of the effort you put forth to/in/with ______.
- I am very proud of you for not giving up, and look what you have to show for it!
- Congratulations — you really used great strategies for studying, managing your time (behavior, etc).
- I want you to remember for a moment how challenging this was when you began. Look at how far you have come!
- All that hard work and effort paid off!
- It’s exciting to see the difference in your work now when I compare it to your earlier work.
- I can see you really enjoyed learning _____.

Examples for when they succeed easily without effort
- It’s great that you have that down. Now we need to find something a bit more challenging so you can grow.
- It looks like your skills weren’t really challenged by this assignment. Sorry for wasting your time!
- I don’t want you to be bored because you’re not challenging yourself.
- You’re ready for something more difficult.
- What topic would you like to learn more about next?
REFERENCES & FURTHER READING:

The author gratefully acknowledges the kind permission of Vick Kelly MD and Susan Leigh Deppe MD to use parts of their work (referenced below) in these notes.


FOR FURTHER INFORMATION:

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RP for Schools (Restorative Practices) ...................................................................... www.rpforschools.net
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Restorative Practices International ....................................................................... www.rpiassn.org