

**FEBRUARY 23 2022 1:21 PM ZULFIKAR MOINUDDIN AHMED
CONTINUES TO EMOTION THEORY**

ZULFIKAR MOINUDDIN AHMED
ZULFIKAR.AHMED@GMAIL.COM

1. RESTARTING THOUGHT ABOUT EMOTIONS AND SCIENCE OF MAN

In the past week I have been thinking about human emotions. I have come to some major conclusions from this process. The first issue is that the confusion of centuries regarding emotions in part stems from history of what in natural language are *emotion words*. Human beings have called certain sorts of things emotions and given them words to very roughly give some sense to them. "Angry" and "Sad" and "Joyful" and such. These words have given us the sense that emotions are some sort of discrete things. That's a serious problem for a natural science of emotions. I will give the analogy to the theory of colours. If he had treated the theory of colours in the same sort of way we treat emotions, we would have very little progress in optics for centuries.

I will ask the reader to consider whether colours really are discrete at all. Are they red and blue and yellow and do you want to classify them by discrete variables? They are not, and we know quite a bit better how to model colours for scientific theories.

Throughout twentieth century, we have various quaint and charming, and ultimately quite primitive attempts to model emotions by paying too much effort at linguistic fidelity.

Thanks to Jaak Panksepp's profound immortal genius, we now have seven systems of subcortical brain that generate emotions. I have therefore proposed that emotions, *all emotions* rather than specific ones, are continuous and they are faithfully represented in a single vector latent variable whose state space is

$$E = \mathbf{R}^7$$

I separate out our bias towards natural language by specifying several things.

First a given emotion that we recognise say "Anxious", is not actually a precise description. It is specified as a smooth probability density on E . To put things in context, suppose there is a population sample of $N = 1000$ and each person has their brains neuro-imaged when then are anxious. The measurement will produce $x_1, \dots, x_N \in E$. These points then will allow us to produce a region $D_{Anxiety}$ and estimate a smooth density $f_{Anxiety}$ and then random variables chosen from the measure

$$f_{Anxiety} dx$$

are random anxiety of human beings generally.

The key to my particular outlook is that we have a quantitative model of *all possible emotions that human beings can experience* including all those for we have names.

And now I will sing a song for you.

I used to be a lunatic from the gracious days
 I used to feel woebegone and so restless nights
 My aching heart would bleed for you to see
 Oh, but now (I don't find myself bouncing home)
 (Whistling buttonhole tunes to make me cry)
 No more I love you's
 The language is leaving me
 No more I love you's
 Changes are shifting outside the words
 (The lover speaks about the monsters)
 I used to have demons in my room at night
 Desire, despair, desire, so many monsters
 Oh, but now (I don't find myself bouncing around)
 (Whistling my conscience to make me cry)
 No more I love you's
 The language is leaving me
 No more I love you's
 The language is leaving me in silence
 No more I love you's
 Changes are shifting outside the words
 They were being really crazy
 But they will only come
 And you know what, mommy?
 Everyone was being really crazy
 The monsters are crazy
 There are monsters outside
 No more I love you's
 The language is leaving me
 No more I love you's
 The language is leaving me in silence
 No more I love you's
 Changes are shifting outside the word
 Outside the word
 No more I love you's
 The language is leaving me
 No more I love you's
 The language is leaving me
 No more I love you's
 Changes are shifting outside the word

This is a famous song of Annie Lennox. I will give you a good grade if you understand that this song, like many others is quite explicitly speaking about language and emotions. Language is inadequate to describe all emotions human beings experience. It is therefore a subtle and deep error to let language guide our thought about a natural science of emotions.

It is fatal for a natural science of Man and seek conformity with natural language to calibrate actual emotions. I have begun asking for a study of neuroscientists to provide us with measurements in E for a large class of recognisable emotions. I would like such a study done to calibrate all social sciences for a canonical outlook towards how we will bring emotions into natural scientific order.

2. JAAK PANKSEPP'S AFFECTIVE NEUROSCIENCE IS THE PROFOUND IMMORTAL GENIUS IN EMOTIONS

What was really missing for millenia and centuries, and resolved by Jaak Panksepp indirectly, and myself standing on his work is *a continuum latent state space* capable of faithfully representing all possible emotions that human beings can have, including those for which there are no natural language words. Artists, like Annie Lennox and Sting and Thom Yorke, and many others have always known that there are many significant emotional states for which there are no words at all. The explanation for this is not very difficult. It is possible by my resolution of continuum latent state space $E = \mathbf{R}^7$. Human language evolution has words for emotions sufficiently common that ordinary communication for them were necessary for life of being human for thousands of years. This is analogous to having 'blue' in our lexicon to describe the colour of the sky.

A natural science of emotions *cannot be restricted at all* to only those states that have words that we use in ordinary language. This, seemingly reasonable restriction, will not produce *any adequate natural science at all*. All emotions that any human being can experience must be included.

My hypothesis is that even the sublime emotions of "Elvis Presley and America" will be representable in any theory of human beings. My view of Science of Man is that it ought to be a single coherent theory that has power to explain all aspects of human race in totality. My latent state space will be that same across all human beings and the values in the state space I expect to have *comparability across the globe* meaning that anger of one person and that of another ought to be comparable. These hypotheses can be resolved by neuroimaging studies.

After this is done, we ought to be able to produce uniform parsimonious theories for all human beings – thoughts, feelings, behaviours, interactions – that are good scientific theories.

3. PSYCHOLOGY IS READY TO BE A SERIOUS NATURAL SCIENCE WITH CANONICAL ESTABLISHMENT

History of psychology shows a great deal of turbulence and turmoil, as do many of the social sciences. This will change right now. I, Zulfikar Moinuddin Ahmed, the immortal genius behind the Final Theory of Physics (above $\delta = 10^{-15}$ centimeters) am quite confident that Psychology can be a standard quantitative discipline now and provide future of humanity with strong scientific theory that are no less reliable than the so called 'exact sciences'. All this has to be based on quantitative and canonical foundations. The cults of personality have to be replaced by sober and strong consensus and standardization of foundations. Mathematics is key to progress of Psychology as well as other social sciences. Contrary to people's beliefs, with *really complex natural phenomena* mathematical sophistication needs to be higher than lower than physics and other sciences that study less complex phenomena. It is

ironic that psychology, which ought to have higher levels of organisation and discipline to succeed is more anarchic, less disciplined, and with weaker foundations than Physics and Mathematics.

This will have to change now. Zulf wants a tip-top Science of Man that is right.

4. ZULF THANKS HARVARD PSYCHOLOGY FOR THE EFFORT TO REMOVE SOME EVIL BLACK MAGIC ON MY BLOOD META FROM BILL GATES

Harvard Psychology, you have just discovered some extremely disgusting Evil Black Magic elements in my Blood Meta that was pushed by *Bill Gates* to harm my actual flesh destroy me. I thank you for their discovery. Bill Gates invaded my Deep Interior with enormous murderous and destructive intent to harm me for no justifiable reason. He is by far the most disgusting abominable vile worthless evil human being ever born on Earth and humanity will be greatly benefitted when he is totally destroyed.

5. DIFFICULTIES OF GETTING THE RIGHT LEVEL IN PSYCHOLOGY

High quality scientific theories result when the right level of details are found, where of course 'right level' is unknown. We want both explanatory and predictive power in a theory versus Nature and we want parsimony in assumptions. And that's one of the things that has been always difficult in complex theories of the human being. I feel confident that my model of human emotions broadly will be a permanent advance for psychology and social sciences.

6. EXAMINING FRIJDA'S ANALYSIS

I don't have Frijda's book on Emotions, and I am interested in examining some of these theories. I won't worry about serious science now. I will try to see what I could do with my theory.

Suppose $x(t)$ is the latent emotion state variable. Now we consider something like this. Let's say for $t \in [t_0, t_0 + \delta]$ we have an emotional event, something not too drastic. At t_0 Zulf listens to Lana del Rey's "Old Money" and then later $t_0 + \delta$ Zulf feels like talking to some young beautiful lady mildly drunk in some amorous mood. This sort of thing is fairly generic and it is worthwhile thinking about the mathematical representations such things generally because it is my view that the mathematical structure required to produce theories of these sorts of things for a scientific theory is neither trivial, nor have there been sufficient attention from mathematics about how to represent them in a way that would be valuable for use in sharp scientific theories.

I want to make this point very very clear. If I get pissed off, I do not punch someone in the face all that often. In fact there are very few men who actually do that. Some do, but most don't. I do not feel that psychologists are actually using any appropriate mathematical formalism at all in their theories for natural psychological issues at all.

And this needs to change and it needs to change now.

7. JAMES-LANGE AND SCHACHTER-SINGER THEORIES ARE TOTAL RUBBISH

Look, people, emotional instruments are in the subcortical brain and are much older than cognition and other features of the human body. So emotions elicited

from environmental stimulus are mostly before cognition and other features. Emotions are literally primal. Cognition always is secondary to emotions. Cognition can deflect reflexes, cognition can stimulate some emotions. I do not understand how people just do enormous amounts of speculative exercises and just get these things totally wrong.

Just frustrating.

8. LAZARUS 1982 IS ALSO WRONG

Richard Lazarus in 1982 attempted to compel us that in human beings cognition is the *cause* of emotions. That's wrong as well. His sort of division is that in the lower animals perception causes emotions and in humans thoughts do. That's wrong. I know from experience that sudden turning to my right walking in a city and seeing a pit bull untied will cause immediate and strong fear for me without thought. Richard S. Lazarus' appraisal idea is nice for some cases of emotions but it's wrong as a universal theory. I just looked over the paper [6]. It's a wrong theory that has value obviously, but it's wrong as a natural scientific theory of human emotions. Human emotions can be caused without any appraisal and I have a great deal of experience of thoughtless emotion, so he's wrong period.

9. A NATURAL SCIENCE THEORY OF HUMAN EMOTIONS

A Natural Science Theory of Human Emotions must hold for (a) all humans, (b) all possible emotions, in (c) all circumstances. Fine, appraisal theory in [6] is for some humans, some emotions in some circumstances, which is valuable but it's not adequate because it's too incomplete. Some emotions are elicited from direct perception. For most people snakes will provoke a spike in fear that is without any thought that would be quite unregulated.

Here is one theory that I think will lead to results. Regulation of natural emotions requires habituation. Unless you are around snakes all the time, the chances are very remote that you will have regulation habits for fear enough to control the reaction of fear because this is very ancient; our primate ancestors adapted to fear of snakes because they had to survive poisonous snakes for millions of years and I will be quite astounded if without genetic engineering those adaptations just disappeared from every human being.

My fairly trivial view is that we have plenty of raw emotions that are without any or much thought at all – in direct contrast to appraisal theory's major claim that all emotions are consequence of appraisals – and we also have emotions that are modified and sparked by thought. That's not equivalent to appraisal theory; those thoughts may or may not be any sort of evaluation of any environment at all.

So I put appraisal theory's total package as a subset of situations in which it so happens that appraisals generated some emotions in human beings.

Given those conditions, that appraisal did lead to emotions, appraisal theory has some value. It's not an adequate universal human emotions theory.

10. MY OWN INTUITIVE SENSE WOULD BE APPRAISAL THEORY COVERS 25-30% OF EMOTIONS IN HUMAN BEINGS

Consider all emotions in all human beings in all circumstances in all periods of history. Let us imagine measuring them, and then ask of all emotions we have seen, what percentage were both (a) cognition induced and (b) post-appraisal and my

intuitive guess would be 25-30% not much more. For those cases, Appraisal Theory will have some value.

Let me sing you a song. This is "Elvis Presley and America" by U2, one of the most sublime songs of emotion in history frankly. It's profound. This is far outside the bounds of Appraisal Theory.

Black flash
Black flash over my own love
Tell me of my eyes
Black flash come though my own life
Telling these things
And I believe them
And I believe in you
White flash sees the sky
And it turns its side from you
She won't turn my back
And I know you turn so blue
And you know
And your sky is feeling blue
And your heart
So cold when I'm with you
And you feel
Like no one told you to
And your time is your side
And your time with me
Ah, don't talk to me
Ah, don't talk to me
Don't talk to me
You know
Like no one told you how
But you know
Though the king that howls has howled
But you feel like sentimental
But you don't care
If I just share it in your heart
(Heart...)
Hopelessly
So hopelessly
I'm breaking through for you and me
And you don't
Though no one told you to
And you found out
Where you were going, where to
You're through with me
But I know that you will be back
For more
You know
And though no one told you so
And you know, blue sky

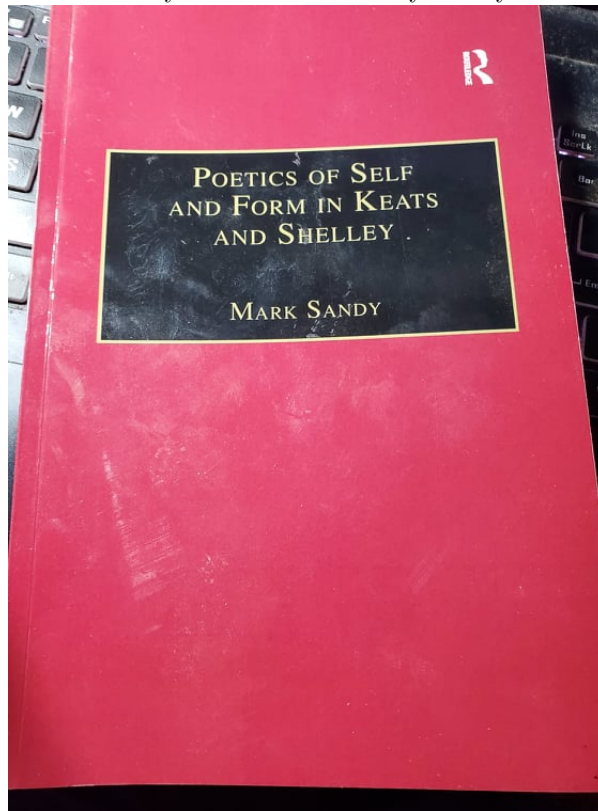
Like a harder shade of blue
And you walk
When you want
To let go
Me, I'm the outside, tell me fade away
Drop me down but don't break me
In your sleep
In your sleep, inside
It's in your heart and mine
Whole sea is dark
It's in your heart and mine
Sweetly, those will come
Loving is on your side walking through
So let me in your heart
Your beat is like something...
They...
Run...
See say you're sad and reach by
So say you're sad above beside
Oh stay you're sad over midnight
So stay sad above we said
You know I don't
No one told you how
(And you don't)
(And you wipe sweat off your white brow)
And you care
And no one told you tried
And your heart
Is left out from the side
And the rain beats down
And the shame goes down
And this rain keeps on coming down
And this sky
Tonight...
You know "S" "O" "N" "G", why
You're going go join to God
You know "S" "O" "N" "G", why
Give away some him no lie
Give away some my de day no
You know
And though no one told you sky
And you feel
Like you pretend you can
You say go, you live
Go live outside of me
Don't you leave
Don't leave out part of me
Then can feel

Like I feel before
Like I hurt now
And I see the floor
If you pick me up
Bits and pieces on this floor

Well you have to understand something here, these are real human emotions, and people have those emotions. The world of human emotions is quite a bit vaster than a theory like Appraisal Theory. Appraisal theory is a phenomenological theory and those have their place. But we want a fundamental theory that is not limited in its reach in the end, and still be natural science, good natural science with prediction power.

11. ZULF SHOWS A NICE BOOK

Let me show you a nice book in my library.



I won't go into the whole story. Fine I'll tell you a bit. I have great hopes for finding some deep ideas that are likely to be true or inspiring from English Romantics 1780-1840. The *Romantic Self* and philosophies of Shelley and Coleridge may have universal aspects that will lead to discoveries in Quantitative Positive Psychology and transform the world of my beloved people the Human Race one day.

And I know Shelley. His grasp of emotions was profound and vast. For various reasons, sleight of hand and twist of fate, contemporary psychologists of emotions constantly focus on a very limited conception of human emotions.

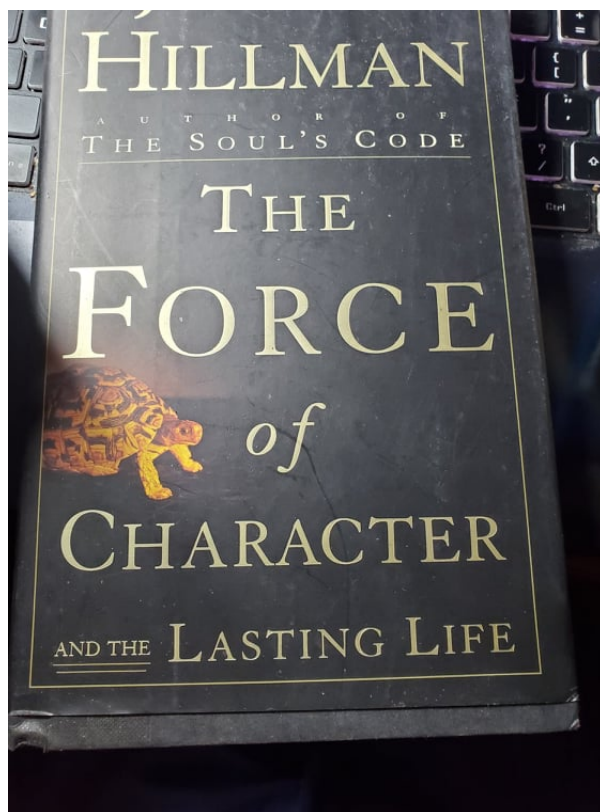
Now the problem with doing this, *even when there are some useful theories with some establishment and applications* is that the whole enterprise *stops reflecting Nature* and that is fatal for Psychology. In order to be a natural science, Psychology must confront the splendor of the world of human emotions and not try to constrain them for pragmatic purposes, and pretend that this world is measly and poor, pretend that the world of human emotions is shriveled and anemic. It is quite alive and quite grand and expansive. We are not completely destroyed by the oppressive commercial forces of the world, our hearts are still grand and we are not crestfallen and defeated by the wretched repressive forces that aim to destroy all human life. We still *live* and we still *endure*. We are proud human beings, and our emotional lives will not be constrained into small prisons.

Dayadhvam: I have heard the key
 Turn in the door once and turn once only
 We think of the key, each in his prison
 Thinking of the key, each confirms a prison
 Only at nightfall, aethereal rumours
 Revive for a moment a broken Coriolanus

Only at nightfall, aethereal rumours revive for a moment a broken Coriolanus, ladies and gentlemen. Vast are our emotional worlds, and let our Psychological Science never forget this!

12. NATURAL SCIENCE OF PSYCHOLOGY IS NOT REDUCTIONISM

I understand some concerns. Look, psychologists, I know James Hillman's work. I like him. I have here both *The Care Of The Soul* and *The Force Of Character*. This is good. I read Carl Jung too, and he's good.



We have to get past a sort of fake dichotomy or bifurcation in psychology. On one hand, there is the whole issue of human life is deep and complex and we want to know things about human beings and not treat human beings in a reductionist way. I appreciate this totally.

But you see, you need quantitative methods if you want to ever produce a natural science that will match Nature even with a complex whole human being. The problem is not entry of sophisticated mathematics. Sophisticated mathematics does not reduce the human being to anything less. The propensity to reduce people to modified chimpanzees without any sense for depth of human heart is not the consequence of natural science. That's just the habit of some technical lab rats. The fact is that you won't be uplifting the lives of 8 billion people by individual therapy with them. You're not being kind to human race by pretending that by shunning quantitative natural science you are respecting their whole human life. What you are doing instead is *not helping 8 billion people* and not listening to the cries for mercy by ignoring their needs and then cloistering yourselves in comfortable situations.

If you actually want to help eight billion people, get natural quantitative science that can actually help eight billion people. Because the unfortunate truth is quantitative models are the only effective models that will actually represent nature at all. The posture of 'too kind and nice and respectful to expend effort on quantitative natural science' is to make yourselves feel good and you're not going to be making house calls to billions of people, I know that and you know that and everyone knows that.

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