A mechanics of human attraction?

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A short informal essay discussing the results of two small proof of concept tests on ten male subjects to attempt to identify an algorithmic or mechanical basis for human attraction in the choice of a female partner. One test involved choosing the most attractive female facial image from a random collection of twenty beautiful female faces and comparing its metrics of thirteen attributes to those of facial images of past relationships of each male subject to identify an algorithmic or Bayesian foundation for attraction versus assumed free will. The second test was the presentation of an image of hidden female forms to ten men and ten women as a proof of concept for how to possibly identify how the human male brain identifies female forms and fitness again proposing an epigenetic grammar of forms.

"Are you ready for the thing called love"
-- Bonnie Raitt, Thing called love

"…make a lot more sense if it were based on how people actually behave, instead of how they should behave?"
-- Dan Ariely, Predictably Irrational: The Hidden Forces That Shape Our Decisions

"The neocortex stores sequences of patterns."
-- Jeff Hawkins, On Intelligence

"Now spring is turning your face to mine
I can hear your laughter, I can see your smile
Slave to love, I can't escape
I'm a slave to love."
-- Bryan Ferry, Slave to Love

Human beings believe in free will. Major life choices, including what we do for a career and who we fall in love with, are assumed to be driven by our own dreams, goals, and desires and not subject to a reductionist or mechanistic paradigm. However, perhaps this belief is a bit naïve and maybe there does exist a "mechanics" of human attraction. The brain is believed to store data as sequences and to use Bayesian Probability in much of its decision making. Considering this perspective, there may exist some simple tests we can conduct to tease out if our choices are actually random, follow our preferences, or are actually based on mechanisms or strategies of our brain.

As a proof of concept along these lines, a small test was done using ten middle-aged men. Each was asked for a sample facial image of a past girlfriend, wife, or romantic partner. The choice of older men was done intentionally to ensure that each sample size of past relationships was large enough. Counts ranged from a minimum of four to a maximum of ten images of past relationships per male subject. Each image had the face of the female partner labelled via a list of thirteen attributes (Figure 1). The counts of the specific metric of each attribute were then totaled to find the Highest Totals of facial attribute metrics for each individual male subject i.e., their assumed preferences from past examples.

The assumption for the test was that the choice of their most attractive image should have attributes close to, if not identical to, the Highest Total attribute metrics based on the appearances of their past relationships i.e., of their aggregate preferences over time. Then a pool of twenty images of random yet unique faces of beautiful women was selected via an Internet search. Each of the ten men were then asked to choose a single image that they thought was the most attractive female out of the pool of twenty images. These images were also subjectively labelled by the same facial attributes and metrics for comparison. The results showed that in all ten men the choice did not match an image from the pool closest to their "Highest Total" as believed. What was observed was that for each male the image chosen was an apparent "sum" or

combination of two of their past relationships that had the lowest deviation from the choice (Figure 1). For example, one male subject's choice appeared remarkably similar to two of his past relationships (Figure 2). The metrics of his choice image was somewhat close to his Highest Total list - seven of the thirteen metrics were the same. In fact, his choice appeared to be a matching of a pair of the two past images that had a deviation from the choice image of only two and three metrics out of the thirteen total metrics. These were the lowest amongst the deviation amounts out of his sample of six past relationship images. The two past images had deviations of six and seven out of the thirteen metrics from his Highest Total list. This same scenario of not matching the Highest Total was seen in ten of ten subjects.

The conclusion of the small test was that the choice of an attractive mate was based not on a rank of individual attribute metrics, as one would naturally assume but, rather, on the image that most closely matched a pairing or "sum" of two prior relationship images. This would follow or support theories of the brain using "sequences" to process information as the *entire* sequence or metric list of each image appears to be the grammar or unit used by the brain to "calculate" a preference or choice. The choice of each male appeared to always be a combination of only two past relationship images.

The small sample size of the test is an example of a clear limitation of the analysis as are the lack of deeper statistical analysis or regressions that are also hindered by the small sample size. The test nonetheless can be used as a model for a larger and more formal analysis. Note that factors like how a past relationship ended did not seem to affect which two pairs of past images had the least deviation from the choice of the "most attractive" image. Also, while most images of attractive and healthy individuals tend to not differ dramatically, the choice out of the pool always appeared to match attribute metrics that were learned and experienced. Thus, we conclude that our straightforward choice of beauty or attractiveness is likely not based on free will but is algorithmic or Bayesian in nature.

Another open question regarding human attraction is how exactly a human brain knows what is attractive at all as a male or female begins to find any other humans attractive. Regardless of lack of any learned experience, how does any man, or boy, ever initially find a female form or image attractive at all? Here we must lean on obvious epigenetic mechanisms. As Jeff Hawkins notes in his book *On Intelligence*, the brain, as seen in many studies of how the brain identifies human faces, stores information in invariant representations with auto-associative recall. In essence, the brain does not store the image or representation of an entire face but, rather, only critical aspects or relationships of facial features. Thus, could there also be a "list" of critical features, forms, or shapes that the brain uses to queue a developing young male brain to what identifies a "fit" female mate? Here another simple test was done with the same ten male subjects.

Each male subject was shown an image of black forms on a white piece of paper (Figure 3). The forms were a combination of only key outlined physique differences between mature male and female forms (Figure 4). When ten females were shown the image, none of them showed any interest with five of the ten aggressively commenting on how they disliked the image and considered it "just scribbles." Three of the ten men either incorrectly kept looking for a face or hidden pattern or lost interest in the image while the remaining seven showed a much longer fascination with the image although none could guess what the image was or what any of its various forms represented. An example form was an outline of female hip to shoulder ratio and hip curves (Figure 4). The conclusion of this test is that attraction again is determined by a grammar of forms and proportions whether in a female face, or in this case, a female body. Again, additional and formal investigation is proposed to work to identify the exact forms and minimum number of forms used by human male brains.

Figure 1.

Example of attributes and metrics from two past relationships that had the least deviation from the choice image and larger deviation from the given male's Highest Total of attribute features from all six of his past relationship images.

Name		Savannah
Count of attributes		13
Deviations from Choice	orange and yellow	2
Deviations from Total	red and yellow	6
Facial Attribute	**Metric**	**Result**
Facial shape	Round	
Facial shape	Oval	X
Facial shape	Triangular	
Eye size	Large	X
Eye size	Medium	
Eye size	Small	
Eye placement	Wide	
Eye placement	Centered	X
Eye placement	Close	
Nose size	Large	
Nose size	Medium	X
Nose size	Small	
Nose shape	Skinny	X
Nose shape	Average	
Nose shape	Wide	
Hair color	Black	
Hair color	Brunette	X
Hair color	Blonde	
Hair color	Red	
Hair color	Other/ None	
Smile	Large	
Smile	Average	X
Smile	Small	
Teeth	Perfect	X
Teeth	Not perfect	
Hair style	Long	
Hair style	Medium	X
Hair style	Short	
Hair style	Very short	
Checkbone structure	Pronounced	
Checkbone structure	Average	X
Checkbone structure	Subtle	
Freckles	Yes	
Freckles	No	X
Ears	Large	X
Ears	Average	
Ears	Small	
Skin	Dark	
Skin	Tan	
Skin	Pale	X

Name		Amanda
Count of attributes		13
Deviations from Choice	orange and yellow	3
Deviations from Total	red and yellow	7
Facial Attribute	**Metric**	**Result**
Facial shape	Round	
Facial shape	Oval	
Facial shape	Triangular	X
Eye size	Large	X
Eye size	Medium	
Eye size	Small	
Eye placement	Wide	X
Eye placement	Centered	
Eye placement	Close	
Nose size	Large	
Nose size	Medium	X
Nose size	Small	
Nose shape	Skinny	
Nose shape	Average	
Nose shape	Wide	X
Hair color	Black	
Hair color	Brunette	X
Hair color	Blonde	
Hair color	Red	
Hair color	Other/ None	
Smile	Large	
Smile	Average	X
Smile	Small	
Teeth	Perfect	X
Teeth	Not perfect	
Hair style	Long	
Hair Style	Medium	X
Hair style	Short	
Hair style	Very short	
Checkbone structure	Pronounced	X
Checkbone structure	Average	
Checkbone structure	Subtle	
Freckles	Yes	
Freckles	No	X
Ears	Large	
Ears	Average	X
Ears	Small	
Skin	Dark	
Skin	Tan	
Skin	Pale	X

Highest Total Result	Choice Result
X	X
	X
X	
	X
X	X
	X
X	
	X
X	
X	X
X	X
X	
X	X
	X
X	X
X	X
X	X

Choice Result
X
X
X
X
X
X
X
X
X
X
X
X
X
X
X

Figure 2.

Actual images of the same two past relationships noted in Figure 1 that appear to "sum" to the male's choice of most attractive image on the left from the pool of twenty Internet images of beautiful female faces.

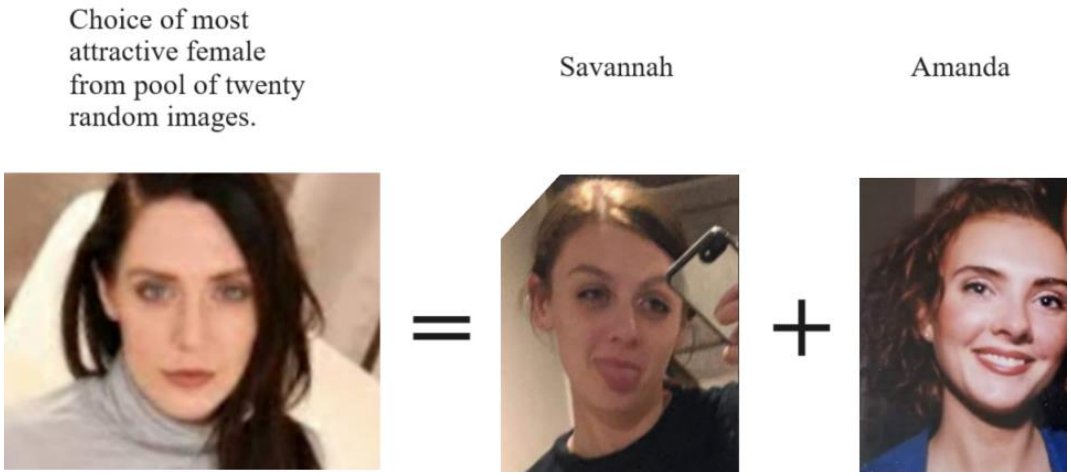

Figure 3.

An image of hidden female forms used to compare male and female reactions to identify possible epigenetic queues or a symbolic grammar associated to female fitness forms in a young male brain.

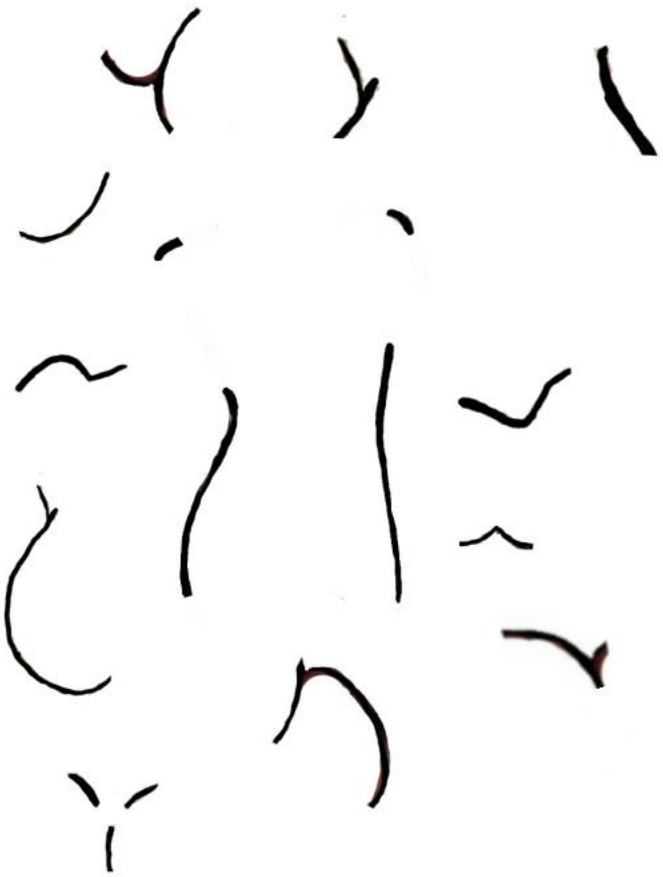

Figure 4.

An isolated example form in Figure 3 where a human female hip to shoulder ration and hip curves are highlighted as a possible subconscious fitness queue present in a male brain.