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Biological Psychology & Personality Theory: The Basics

(This article is complementary material for Tutorial 2)

*"Here there are neither ignoramuses nor perfect sages;*

*there are only people who are attempting, together, to learn more than they now know"* (from Freire, 1972)

*"We've got nothing to fear but fear itself;  
Not pain, not failure, not fatal tragedy,  
Not the faulty units in this mad machinery,  
Not the broken contacts in emotional chemistry."*

(Neil Peart, Rush, "The weapon")

Biological Psychology

Biological psychology is the application of the principles of biology, in particular neurobiology, to the study of mental processes and behavior.

Biopsychologists study healthy brains & minds and figure out how they develop and how they work. In many cases, humans may serve as experimental subjects in biological psychology experiments; however, a great deal of the experimental literature in biological psychology comes from the study of non-human species, most frequently rats, mice, and monkeys. As a result, a critical assumption in biological psychology is that organisms share biological and behavioral similarities, enough to permit extrapolations across species.

I'm Expanding the Frontiers of My Mind, Officer

A good example of a biological psychology experiment would be taking magic mushrooms. In a study of how different amounts affect the perception, a researcher could compare the frequency and intensity of perceptive hallucinations (the dependent variables) when different doses (the independent variable) are administered, and attempt to draw a conclusion. The dependent variable (here the hallucinations) is always dependent on the independent variable, (here the dosage)

In other words, the nervous system/ brain/ mind of the organism under study is permanently or temporarily altered, or some aspect of the nervous system is measured (usually to be related to a behavioral variable).

You don't have to take magic mushrooms to do biological psychology (unless you want to!) Many of the people who work in biological psychology do normal types of jobs in labs with white coats or as therapists with tweed jackets (and some of us do, too!) But as in any field there is an "underground" that explores the more exciting gap between drug-company-funded research and drug-fuelled rock and roll cyberpunk ethics, and in those cultural circles (or should I say, nets?) biological psychology and neuroengineering have a hot relationship lovingly known as "neurohacking";.

### DIY Mental Health

Given enough information, we believe people can assess their own mental health, make sensible informed choices for themselves about methods, therapies and treatments, their lifestyle, and anything else about their health. Normally to get this information even as a researcher you have to pay for it (science research funding doesn't come free). In the neurohackers community though, everything is open source, so you can benefit from the latest information and take more control of your own health and intelligence.

Biological psychology holds a wealth of information for neurohackers, but what we're talking about here is its background paradigm or 'world view'. There is a background view of the true nature of humanity in biological psychology that is optimistic, exciting, and some have said deeply spiritual! We would like to share it with you, along with some of the techniques neurohackers use that it relates to, such as interaction and the core conditions.

### Basics

#### Carl Rogers & personality theory

Biological psychology in general, and Carl Rogers (who designed the core conditions for interaction) in particular, see people as basically good and healthy, or at very least, when in a healthy state never bad or anxious. In other words, good mental health is seen as the 'normal', natural progression of life, and mental illness, unjustified aggression, and other human problems, as distortions of that natural tendency caused by dysfunction, however minor.

Carl Rogers was an accomplished communicator - both in person and through his writings and

films. He was also a committed practitioner who looked to his own experiences (and was, thus, difficult to classify as mainstream 'academic'). He was able to demystify therapy; and crucially to emphasize honesty and the destructiveness of manipulation.

Rogers' 'personality theory' is built on the natural striving of intelligence for *entelechy* (optimal development), that he calls the *actualizing tendency*. It could be defined as 'the built-in motivation present in every life-form to develop its potentials to the fullest extent possible and become as adaptable as possible'; the desire for *entelechy*. We're not just talking about survival, but thriving as well. Rogers believes that all healthy creatures naturally strive to make the very best of their existence. If they fail to do so, there is some dysfunction.

*Entelechy* encompasses all the other motives that other theorists talk about. It includes why we want air and water and food, why we seek safety, love, and a sense of competence, why we seek to explore strange new worlds, discover new medicines, invent new power sources, or create new works of art. We do all this because according to personality theory it is in our nature as healthy living things to do the very best we can. We are designed to shine; to be stars in biology's crown, the blockbusters of her evolutionary career in creative play.

Keep in mind though, Rogers' theory implies *entelechy* in all living creatures. Some dispute this. He also applied the idea to ecosystems, saying that an ecosystem such as a forest, with all its complexity, has a much greater actualization potential (possibilities for *entelechy*) than a simple ecosystem such as a corn field. The same for us as individuals: If we live as we should, working with biology, our intelligence will become increasingly complex, and thereby remain flexible, creative and adaptable in the face of life's little (and big) surprises.

People, in the course of actualizing their potentials, created culture. However, in the grip of disabling anxiety people have also created society. In and of themselves, groups and group living are not a problem: We are optimally 'group' creatures, it is our nature. But when we created an anxiety-fuelled society, it developed a life of its own, and many of our lives are now spent fuelling it.

If you get interested in neurohacking the first thing you'll need to learn about is anxiety, because it really is public enemy number one. (Read 'Anxiety & input control: the basics' in the files).

The Matrix has you...?

Some of you probably saw "The Matrix" movie. For those who didn't: the "machines" in the movie used human beings as slaves to provide their own power, fooling the individuals into believing their lives were worthwhile and meaningful by maintaining an input of false reality to their minds. If you watched that movie and got déjà-vu, or if that story gives you the creeps, consider this: A society based on anxiety uses human beings as slaves to provide its own power, fooling the individuals into believing their lives are worthwhile and meaningful by maintaining an input of false reality to their minds.

This is exactly what anxiety does.

Culture is deeply interactive and beneficial and includes the passing on from one generation to the next the collective group knowledge and experience; artistic, historic, scientific, practical, technical, creative etc. It remains close to and works with biology because it's relevant to our survival and thriving. An anxiety based society however isn't.

Rather than remaining close to and working with our biology, anxiety-society became a force in its own right and invented synthetic claims (e.g. "it's wrong to have sex unless you're married" ('married' being a category they also invented)) and taught these claims as facts, creating fertile ground for incongruity. (we'll talk about incongruity below).

We see no hope for intelligence in immersing itself in this system and just 'putting up with it' via nonaction. We can see the results on the health of those who do that in the latest depression, alzheimers, ADHD and crime figures (or by watching the news).

Even if, in the long run, this society that interferes with our development dies out, many people in all likelihood will die with it. For all that humans' complex cultures and incredible technologies have helped us to survive and prosper, The societal structures that anxiety has built may serve to harm us, although, intelligence being what it is, I doubt they could ever destroy us.

### Details

#### Dodgy programming

A great deal of science research tells us that organisms know what is good for them. Evolution has provided creatures with the senses, the tastes, the discriminations they need, if they are allowed to develop. If we are healthy that's what good and bad 'tastes' are – likes and dislikes should be our evolutionary lessons made clear. Rogers calls this organismic valuing.

If left to their own devices, with examples from intelligent elders, animals will tend to eat and drink things that are good for them, and consume them in balanced proportions. Babies, too, want and like what they need. However, all our senses need to be calibrated by experience via correct expression of our genomes, otherwise our associations with 'good' and 'bad' will be false.

Anxiety has created the tendency towards lifestyles for ourselves that are significantly harmful to both body and mind. In these lifestyles are such things as refined sugar, corn, burgers, cola and so on, that our ancestors in Africa never knew. These things are introduced to us as children when we are calibrating our tastes, so we end up (mis)programmed to like the flavors that are presented to us, they seem 'good', yet they do not serve our wellbeing biochemically, physically or mentally. This is how what you experience can hack you, and this is true of habits, judgment, decisions and beliefs as well as behavior, so you might wanna learn about input control.

Among the many things that we instinctively value when we're healthy is positive regard, Rogers' broad-spectrum term for things like love, affection, attention, nurturance, and so on. It is clear that mammal babies need love and attention. In fact, they become dysfunctional or die without it. They certainly fail to thrive (i.e. become all they can be).

We also value positive self-regard, that is, self-esteem, self-worth, a positive self-image, and awareness that our own behavior has rectitude (is beneficial). We achieve this awareness via feedback -by experiencing the positive regard others show us over our years of growing up and throughout our lives. Without this self-regard, we feel anxious, and again we fail to become all that we can be!

Our society also leads us astray with conditions of worth. As we grow up, our parents, teachers, peers, the media, and others, only give us what we need when we show we are "worthy," (e.g. behave in ways they approve of) rather than in the ways intelligence needs. We get cola when we finish our class, we get something sweet when we finish our vegetables, and most importantly, we get love and affection if and only if we behave as they think is right. Often aware that they are wrong (but that you can't explain why and anyway they won't listen) many intelligent kids grow up wondering how the hell so many of these so-called adults failed to mature intelligently in such a spectacular fashion and why the hell they are in this society that thwarts intelligence at every turn.

Many not-so-intelligent kids (and adults) don't have enough awareness or imagination to consider anything different. And for those who do, the problem seems too huge to contemplate.

Of course, many people living out their lives in society –any kind of society- from Tribal Ugandan to Upstate New York, admit that it has big problems and do make an effort to take them on. Many try to tackle them from the inside, some by borrowing or stealing resources, several via gods or politicians, some with war and one or two by disorganized crime. And many who try are genuine, well-meaning people we'd consider pretty smart (with some notable exceptions). We have seen how their combined efforts haven't managed to change that much. A great many symptoms are treated, but not many causes. They've made some progress, usually either due to or at the expense of culture.

Culture and society often occur in the same physical area as each other at the same time (for example, in any city), but among different populations (the non-anxious run the culture and the anxious run the society.) There are however areas in society where culture never goes, and there are also islands of 'culture only' (for example, organizations like the Homeworld network, remote tribes, communities, free festivals, rural areas and online groups can form long- or short-term cultures that don't share space with mainstream society).

Society regards us positively only if we conform to its demands. Getting positive regard "on condition" personality theory calls conditional positive regard. Because we biologically need positive regard for mental health, these conditions are very powerful, and we bend ourselves into behavior determined not by our biological organismic valuing or our actualizing tendency, but by an anxiety-driven society that does not truly have our best interests at heart ("Well-meaning" and "for your own good" though it may think itself). A "well-behaved little boy or girl" in society's terms is probably not a healthy and happy boy or girl (and may well be on Ritalin).

Over time, this "conditioning" leads us to judge ourselves with conditional positive self-regard as well. We begin to 'like ourselves' only if we meet up with the standards other people have applied to us, rather than if we are truly actualizing our potentials. And since these standards were created 'one size fits all' without keeping each individual in mind, more often than not we find ourselves in an unworkable system and unable to meet them, and therefore unable to maintain any sense of self-esteem. This affects the neurotransmitters in our brains, causing chemical imbalance, and depression becomes a danger. Society demands an 'ideal self' that is at odds with our real self; our biological self, and this leads to incongruity.

### Incongruity

The biological aspect of your being that strives for entelechy, follows organismic valuing, needs and receives positive regard and self-regard, personality theory calls the real self. It is the "you" as the optimal intelligence that if all goes well you will become.

To the extent that our society is out of sync with entelechy and we are forced to live with conditions of worth that are out of step with our biology, and receive only conditional positive regard and self-regard, we develop instead an 'ideal self' (the 'ideal' of society). By 'ideal', Rogers is suggesting something not real, something synthetic that is always out of our reach, the standard we can't meet because to do so we have to do things that degrade our self worth and that harm us and make us sick.

This gap between the real self and the ideal self, between the person that biology and



intelligence need in order to thrive and the person who society ideally wants, is called incongruity. The greater the gap, the more incongruity. The more incongruity, the more anxiety. In fact, incongruity is essentially what is meant by neurosis: Being out of sync with your own self.

When you are in a situation where there is an incongruity between your image of yourself and your immediate experience of yourself (i.e. between the real and the 'ideal' self), you are in a threatening situation. For example, if you have been taught by society and your parents to feel unworthy if you do not get A's on all your tests, and yet you aren't really all that interested in the subject, and biology has designed your brain to grow intelligence by avoiding activities that bore you and chasing those that excite you, then situations such as tests are going to bring that incongruity to light and tests will be very threatening.

When you are expecting a threatening situation, you will feel anxiety. Anxiety is a signal indicating neurochemical imbalance, and convinces you (often unconsciously) that you really are threatened by the situation. One way to avoid threatening situations is to run away from them and isolate yourself. Another is to attack. Often instead of running or attacking physically, we run or attack psychologically, by using defenses.

Rogers suggests that the incongruous individual who is always on the defensive and cannot be open to all experiences is not functioning ideally and may well be malfunctioning. They work hard at maintaining/protecting their self concept. Because their lives are not authentic this is a difficult task and they are under constant threat. They deploy defense mechanisms to achieve this. He describes two mechanisms: distortion and denial.

Distortion occurs because the anxious individual constantly perceives a threat and distorts their perception of events so that it fits their anxious view of reality. Denial follows the same process except instead of distorting they deny the threat exists.

People in denial block out the threatening situation altogether. An example might be the person who never asks anyone out so s/he doesn't have to face possible rejection. Denial for Rogers also includes repression: If keeping a memory or an impulse out of your awareness (refusing to perceive it consciously) you may be able to avoid (again, for now!) the situation perceived as threatening.

Perceptual distortion is a matter of reinterpreting the situation so that it appears less threatening. Blaming others for failure is a common version. If it 'could' be true in the eyes of others, then let's believe it really was true!

These defensive behaviors reduce the conscious awareness of the threat but not the threat itself. As the threats mount, the work of protecting the reality view becomes more difficult and the individual more defensive and rigid in their self structure. If the incongruence continues this process may lead the individual to a state that would typically be described as neurotic. Their functioning becomes precarious and psychologically vulnerable. If the situation worsens it is possible that the defenses cease to function altogether and the individual becomes aware of the incongruity of their situation. Their personality becomes disorganised and bizarre, irrational behaviour, associated with earlier denied aspects of development, may erupt uncontrollably.

Unfortunately for the neurotic (and, in fact, most of us), every time s/he uses a defense, they put a greater distance between the real and the 'ideal'. They become ever more incongruous, and find themselves in more and more 'threatening' situations, develop greater and greater levels of anxiety, and use more and more defenses.... It becomes a vicious cycle that the person eventually is unable to get out of, at least on their own.

A different sort of matrix

Incongruity is a key way in which people get what is called 'stuck in a matrix'. In biological terminology, a 'matrix' is a context in which growth & development can take place. So this is not at all the same Matrix that Neo was stuck in, it's a matrix with a little 'm'.

According to matrix theory [1] matrices provide such contexts for human beings at different stages of development, ideally in timed genetic synchrony. If development is interfered with, however, we get 'stuck in a matrix', and as it currently almost always is, this happens to the majority of us. Anxiety reduction and input control are two ways which help to get us 'unstuck' and back to congruity, at which point development continues. If we don't get unstuck, it doesn't, so many people never fully mature or develop full intelligence.

We hope you can see by now that interaction has a number of attractions for those seeking to work with the 'whole person' and to promote human flourishing, such as neurohackers. Optimal development emerges from a certain process rather than a static state. Rogers describes this as the good life where the organism continually pursues *entelechy* and aims to fulfill their full potential. He listed characteristics of a fully functioning person [2]

### The Fully-Functioning Person

1. **Openness to experience.** This is the opposite of defensiveness. It is the accurate perception of one's experiences in the world, including one's emotions. It also means being able to accept reality without fear, again including one's emotions. Emotions are such an important part of openness because they convey organismic valuing. If you cannot be open to your emotions, you cannot be open to actualization. The hard part, of course, is distinguishing real feelings from the anxiety-based sentiments brought on by 'conditions of worth'. Anxiety-free, we have no need for subception (a perceptual defense that involves unconsciously applying strategies to prevent a troubling stimulus from entering consciousness).

2. **Existential living.** This is living in the here-and-now; in this second of the present, living each moment fully; not distorting the moment to fit personality or self concept but allowing personality and self concept to emanate from the experience. This results in excitement, daring, adaptability, tolerance, spontaneity, and a lack of rigidity and suggests a foundation of trust. "To open one's spirit to what is going on now, and discover in that present process whatever structure it appears to have" [2]. As a part of getting in touch with reality, we cannot live in the past or the future. The present is the only reality we have. That doesn't mean we shouldn't remember and learn from our past or plan for our future –in the here and now. Neither does it mean we shouldn't fantasize or daydream. Just recognize these things for what they are: memories and dreams, which we are experiencing here in the present.

3. **Organismic trusting.** We should allow ourselves to be guided by our biology and the organismic valuing process. The thing that we must place our trust in is intelligence; our own adaptability and ability to interact. We should trust our intelligence and its ability to choose behavior that is appropriate for each moment. We do not rely on existing codes and social norms but trust that as we are open to experiences we will be able to trust biology's own sense of right and wrong. This, as I'm sure you realize, only works when we are free from anxiety. So keep in mind that Rogers meant trust your real self, and you can only hear what your real self has to say if you are anxiety-free, open to experience and living existentially! In other words, organismic trusting assumes you are in contact with the actualizing tendency (practicing

entelechy).

4. **Experiential freedom.** We have free will. This is not to say, of course, that we are free to do anything at all; freedom of choice means not being shackled by anxiety and the restrictions that influence an incongruent individual, and when anxiety-free we are able to make a wider range of choices more fluently. We learn how we play a role in determining our own behavior and so feel responsible for our own behavior. This means that we feel free when choices and decisions are available to us. Rogers says that the fully-functioning person acknowledges that feeling of freedom, and takes responsibility for their own choices.

5. **Creativity.** It follows that we will feel freer to be creative. We will also be more creative in the way we adapt to our own circumstances without feeling a need to conform. If you feel free and responsible, you will act accordingly, and participate creatively in culture. A fully-functioning person, in touch with actualization, will feel obliged by their nature to contribute inspiration to the actualization of others, even life itself. This can be through creativity in the arts or sciences, through deep friendship or parental love, or simply by doing one's best at what one loves to do.

6. **Reliability and constructiveness** – Intelligent people can be trusted to act constructively. An individual who is open to all their needs will be able to maintain a balance between them. Even defensive needs will be matched and balanced by intrinsic goodness in congruent individuals.

7. **A rich full life** – Rogers describes the life of the fully functioning individual as rich, full and exciting and suggests that they experience emotion more deeply and intensely.

One of the phrases that Rogers used to describe interaction is "supportive, not reconstructive," and he uses the analogy of learning to ride a bicycle to explain: When you help a child to learn to ride a bike, you can't just tell them how. They have to try it for themselves. And you can't hold them up the whole time either. There comes a point when you have to let them go. If they fall, they fall, but if you hang on, they never learn.

It's the same in interaction. If independence (autonomy, freedom with responsibility) is what you seek, then you will not achieve it if you remain dependent on the opinions of others. People need to try their insights on their own, in real life. An authoritarian approach to helping people 'for their own good' may seem to work marvelously at first, but ultimately it only creates a dependent person.

### Core Conditions

Which brings us to Rogers' famous requirements for interaction. Interaction requires three abilities:

- Genuineness -- congruence, honesty with the person.
- Respect -- acceptance, unconditional positive regard towards the person.
- Empathy -- the ability to feel what the person feels.

These qualities are "necessary and sufficient:" If we show these three qualities in interaction, the communication and behavior of those communicating will improve, even if no other special "techniques" are used. If we do not show these three qualities, the communication is likely to be shallow and may become action or reaction.

According to Rogers each person has within them the inherent tendency to continue to grow and develop. As a result of interaction the individual's intelligence, self-esteem and self-actualization is continually influenced. This development can only be achieved in interaction through what Rogers refers to as "unconditional positive regard."

Rogers saw unconditional positive regard as a key to interaction. Those raised in an environment of unconditional positive regard have the opportunity to fully actualize themselves. Those raised in an environment of conditional positive regard only feel worthy if they match conditions (what Rogers describes as conditions of worth) that have been made up and laid down by others. Anxiety about what other people (and society) might think of them is their major concern.

Positive regard does not mean treating someone's dysfunction or harmful behavior as

"acceptable", it means addressing the intelligence in every individual that they may have forgotten is there. It means "behaving as though" -giving them the impression that they are a respected, worthy human being who is expected to behave competently, intelligently and well. It works because people respond to this treatment by "trying to fit the bill" and in doing so they change their behavior to be more like that of the intelligence you are talking to. By practicing UPR you enable people to make those changes in response to your feedback expectations and so to become that person.

This is not 'acting' or fooling people, it is telling them the truth. –People ARE worthy of respect and love and freedom from judgment in the here and now.

"It is not too simplistic to affirm that the whole conceptual framework of Carl Rogers rests on his profound experience that human beings become increasingly trustworthy once they feel at a deep level that their subjective experience is both respected and progressively understood" (Thorne, 1992).

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### References:

1 If you are interested in matrix theory and neurological development, read: "I've Changed My Mind" in the Workshop section of this site.

2 (Rogers 1961). Rogers' elaboration of his own theory is extensive. He wrote 16 books and many more journal articles describing it.

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