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What I wanted to do here is offer some ideas for a theoretical framework
for the Rorschach. I have been working for a number of years on a generalized unified theory (GUT) of human behavior. Recently I have developed such a theoretical approach. To be useful, such a theory is required to be testable. It is necessary that it make specific, testable
predictions. This is an extraordinarily difficult thing to do. Psychological theories are not difficult to develop, the literature is
filled with them. Creating a theory that can be tested is much more difficult. One of the things that I have wanted to do is to extend this
theory to the kind of behavior exhibited on the Rorschach. This series of
posts is my first effort to do so.

I am going to give some background on many of these areas because I want to
make this accessible to the graduate students here as well as anyone else
who may be missing some of the background required to understand this. I
welcome your comments or criticisms.

First I'd like to look at why it is important that any such theory be extended to the Rorschach at all. I recently posed the question to this
list: Why is it that one person can look at an inkblot and see a bat while
another person can look at the same inkblot and see a butterfly? Not surprisingly, I wasn't overwhelmed with answers. I would offer the following explanation: It's the most fundamental activity in which humans
engage. They classify things. Everything you encounter is first classified. It's not that the blot really looks like a butterfly or a bat. Someone pointed that out. It's that the overall shape or other characteristics of the blot are selected and classified as in the same category as the shape of a butterfly or bat. If this is, as I argue, the
most fundamental human cognitive activity then it becomes incumbent on any
adequate GUT theory to include predictions about this kind of behavior.

Much of the effort of researchers has been to demonstrate that the Rorschach is an adequate predictor of certain theoretical outcomes such as
a diagnosis or theoretically understood and described behavior such as

anxiety or depression. What is conspicuously missing is any attempt by a theory to predict Rorschach behavior. Is there any way of predicting who will give color responses, for example? I want to explore my theoretical approach and see if it can shed any light on these kinds of behavior.

We begin with some background. First, the physical laws that control the overall formation of the stars and planets in the universe are called the three laws of thermodynamics. These are the principles that govern the relationship between heat and other kinds of energy. The second law of thermodynamics says that everything tends toward entropy. Entropy just means that everything, especially heat, ends up being evenly distributed. (That's why my desk is so messy instead of neatly organized.)
Next, we can look at holograms. A hologram is just a special kind of slide that is made and projected with a laser instead of an ordinary light bulb. A hologram will show a true, three dimensional image meaning that if you take a picture of an object and look at the hologram from one side, you will see that side of the object but if you move over to the other side of the hologram, you will see the other side of the object, unlike a photograph which looks the same from any angle. There's something else special, however, about a hologram. If you take an ordinary photographic slide and cut it in half and then project it, you'll see only half the picture, right? But if you cut a hologram in half and project it, you'll still see the whole picture. It will just be dimmer. It's as if in some way the entire picture is hidden in every corner of the holograph so any part includes the whole thing.
Another mathematical idea is that of a set. A set is just a well defined collection of objects. The objects can be anything from numbers to rocks to people. They don't even have to all be the same. You can have a set that has me, you, the paper you're reading (whether it's printed or on

a
computer) and any apple. The only thing that makes it a set is some rule
that tells you whether or not something is in the set. For example, if I
asked you if a pair was in the set I listed, you could say "no". That's
what makes it a set. If I asked if I was in the set, you would say
"yes". That's all there is to sets that we need be concerned about. Now
in real life, sets are rarely so clear. Most real life sets have what we
call degrees of membership. For example, if we considered the set of all
dogs, you might think first of a cocker spaniel or a German shepherd. A
wolf-dog cross breed would not be quite as "doggy" and a full bred
dog. Neither would a more unusual breed such as a dachshund. You might
consider them as dogs but some would be clearer than others. A dog house
is a house but it's not usually what we would consider a main part of the
set of all houses. Sometimes a turtle's shell is regarded as a
"house". The idea is that real life sets aren't so clear. We call them
fuzzy sets.

Many, many things in nature are complicated in shape. For example, look at
the pattern of a coastline with it's ins and outs. The funny thing about
these kinds of patterns in nature is that if we take a picture of the
coastline of a continent and a picture of a few hundred yards of the same
coastline, the two pictures tend to look strikingly alike. Like the
hologram, it's as if every part of the shape seems to echo the overall
shape. In fact, if we magnify one inch of the coastline, we will find that
it too resembles the whole coast to a large degree. When a shape is made
up of smaller versions of itself, we call these fractals. Many, many
things in nature are fractal.

The water in a waterfall is fractal. We can look at little pieces of the
waterfall and they look much like the whole thing. This is because each
drop of the water is being affected by many, many different things. So

many that we can't possibly measure them all. The slightest gust of wind,
a fraction of a degree of temperature, a bit of evaporation will all influence the water's shape. The combined influence of all these many,
many influences is described as random. That just means there are too many
influences to measure. Still, in spite of all this, we know that most of
the drops of water will fall over the edge and continue downstream. We can
calculate the probability of any one drop doing that even though we can't
predict the exact path it will take. Because there are so many influences,
something interesting happens. Suppose we follow the path of one drop in
the middle of the stream.

Here's our drop heading safely toward the center of the falls. Now there's
a tiny, tiny touch of a breeze. That makes the drop move a half inch to
the right. Because if moved half an inch, it hit a bubble that moved it a
bit more. Then because it was now off it's original course, it hits a rock
which makes it flow around more to the right. If it hadn't hit the bubble,
it still might have hit the rock but it would have gone around the other
way. Next it hits a twig floating in the water and the new course carries
it toward the bank. There is hits another rock and splashes up where the
breeze carries it onto the bank. It gets absorbed by the grass and then
evaporates. This process is called chaotic. The drop is moving along just
fine until all there's a succession of little changes and then suddenly
they all add up and cause a really big change (the drop evaporates). It
all started with that one tiny gust of wind. Technically we say that this
is a dynamic system (which means it changes) which is non-linear (the drop
can suddenly change drastically) with sensitive dependence on initial
conditions (the gust of wind). Chaos for short.

One more bit of background from physics and math. You know that all things are made up of matter. Matter is made from atoms. Atoms are made from smaller particles like protons, neutrons and electrons (which are occasionally stuck together with chocolate). The protons, etc. are made from still smaller particles. The funny thing is that when you end up with the smallest possible particles, the physicists say they are made from the interaction of virtual particles. An interaction is like when one virtual particle says to the other virtual particle, "Hey bud, have you seen that electron? Wow!" The funny thing is that there is no such thing as a virtual particle. It's a convenient fiction that they use to satisfy their equations. In other words, all the things you see in the world are ultimately made up of ... a physicist's imagination. Does this make sense? Actually, it doesn't make sense to anyone including the physicists but it's still an important idea to understand. Things can seem real when they aren't.

One final bit of background. Some research suggests that the human brain itself may be holographic in nature. That is, that any part of the brain can take over the functioning of any other part. The brain consists of some ten billion cells called neurons. At one end of the cell is a kind of tail called a dendrite. The axon touches another cell at a point called the axon. There is a microscopic gap between the dendrite of one cell and the axon of another. To communicate with another cell, the dendrite secretes a chemical called a neurotransmitter which chemically stimulates the axon. It is a premise of this theory that behavior reflects the structure of the brain in the way that fractals do.

This theory postulates that human behavior is both holographic and fractal. This means that any complex behavior reflects generally how that person behaves. In psychology, it's said that behavior has consistency. In other words, a person who walks fast, writes fast, talks

fast, thinks fast, etc. A person who is careful and cautious entering a swimming pool tends to be careful and cautious when opening a door, starting a job and meeting new people. However, there are many, many influences on human behavior. Too many by far to ever measure. So human behavior is also believed to be chaotic. The final outcome of human behavior is the set of expected patterns in that behavior. We call that set of expected behavior patterns the personality. Our goal is to predict what specific behaviors a given personality will produce but we run up against the problem that if human behavior is chaotic (as I believe) then we can't predict absolutely, we can only give probabilities.

Now let's take a look at science. The goal of all science is to make predictions. To the extent we are able to make predictions, we have what is technically called a theory. For example, I have a theory that if I were to call my wife one hour before dinnertime that I was bringing home eight people from the office for a home-cooked meal at our home, she wouldn't be thrilled. The key here is that the theory can be checked to see if it works. In other words, it can be disproved. In science, we can never prove anything absolutely but we can disprove it by showing the theory doesn't work.

The opposite of a scientific theory is exemplified by the following story: Once upon a time in a kingdom that existed long ago and far away, they had a terrible problem. Every night in the king's palace when the royal accountants were done, they would lay their pencils down on their desks and go home. When they came in the next morning, however, all the pencils were sharpened down to nubs and all the pencil sharpeners were filled with pencil shavings.

The king appointed an august, blue ribbon committee to investigate. In his great wisdom, he appointed a psychologist to chair the committee (naturally). After meeting regularly for many months and spending all the money allocated to them, the committee final produced a lengthy report on

their findings. The gist of the report was that they had solved the mystery. Every night, when the royal accountants went home, little plogglies, mysterious creatures, would come up out of the ground and snatch all the innocent pencils up, stick them in the sharpeners and mercilessly grind them down to the nubs.
This was a wonderful explanation. It explained all the observed facts. There was only one problem with it. There aren't any plogglies.

Plogglies are arbitrary, capricious creatures that are essentially unpredictable. They may help you or hurt you but there's no telling which because that's the way plogglies are. Many less developed cultures see the world as being filled with plogglies. They are spirits of the trees and the ocean and the weather, etc. If we do a rain dance and it rains, well, that's because the spirits were pleased. If we do a rain dance and it doesn't rain then that's because the spirits are angry and probably need a sacrifice.

Most psychological theories are plogglie theories. They don't really predict anything, they just explain things. If something doesn't fit, then you just change the explanation to encompass the new fact. The key to a totally scientific theory is measurement. You could have a theory that heavy things fall faster than light things. Then we go and measure by dropping a coin and a feather and sure enough, the feather falls a lot more slowly. Have we "proven" our theory? No, we have supported it. Someone else comes along and says that this is only because the air interfered with the feather. So we repeat the experiment in a vacuum. Now we see that the feather and the coin fall at the same speed. The theory has now been disproved. The theory summarized here is intended to be a scientific theory. This means it makes predictions about how people will behave, especially in their interactions with other people that are specific enough that you can check them out for yourself.

Jack

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