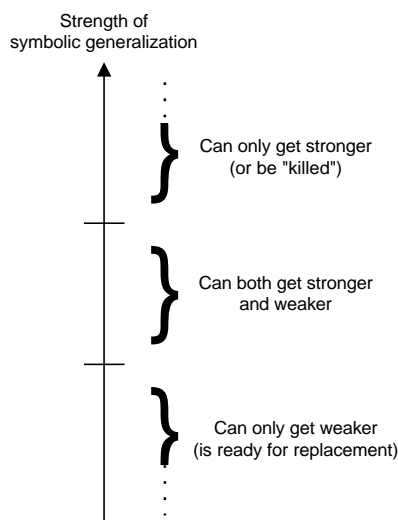


Symbolic Generalizations

Humans never interpret one specific real world phenomena in exactly the same way. Take for instance the concept of a car. A gardener will have a different interpretation than a mechanic. However, despite the different interpretations the gardener and the mechanic will be able to communicate about what a car is, and by communicating about it they will learn or expand their interpretation of a car. In this case the gardener will probably learn more from the mechanic than the opposite; e.g. that a car can be used as a tool to help other cars with a flat battery. The interpretation that a person makes on a concept is called a *symbolic generalization* (SG) using the notation in [1]. Note that the SG of a specific car or any other real world phenomena, has nothing to do with signs, such as acoustical (words as “Ford”, “the best car is the safest car” or car sounds, etc.) or visual signs (e.g. images of cars). Signs from the environment causes certain SG’s to “pop up” from which one is chosen, according to two rules as described later. By communicating, the gardener and the mechanic modifies their SG’s, i.e. they learn.

However, sometimes SG’s exist that instead of being modified, must be replaced with another more efficient SG. Using the car example it could be the SG of the best car on the market. The gardener and the mechanic will very likely have different SG’s of the concept of the best car on the market. Now if the gardener and the mechanic is married to each other and they are about to buy a car, one of them will have to replace their SG with the others SG or alternatively with a compromise. Not surprisingly replacing ones SG with another can be a very problematic matter, which reasons will be clarified in the following. One might argue here that replacing the SG of e.g. the best car on the market, is the same as modifying the SG until it looks like the replacement. However, once a SG is above a certain “strength threshold” it cannot be modified in the “compromise direction”, which is illustrated on the following conceptual figure.



Lets look at the concept of the best football team in New York as another example. We consider the two teams: The Jets and the Giants, which leaves room for two possible SG's of the best team in NY. If you are not interested in football, both the SG's will have a very low strength or maybe not exist at all. Some number of New Yorkers would answer (1) The Jets, some would answer (2) The Giants and the rest would say (3) I don't know/ I don't care.

Football is such a nice and simple world: Only two SG's really matters. The Jets if you are a Jet fan and the Giants if you are a Giants fan. Because of this the communication on the football stadium is a simplification of the communication outside the stadium. That is why people are having so much fun going! As a Jet fan among other Jet fans you know exactly when to cheer and when to show disappointment. You can simply let yourself get sucked into the game.

Consciousness as an emergency solution

Because of the simple communication rules, which is basically when to cheer and when to show disappointment, you don't have to worry about 'stepping on ones toes' or 'breaking an unspoken rule or norm' by saying or doing something wrong. Uncertainty is more or less always present in the normal everyday life. Using consciousness we think thoughts like "did he mean *this* or *that*? I think its *this*, but then if it wasn't, the answer I'm thinking of would be misinterpreted". This uncertainty is minimized on the football stadium, which means that you don't have to be conscious of your actions.

People are more smooth and well functioning when they are less conscious, and also much more comfortable; *being conscious about your actions restrains you, takes more energy than they would have otherwise and function as a bottleneck for piping out the solution to any problem/ sentence or action you may be thinking about.* In general introverts tend to use their consciousness more when talking and moving than extroverts do, this is what makes an introvert an introvert. For this reason its usually the extroverts job to make the jokes and the funny remarks. Its not that the introverts don't have humor, it's just that when the funny remark has been processed by the consciousness the timing is lost and they keep quiet. At a party it's the same, but then as the party progresses and the liquor flows, introverts loosen up and pay less attention to what they are saying and you suddenly find the quiet and usually half-boring person being quite colorful and entertaining after all. In this sense, at least when your intentions is good, introversion is undesirable. What good intentions is will also be clarified later, but the answer is simple.

Now the fact that people tend to group up with the ones that share the same opinion, in this simple case (1) Jet fan, (2) Giant fan or (3) In between, can be observed on any football stadium. Why is that?

To answer this question, imagine that a Jet fan for some reason ended up in the wrong end of the stadium and found himself surrounded by Giants fans instead of Jet fans. In Denmark this is probably *the* biggest fear of any football (soccer) fan, and I suspect its the same in the US and hence the situation needs no further explanation, except maybe mentioning that in England people have been killed for much less. In other words if the Jet fan feel like staying alive he would rip of his green Jet jacket, hoping it will prevent the blue dressed crowd to spot the imposter.

The Jets vs. the Giants

Now as the game goes on it looks pretty bad for the Jets, very quickly the Giants get a substantial lead. The Giant fans are cheering! The unfortunate Jet fan is also cheering, reluctantly at first but then with greater effort as he sees the bottles instead of plastic cups around him. The game continues for a while with the Giants in total control, but then suddenly the Jets' play for some reason gets more structured, they actually starts scoring points instead of fumbling with the ball. The sitting Jet fans rises from their seats, and those who already were standing keep standing, but this time no longer glancing at the exit sign. The game goes on with incredible intensity, sometimes the Jets are ahead, sometimes the Giants are ahead. With the game almost finished the Jets are leading, but a touch down from the Giants would turn it around.

Suddenly out of nowhere, a Giant player, who rarely causes much furor, gets the ball and, as if he had supernatural powers, running like an antelope and moving like a cat, he works his way up the field. The excitement for both fan groups are almost unbearable! With just 8 seconds left, the Giant player is now facing the last line of defense: a Jet player widely acknowledged for his stability. But with an incredible move the Giant player dodges him, jumps....aaaaand touch doOOOWN! The Giant fans are, to put it mildly, ecstatic! The Jet fans are disappointed, can't believe what just happened, but still... what excitement! What a game!

However, one on the stadium didn't experience the game like the rest. The unfortunate Jet fan was simply too busy forcing himself to do the exact opposite of what every fiber in him told him to do, in this case cheering where he would otherwise be grumbling. The only thing that keeps him from cheering is being totally conscious of his every movement and sound, and that is exactly what makes him feel uncomfortable too. When the game is over the Jet fan will probably be as sweaty as the Giant fans, but for a different reason. For him what just happened wasn't just another game in the season (neither was it for the rest of the crowd, but again for a different reason), it was a matter of pure survival!

The basic characteristic's that makes a Jet fan a good Jet fan, is how well he knows the rules of football, how well he can cheer, how well he can grumble and how well he identifies and rewards/punish the signs used by fans around him. The unfortunate Jet fan can be among the top five fans in the Jet fan club, but put him in the wrong crowd and his performance will decay dramatically.

The game that (almost) no one likes

The nightmare scenario is that everybody on the stadium are imposters! Suppose the stadium manager had a weird sense of humor, and started in good time before a game by placing two hardcore Jet fans on one side and two hardcore Giants fans on the other side. Then he let the rest of the crowd in one by one, making sure they are directed to the wrong end. So when e.g. a Giant fan finds the two Jet fans standing, he will quickly pretend he in fact is a Jet fan and so with the rest. Now just before the game is to start the four real fans is being removed from the stadium by orders from the wicked stadium manager, who are sitting in the tower excited to see the result of his mass manipulation. The sad remains on the stadium is Giant and Jet "fans" with sporadically blue and

green colors, saying stuff like “yeaahh...who is the .eeeh.. good team?” and replying e.g. “it’s the ..ehhh..Jetsyeahh”. Now this would be a dull game for everyone (except one) to watch!

Why bother with the concept of SG?

From a psychological viewpoint the concept of SG’s is important because it, once it has crystallized, merely by being aware of its existence, helps people recognize why people judge each other as they do. You could also say that understanding SG’s helps you throw up, when accidentally zapping into a religious channel with a white heterosexual voice of The Lord preaching....and – despite the mess – feel good about it!

From a scientific viewpoint the concept of SG’s is interesting for many reasons, which only can be hinted here.

In the following I will therefore keep a (initially) necessary high abstraction level, and answer the following questions:

1. What are these forceful principles that are going on in a scenario like the one described?
2. What is the (figuratively speaking) stage setting that ensures entertaining games, and sometimes even fantastic?
3. How can we set this stage?
4. What are the consequences of doing this?

The underlying principles

The strength of any specific SG is adjusted whenever it is used as a basis for an action, by the following two *modification rules*:

Modification by persons

The rewards and punishments from important other persons in the environment.

Modifications by the environment

The rewards and punishment from the environment in general

Some of the SG’s that a person have is determined by the environment that the person grows up in and others originates from the genes. Maybe all SG’s are determined from the environment, and the genes just gives a hint which SG’s is likely to get higher strength for that specific individual? The answer is certainly interesting, but not that important. Lets assume here that the main part of a persons SG’s are determined from the environment.

Hence a person is not born as a Jet fan, or born to pay special attention to American letters this is SG’s that you develop and replace with modifications that prove their worth on the run. E.g. an initial attempt of a SG of the letter ‘I’ may not at all look like the widely shared SG of the letter ‘I’

among adult educated Americans, it may involve connections to a pencil or your frequently used kangaroo stick because of the shape or to your mother showing you how to draw the letter. Gradually the SG will be modified, get more abstract, until at some point the person don't get associations to objects the letter itself look like, but only to the meaning of the letter in the used connection, i.e. *to a more advanced SG that has proven its worth*. A SG can prove its worth, in terms of survival, by causing rewards from the environment or rewards from people in the environment, and vice versa.

A new member of the Jets fan club will quickly find and use the signs that gives him rewards from the other Jet fans during a game ("Geee, that was a good catch"... "Yep it most certainly was" (reward)... "Thats it, tear his legs off!" ... 'cheerful laughter' (reward)). These phonetic signs are all signs for the SG that the Jets are the best team. The sign isn't necessarily acoustic; body language and the way you dress are probably more important for receiving rewards from other persons during a football game. In the world of football it is almost always modifications by persons that is used, rewards and punishment from the environment it self is rarely considered important: The Jets can loose and loose and loose for a season and almost all the Jet fans would still stick with the team. That is a part of being a fan: If the ship is sinking they are all being loyal and go down with it, rewarding each others grumbles and moans on the way down.

The second adjusting rule is used in the rare cases, where the person checks the statistics before choosing the Jet SG or the Giants SG. They use the reward and punishment from the environment in a very objective way, probably because they don't have many persons around in the environment to reward and punish the SG.

Choosing the best symbolic generalization

The appropriate SG to use as a basis for an action in a specific situations is the one that has proven its survival worth in similar situations earlier. The way a person choose the SG is with one of the following two choosing rules:

The will of your God : The SG with the highest strength

The will of your own : The SG you find appropriate based on experience

The first one, the will of your God, may sound a little 'high flying'; it should be understood in the way that it is not you who 'make the call' whether to do the action or not. You 'let go' and performs the action without thinking. In the second choosing rule, you use your own will and can thus veto the will of your God.

Today people tend to use the will of their God when they feel safe, and the will of their own when they think there is danger lurking. Whether they think there is danger lurking or not depends on previous experience in similar situations, i.e. people ask themselves whether impulsive behaviour, as using the will of their God is often called, causes punishment.

The one with the highest strength is the most natural choice, it pops up when the person observes football related signs in the environment, e.g. hear the word "football", visual signs like the stadium

or the feel of the inevitable beer blots on your pants. If there is no sign of danger or no previous experience of danger in the situation, the will of the persons God is used to find the SG to base further actions on, e.g. you scream “Go Jets!”.

In the football example it is clear that the situation where the Jet fan is in the middle of the Giants fan crowd, he is using his own will, causing him to feel uncomfortable, but also keeps him alive! In general when people are using their own will, they only show a fraction of their full potential as Jet fans, Giant fans, gartners, mechanics, mothers, fathers, lovers or what ever situation they are in. Simply because they are blocking their action by using the bottleneck of consciousness.

The evolution of symbolic generalizations

There is a good reason for why a concept like symbolic generalization has developed. Back in the early days, as well as today, it was often a matter of life and death. “Objects around me seems to be afraid of that big thing with shiny teeth; I’d better be afraid too!”. It was a matter of survival that everyone in your tribe had the same idea of what e.g. a mammut was. Say a little cave girl, suddenly got the idea that she wanted to play with a mammut, then her parents or others in the tribe had to convince her immediately that she couldn’t do that. They did it to protect their genes. The methods used back then is reasonable assumed to be rather violent as they hadn’t developed the speech or speech ability to discuss it in a political correct way. Because of this, evolution has rewarded fiercely and non-compromising behaviour, towards behaviour that deviates from the norm in the near environment.

The search for and acceptance of SG’s in the environment around us is a strong inborn feature of humans, and once they are found and accepted, we tend to hang on to them with incredible conviction, and often as in the mammut case for a good reason. This holds for families, societies, countries and science as well as persons¹. (“This house is a republican house...and it *stays* a republican house””yes dad”).

Now doesn’t the fact that many people share the same SG indicate that it is the best choice? ...NO!

Strong widely accepted SG, like the one for the mammut, sometimes needs to be replaced with better ones. Otherwise progress would never occur². The replacement of a dominant SG is not an easy matter though. Say that our little cave girl discovered that the big hairy animal with shiny teeth *and* a funny stretched kind of head, was not dangerous at all but actually quite friendly and helpful (and today called a horse). Her family around her would fiercely try to persuade her that it indeed was dangerous! “You are carrying a part of my genes, so you’d better be afraid of that big hairy animal with shiny teeth that will eat you. If you don’t listen I may have to find the punishment club again”. Of course they wouldn’t or rather couldn’t formulate sentences like that, so they would rather per reflex make a stroke with their club or what ever they could find to hit with that they knew worked.

¹ These systems are all labeled autopoietic systems or self organizing systems in [1].

² This problem has similarity to searching the gene pool for the optimal solutions, where mutations are necessary to ensure that. This suggests the hypotheses that the replacement of a dominant SG with a different one uses the same underlying principle as mutation of genes does

Effective persuading methods like the punishment club causes people who deviates from the majority to pretend to accept the dominant SG's which exist in the environment around them. They will still keep the alternative SG in their mind, and reward it every time they observe signs from the environment that support it, like e.g. a horse eating from your hand. If the alternative SG actually is a healthy hypotheses, it will be rewarded a lot by the person using it, which only makes it even harder to pretend (despite the everyday training) that the general accepted SG is the one and only.

In the case with the girl and in general a lot of energy is wasted by running away from horses while looking scared, by sounding convinced when talking, preferable with just the right amount of foam around your mouth, about the 'big and nasty horses' and also by thinking of different ways to sneak out after dark to get a ride on your favorite horse. This is bad for the tribe since the girl is only showing a fraction of her true potential as storyteller around the fire, sheep herd or whatever position she fills. If the tribe is big it can survive this³, what is worse is that the girl can't just do as the Jet fan, who will take precautions in order not to end up between Giants fans again. The girl relies on the tribe for food and clothes etc., so for the girl every game is among Giant fans, so to speak.

So it is clear that when a new and better symbolic generalization is made, it should replace the existing one. So how is this done for a dominant SG?

How great games occur

To replace an existing and dominant SG with an alternative that you think is better, you have to gather enough allies, such that a public proclamation of the alternative SG doesn't threaten your own survival.

Positive feedback

The girl who new about the horses may at the annual celebration of the 'God who creates lightning in the sky⁴', observe another girl who seems to be using the same foam technique, when talking of horses, that she herself has practiced for such a long time. Could it be? She then approaches the other girl and starts, cautious at first (remembering the punishment club) looking for further signs that the girl shares her knowledge that horses are not dangerous. Indeed she does! She doesn't like to ride on them, but she often use them to carry stuff and for the good company. Regaining energy in this new established friendship they start looking for others who share the knowledge and create connections to them. They might even get the idea and ability to create cave drawings in cognito that illustrates horses and humans living in harmony together⁵. Provided this development reaches above a certain threshold, it starts a self-reinforcing effect: The more persons joining the club the more members to find new members, the more persons joining the club and so on. This phenomena is referred to as *positive feedback*. When the snowball first have started rolling it will quickly grow big enough such that a public proclamation of their knowledge of horses, no longer threatens the survival of the members.

³ But the 'quality of the game' will always be affected by how many imposters the tribe counts

⁴ Called Thor in the European mythology

⁵ Maybe this is the main reason for cave drawings?

Learning to see

Lets assume here for the sake of an happy ending that the cave girl and her friend succeeds in exceeding the positive feedback threshold and they thus can move around freely with their horses. It will not be commonly accepted at first, but now that the new knowledge is out there and new “dare devils” can have a test ride on a horse without any not-horse related danger, the new SG will eventually replace the old one simply because tribes that use horses is more efficient than tribes that don't and thus will reproduce more than the not so daring tribes. In this way can a new SG be tested and, if it proves its worth, replace old ones.

It will probably turn out that other people in the tribe, also had the horse knowledge, and hence will more than welcome the new initiative and start coming with ideas of how to make good saddles, stables etc. But many people in the tribe will be shocked at first, since they don't know how to tell the difference between a horse and a mammut.

They lack the SG that tells them that ‘a big hairy animal with shiny teeth *and* a funny stretched head’ is friendly. The signs like horse sounds, the way a horse looks etc.. triggers the SG that is true for mammut. The more specific horse SG doesn't exist.

The tribe will have to learn how to *see* the difference between a horse and e.g. a mammut, to them they look exactly alike. All the things that indicates that the animal in front of you is a horse, tickles the SG of a horse. If you're highly trained, like e.g. a horse breeder, small changes that are invisible to others, tickles another more specific less abstract SG, saying that the horse is e.g. a Newfoundlander. The tribe is starting from scratch, and may thus rely on the girl and any (hiding) allies, as observers and trainers for a while.

The new situation for the tribe causes confusion and uncertainty. Some of the tribe members will, with their heart shaking of fear for the 30 sec. it takes, stick their hand out to a horse, and then relieved, watch it eat the grass and not their hand when its done. Other tribe member will go to their grave without ever building up the courage to do it.

Love and evilness

According to [1] the three most powerful SG's is love, religion and money. I would like to add a fourth to these three: The SG of evilness. In fact I will assume that the two most powerful SG's are love and evilness, and other SG's are subsequent to these.

The only principal difference between the SG of love and the one of e.g. a helicopter is the strength of that SG. Now this may take a little time to realize. Surely love is something more than a convenient agreement among people! We get all these warm emotions⁶, when seeing two people obviously in love⁷, when seeing and being with the ‘one and only’ and also when thinking of our kids. But people really interested in helicopters also gets emotional when talking of helicopters or sitting in a helicopter. The reason we get emotional is simply because the SG is so powerful. Some

⁶ Unless, maybe, you are filtering your actions through consciousness, i.e. use your own will

⁷ Except of course if they have the same sex, right?

people would get emotional, when reading the description of the football game in the beginning, others would get zero emotions. It all depends on the strength of the specific SG, which is chosen as a presumed good basis for further actions/ communication.

Hypotheses: The strength of the SG of love and the SG of evilness, is modified by:

If, for (unfiltered) actions based on love, the (unfiltered) reaction is based on
love: The SG of love becomes stronger (reward)
evilness: The SG of love becomes weaker (punishment)

If, for (unfiltered) actions based on evilness, the (unfiltered) reaction is based on:
evilness: The SG of evilness becomes stronger (reward)
love: The SG of evilness becomes weaker (punishment)

By unfiltered is meant that the (re)action is by the will of your God.

At some point back in time there were some areas where the SG of love was dominant and some areas where the SG of evilness was dominant.

Now because the action of killing a baby is based on the SG of evilness, areas dominated by the SG of love would reproduce faster than areas dominated by the SG of evilness.

The explanation for this statement is that in areas dominated by the SG of love, humans that killed other babies, and thus based their actions on evilness, would be punished (in general) by getting reactions based on love. This would make the SG of evilness weaker and weaker, until it faded and died in the area. Thereby there would be no killing of babies in that area, ensuring optimal reproduction.

On the other hand, in areas dominated by the SG of evilness, humans that killed other babies, and thus based their action on evilness, would be rewarded (in general) by getting reactions based on evilness. This would make the SG of evilness stronger and stronger. Thereby baby killers would flourish and thus the reproduction in that area would be smaller, than in areas dominated by the SG of love.

If this process continued, the SG of evilness would eventually fade out and die.

However, as we all know evilness is alive and well, still a strong opponent to love. Why is that?

Love vs. evilness

It's the Jets vs. the Giants game all over again, in this case evilness is the Jets and the Giants is love. Love started with a substantial lead, but suddenly evilness made a come back. Evilness developed a tool: Consciousness.

Consciousness enabled people to observe themselves instead of just 'being'. And when they started observing themselves they started identifying with creatures around them that looked like them,

thereby enabling thoughts like: “If I kill his baby while he is sleeping, maybe he will kill my baby when I’m sleeping. Therefore I’d better walk away although I’m hungry”⁸.

Love got caught by total surprise with this new tool! And through evolution, consciousness did not only help environments where evilness was dominating to reproduce more, it also enabled imposters! Human beings dominated by the SG of evilness could sneak into environments dominated by love, and pretend that they were not evil. Thereby they didn’t get punished (i.e. making their SG of evilness weaker) by the environment; they could hide the evil action they intended and instead choose, by using their own will, to make an alternative action that seemed based on love, *but was in fact a lie*.

It is argued in [2] that consciousness evolved late in the twentieth millennium b.c., but when ever the exact period was, consciousness spread like a disease and today we must assume that it is present in virtually all people.

Consciousness gives people the ability to veto themselves, whenever they find it appropriate, i.e. use their own will instead of the will of their God. It is important to emphasize that today probably *all* people have the SG of love and the SG of evilness inside them, meaning that with no vetoes, action based on evilness will occur.

Is it then better to use your own will, in order to be able to make a veto when your action is based on evilness? No, it is not.

The two reasons for this is found in the way the strength for the SG of love and the SG of evilness is modified.

The first one is that only by using the will of your God, can the strength of the SG that is chosen as a basis for your action be modified.

The second reason is that, only reactions that are the will of your God, modifies the strength of the SG used as the basis for the action (by some other person), which your action is a reaction to.

Setting the stage for great games

How can we make the imposters in the football stadium show who they are really cheering for and thereby make the game so much more exciting to watch for everyone?

How can we make people feel safe, such that they are willing to ‘let go’ of consciousness and show their true selves?

The first step is to stop judging people when their action is based on love *and* to stop judging them when their action is based on evilness.

⁸ The underlying principle here, has similarity to ‘The Prisoners Dilemma’ [3]

This first step is only relevant if you haven't let go yourself and still uses your own will. At some point you should let go your self (the second step) and show who you really are, as a person that sometimes make actions based on love, sometimes actions based on evilness. These actions serves as the *true* feedback to other persons who follows the will of their God, in terms of modifying the strength of love or the strength of evilness.

In order for the snow ball to start rolling there is a positive feedback threshold to pass, a certain number of people must start living by these rules in order for more people to get the courage to show their true fan colors, causing more people ...and so on.

Once the snow ball has started rolling the real game begins, (hopefully!) starting with a lead for the SG of love which then inevitable will cause the SG of evilness to get weaker and weaker, fade out and die.

Consequences

What would it be like if everybody was working, making love, walking their dog, playing with their kids and partying with their friends⁹ using the will of their God and not their own will?

It all depends on how strong the SG of love is compared to the SG of evilness. In the beginning there will inevitable be actions based on evilness, but assuming (hoping!) that the SG of love is stronger than the SG of evilness, these actions will be punished by reactions based on love, thus making evilness based actions more and more sporadic...until at last love can make that final touch down and show the SG of evilness the exit sign!

Now that would be a GREAT game!

References:

- [1] Niklas Luhmann, Social Systems
- [2] Julian Jaynes, The Origin of Consciousness
- [3] Robert M. Axelrod, The Complexity of Cooperation

⁹ Which you can do whenever you have the time, without spending money on alcohol or waking up with a hang over: You don't need alcohol to release yourself from the claws of consciousness.