SOCIAL ENGINEERING LIKE IN THE MOVIES

The Reality of Awareness and Manipulation

Welcome and thank you for coming to see my talk.
I hope you have got your popcorn ready as I take you through what we can really tell about someone, and how we can use this to our advantage.

Knowing Me

* Dale Pearson
* InfoSec Pro
* Social Engineer
* Podcaster
* Blogger
* Geek

This slide is pretty easy to understand.
I am Dale, I do InfoSec stuff, mess with peoples minds and extract information.
When I am not doing that I blog on subliminalhacking.net and blog.securityactive.co.uk, and I am also one of the presenters on the EuroTrash Security podcast.

Last year I spoke to you about my journey of discovery of what it takes to become a master manipulator. We looked at the different types of social engineer that exist, and how my research into Hypnosis, NLP and the Power of Language are huge success factors in being really good at social engineering.
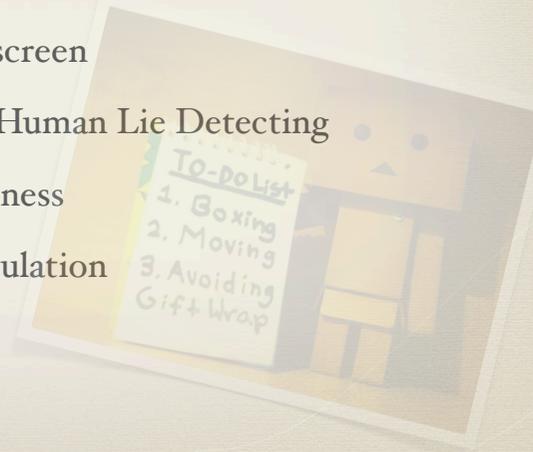
This time I want to talk about the awareness of body language. I wanted to include some of this last time but there just wasnt time.
– So we are going to very briefly touch on a couple of shows we see on the screen that tell us about how to ready body language and micro expressions (I love these shows btw).
– Then I want to go through what it really takes to be a human lie detector
– What the body is really telling us
– How we can use this knowledge to our advantage day to day and on an engagement.

Now on with the show :)
As always keep an open mind, and take from this presentation everything you feel will be of benefit.

Real Hacking ! ? !
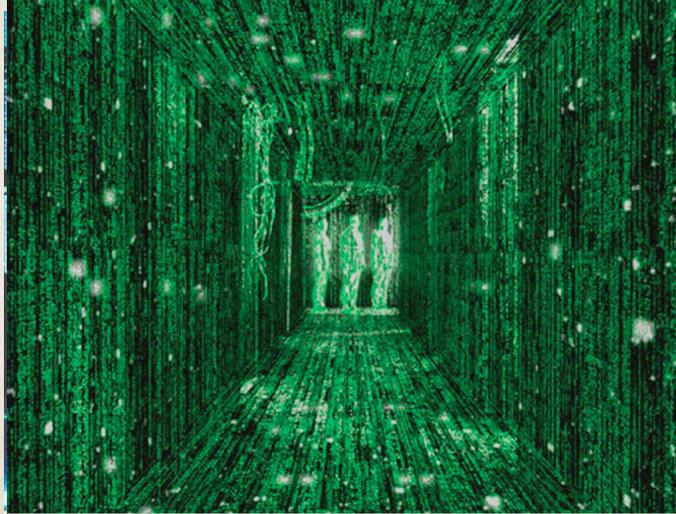
So we all know that if its on the big or small screen it must be true right.
– We all know that when really hacking its just like in the Matrix.. No?
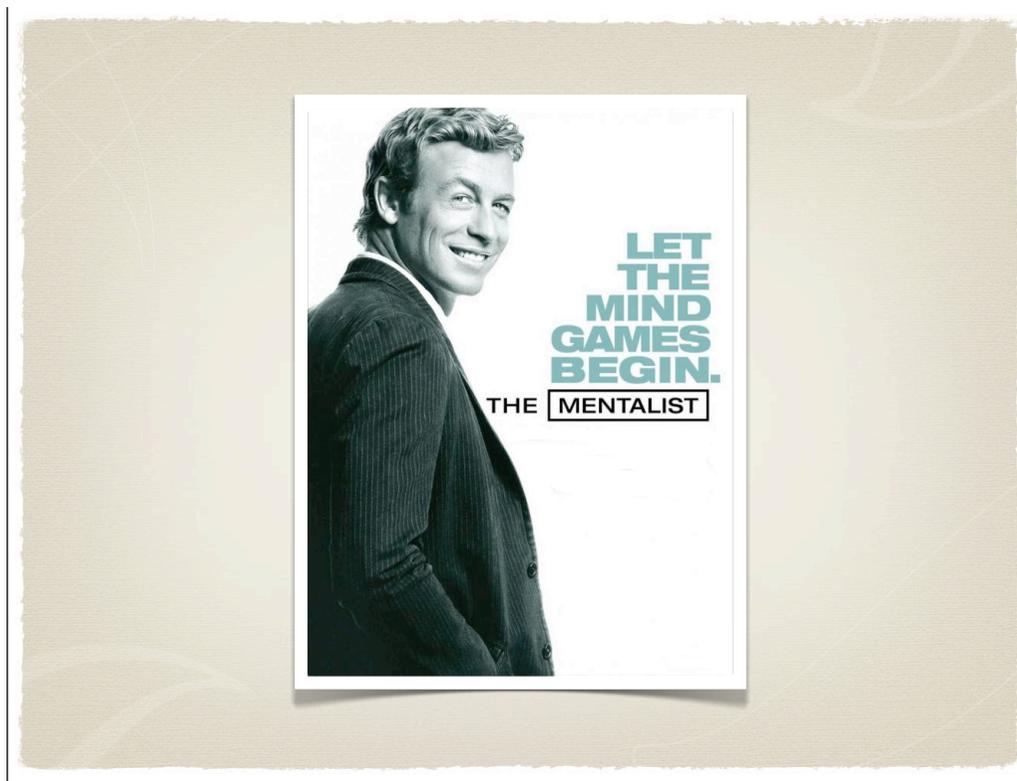– No your right, its more like the movie Hackers :)

Body Language &
Micro Expressions

Its not just what we say...

So when we see body language and micro expressions represented in the same way, do we think its 100% accurate also?
I don't get much time to watch TV or go to the Movies, but I do enjoy watching ....

The Mentalist.

Its a great show, and I love the way Patrick Jayne plays his mind games with both his co-workers and the criminals. Perhaps we are more understanding of this show, as he kinda proclaims the fact he was a physic fraud.

Another favourite show of mine, and one that gets alot of attention is ...
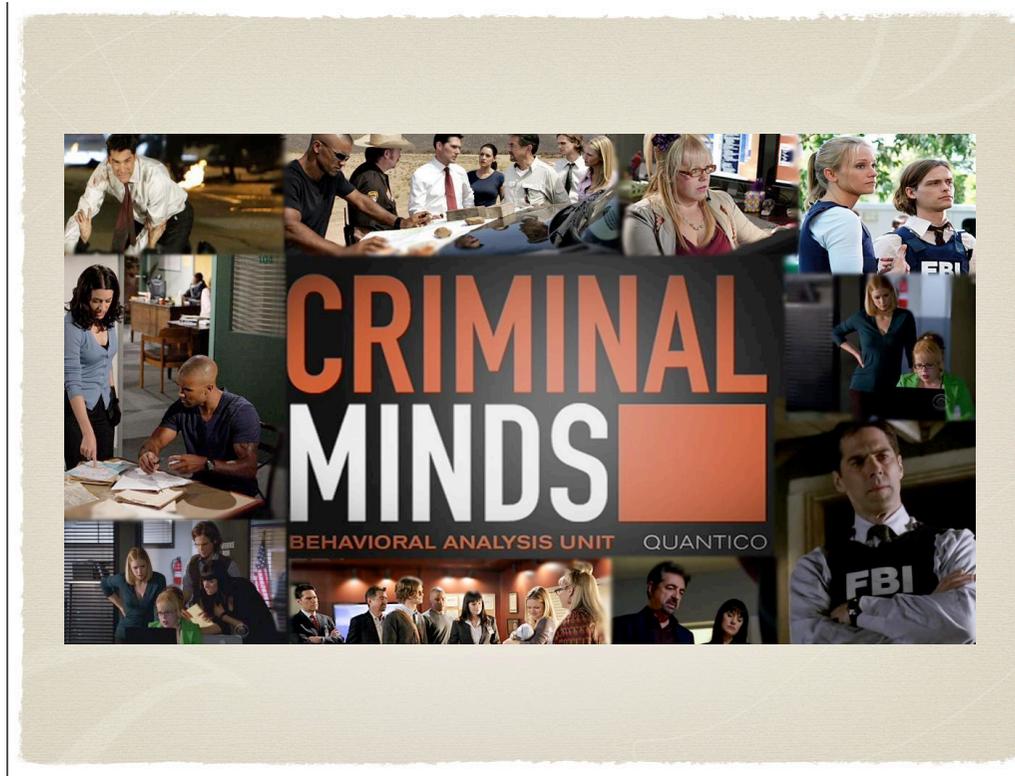
Criminal Minds is another good show featuring a specialist behavioural analysis's unit.
This show focuses on the art of profiling.

Lie to Me.
This is a great show, but also part of my catalyst for this talk and the title to this talk.
Its great how the public get exposure to some of these skills as they are portrayed on the screen. I then find people asking me how they do it, or they believe it to be 100% crap, or 100% accurate. Then when the topic moves on to other subconscious reactions and ways of manipulation they become close mind, screaming witchcraft and other words of disbelief.

I know what your thinking. Dale, its true you can ready body language and micro expressions to tell if someone is telling porkies... I saw it on the TV :)

You are totally correct you can, but.....

Human Lie Detector

Not everyone is a human lie detector.
We all have had that experience where we think something is not right here,
but you cant put your finger on it, we naturally pick up on these
subconscious tells, but we cant always define them.
Even the best can never be 100% accurate.
It really is abit of Witchcraft, well more Wizardy I guess

Interaction

* Its estimated that 80% of our interaction with others is through non verbal communication, or body language.

* The vast majority of the non verbal cues we give off are driven by the subconscious. They show what we are really thinking and feeling.
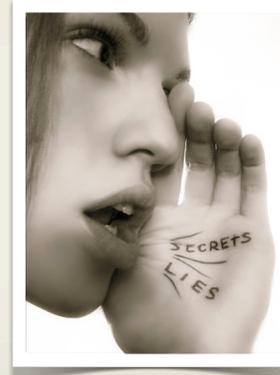
This is probably something you are already aware of, but it wouldn't be right not to mention this for completeness.
Its estimated 80% of our interaction is through non verbal communications.
Something like 7% verbal, 38% tone, pitch and pace, 55% expressions, gestures, posture etc

So.... Wizards.
- I am not talking about someone in a pointy hat who makes a mop and bucket clean up.
- I am not talking about a Demonic crazed guy in a robe.
- Oh and since we are talking movies, I am not talking about Harry Potter either :)

What is a Wizard?

* Not someone in a pointy hat

* Closest thing to a Human Polygraph

* Amazing skill for Deception Detection

* Diogenes Project > Wizard Project

– So when you think of Wizard you may think of the guy in the pointy hat, but not in this case.
– In this case a Wizard is the term for someone who is the closest thing we have to a human polygraph.
– They have an amazing skills at spotting changes in body language and tonality, and spotting those super fast micro expressions. They just have amazing skills for detecting deception.
– But why are they called Wizards?
They are called this based on the outcome of a project called the Diogenes Project.
The term Diogenes originates from a Greek Philosopher who look into the faces of people with a lamp, looking for an honest man.
This project then became the Wizards project, hence the term "truth Wizard"

The Wizards Project

* Formerly Diogenes Project

* Paul Ekman and Maureen O'Sullivan

* Identify deception with 80% > Accuracy

* Most people are 50% accurate

* Polygraph is 70% accurate at best

* Secret Service Agents performed better than chance

So whats this Wizards project all about?
- We already know it used to be called the Diogenes Project.
- The project was run by Paul Ekman and Maureen O'Sullivan and first results published in September 1991 in the American Psychologist.
- The aim of the project was to evaluate the ability in lie detection across a varied selection of people. There had been similar studies before, however this one was the first to use behavioural samples drawn for videos that showed a change in behavioural measurements.
When looking around you will find many different numbers around how many people where evaluated (perhaps this accounts for further tests over the years), but the American Psychologist where Paul and Maureen published their results in September 1991 give some of the earliest results.
- Most people are 50% at best
- While lie detection machines are only 60 – 70% accurate.
The study involved US Secret Service, CIA, FBI, NSA, Drug Enforcement Agency, California Police, Judges. There are the supposed professional lie catchers. In addition psychiatrists, college students and working adults.
- The study showed that Secret Service Agents scored most highly, most likely based on experience and exposure (1/3 80% or more accurate).
However some individuals have a natural gift.

Wizard Stats

So how did they do the testing?

– In the initial testing there where 509 test subjects, further testing reported in 2004 tested 13,000 people and found only 31 Truth Wizards.

They were all a set of videos. The videos shown where of 10 subjects selected from a group of 31. All subjects displayed facial and vocal measures to show dishonesty.

– The study showed that Secret Service Agents scored most highly, most likely based on experience and exposure (1/3 80% or more accurate). However some individuals have a natural gift.

Each of the professionals and naturals identified where asked to describe how they identified deceit.

– Gender appears to play no part in ability to detect deception.

– Only 1% of the population are estimated to have the natural ability to accurately spot deception at a greater than 80% accuracy with zero training, they are the truth wizards.

Wizard Test Groups

* US Secret Service - Forensic Services Division

* Federal Polygraphers - 10 CIA, 10 FBI, 5 NSA, 21 Army, Airforce and Marine Personnel

* Judges - California Center for Judicial Education and Research

* Police - California Robbery Investigators Association

* Psychiatrists - Texas psychiatrists annual meeting

* Special Interests Group - Businessmen, lawyers, accountants, housewives, social workers, psychologists, nurses

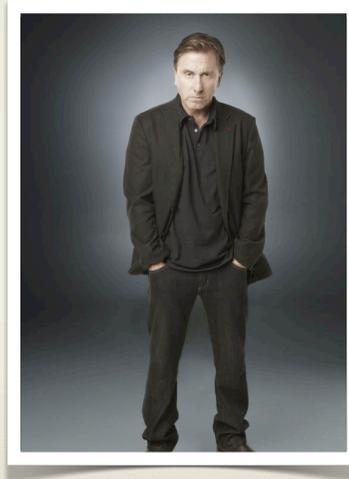* Students -

Where's The Wizard ?

Who is the Truth Wizard??
Gillian Foster
Cal Lightman
Random Guy in Grey Polo
Ria Torres

Cal Lightman

In the program Lie to Me Cal Lightman demonstrates an amazing ability to read micro expressions and identify key body language signals to identify when someone is telling porkies.

The Cal Lightman character is based on Paul Ekman who has spent many years studying and documenting these micro expressions, however he is not a truth wizard.

Obviously the program is a dramatisation of reality, and the detection and identification process is alot more rapid, but people do think this is reality.

Ria Torres is the truth wizard on the show.
She doesn't have any formal training, she just has this unique gift to detect deception.

Eyes for Lies

In real life this lady who goes by the identity of Eyes for Lies on her website and twitter.
She is one of the subjects of the Wizards Project (2004), and was identified as being a truth wizard. She now uses her skills to assist the authorities in deception detection, as well as running various training.

How do they do it?

* Natural Ability??

* Variety of signals to spot deception

* Micro Expressions, inconsistency in emotion

* Changes in Body Language and Tonality

* Varied Language Patterns

So how do these Truth Wizards detect deception at such a high success rate?
- They key thing is most of these people have pure natural ability, for years they have possessed this skill, but its not until later in life they discover their true potential. It may not have a specific relevance, but around 25% of documented truth wizards experienced some sort of trauma in their childhood. Perhaps parental issues, or other.
- The Wizards use a multitude of cues to identify deception, not just one specific thing in isolation.
- They will use their speedy ability to recognise micro expressions, specifically the subconscious tells that are inconsistent with the expected emotion.
- The will observe and be aware of the body language being given off, the positioning, posture, motions, as well as the tone of language used.
- Although language isn't a key indicator the language itself is important, sentence construction, use of self identification, and abstract metaphors.

Some of you may be wondering if you have this skill?
Of course you do. We all have this skill, we all have the 50/50 skill of chance at detecting these things.
Have you ever met someone and had that inner voice telling you something is quite right with how this person presents themselves and what they are say?

No Chance

Perhaps you think there is no chance you could develop skills like a truth wizard.
Well you can. You probably wont get to truth wizard standard of >80% success rate but there are things we can study do to hopefully push us to makes us right 2/3 of the time.

Information Overload Time

Time for information overload.
Lets now look at some body language and micro expression cues.
With awareness and watching people you can learn alot

Baseline

The most important thing to understand with any form of detection, observation, influence, deception and more is that BASELINE is the key, what are they doing differently.
We are all different, every scenario is different, but what we will look at for the rest of the presentation is global generalisations.
It is also important to note that what our body language says will have an impact on others, so this is another point for consideration, if you are not putting someone at ease, they tells and cues may be spoilt.
* You will notice some body language can mean multiple things. Context is everything.

Lets hit the Micro Expressions
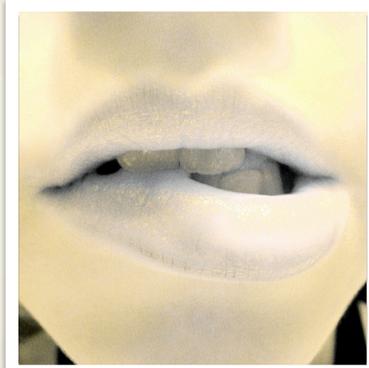
The term micro expression refers to the subconscious tells that we display on our face. These micro expression are displayed incredibly quickly, at around 1/25th of a second.
The term micro expression was defined by Paul Ekman who is one of the key experts in this area of research. He is also the main consultant on Lie To Me, and the main character is based on him.
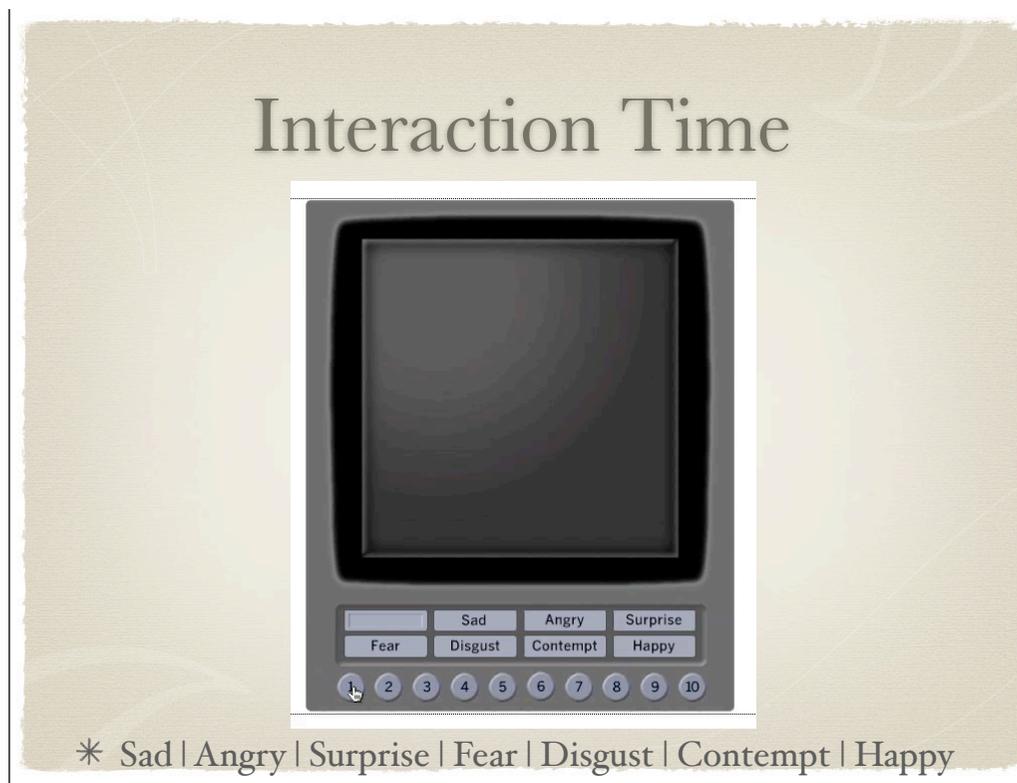
* Sad | Angry | Surprise | Fear | Disgust | Contempt | Happy
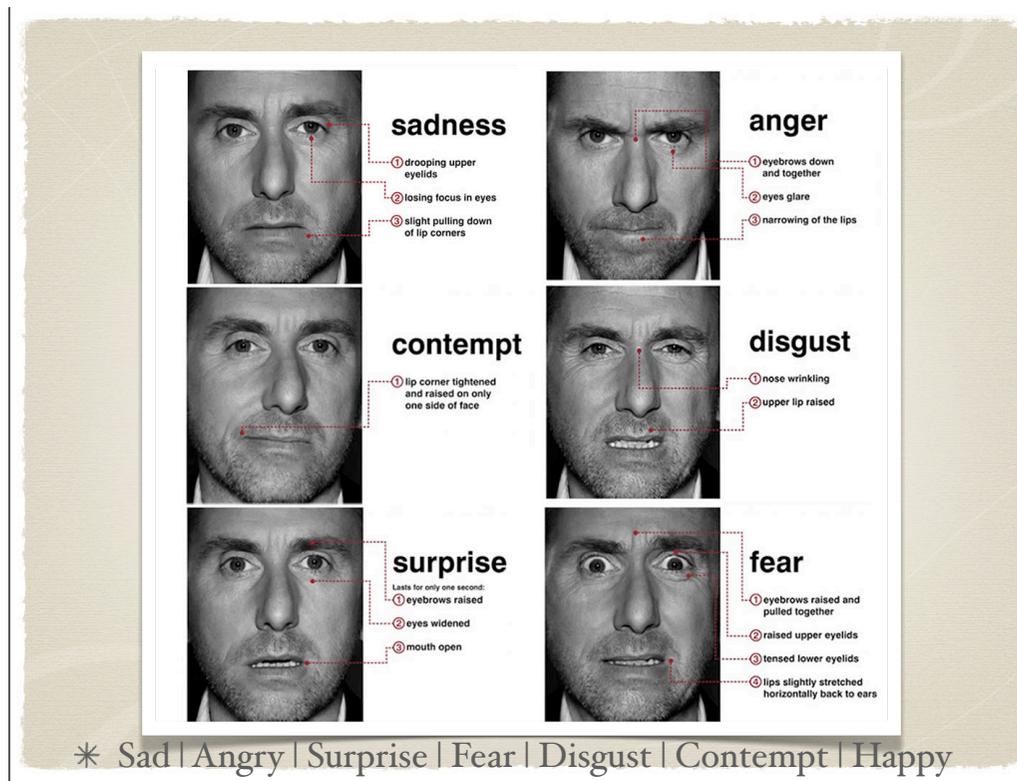
Obviously as humans the muscles in our faces allow many expressions.
However Ekmans research over the years defined a basic 6 expressions.
Happiness (not depicted here), sadness, surprise, anger, disgust and fear.
As we disused earlier our Truth Wizards or Naturals can be very accurate in picking up on these micro expressions. However some liars might take comfort in the fact that 99% of us don't.
Many of us will spot these expressions if we watch them on a video tape over and over again, but in real time it can certainly take some doing.
– Lets try a quick test.
You are going to see 5 examples of micro expressions, each repeated twice. What emotion is being displayed.

*Images taken from Lie To Me Promo

Interaction Time

Sad | Angry | Surprise

Fear | Disgust | Contempt | Happy

1 2 3 4 5 6 7 8 9 10

* Sad | Angry | Surprise | Fear | Disgust | Contempt | Happy

Quick bit of interaction time, and we will be quick its micro expressions after all.

Just make a mental note, and and the end I will get a show of hands on how successful you were.

What expression do you think we are seeing here?

If you want to try out this free test later you can check out – http:// www.cio.com/article/facial-expressions-test
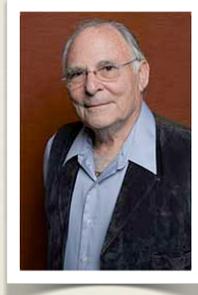
Answer Time

Answers
1 = Anger
2 = Disgust
3 = Happiness
4 = Contempt
5 = Surprise

Resources

* http://www.paulekman.com/ | http://www.humintell.com/
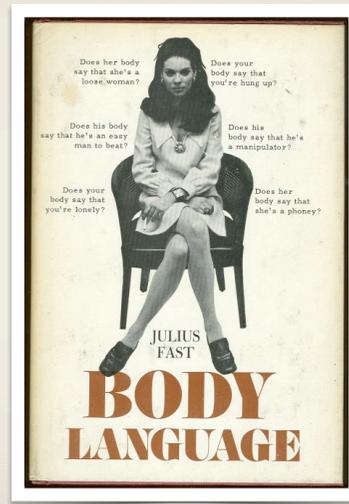
If you want to learn more about Micro Expressions I can personally recommend the material put out by Paul Ekman, and more recently by David Matsumato and the Humintell Group.

Now for Body Language

The body can tell us so much about what is happening inside someones mind.
It can give us clues to what they are thinking about, how they are feeling, their desires, fears and intent.
Alot of books and research only really talk about the face when it comes to body language, and the last time I checked most people have erm a body attached to that.
So when reading body language we shouldnt do it in isolation, we need to consider the face of course, but we also should consider the hands and feet, skin tone and temperature, and even muscular responses like twitching.
The neck and torso also have information to share.
Your probably getting the idea that there is alot going on here, and to much for us to simply discuss today, so this section will give you a general taste for what to look for and the possible interpretations, consider it perhaps as the most common forms of body language.

Face Value

Lets start at the top.

The Face has got something to tell us as there is alot going on here.

However everyone thinks of the face when they think of someone reading their body language, so people will often put alot of effort into hiding the tells and cues given off by the face.

A great one to look out for with the face / head is the nod and shake.

This is when someone will nod to confirm a statement but it can be very subtle, often when reading or hearing something. Again when they nod and they are disagreeing verbally. These are both great examples of when the subconscious communicates whilst the conscious mind is working out our excuse.

Forehead
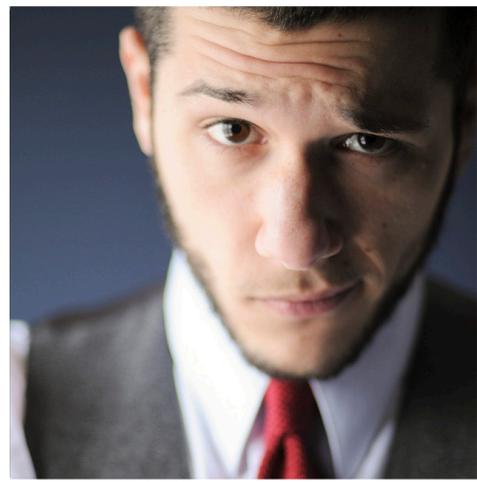
– The forehead is also worth mentioning in isolation. As we could see in the micro expressions examples earlier the crinkle / furrow of the forehead shows stress very clearly. It can also be a sign that something doesnt fit right, either in what they are hearing or processing internally, its a sign of tension, concern or doubt. No expressions, could be Botox :)

– An obvious one but something I feel is still worth mentioning is a sweaty forehead. Its something you see commonly in interviews and situations of high tension, stress of fear (like me giving this talk). Its not a clear indicator on its own as perhaps the person has been running, eaten a vindaloo, but sweating is a good indicator in the right situation as its not something we can consciously control.

– Another good sign of fear and anger is a highly visible or throbbing vein in the temporal region.

– Covering or slapping of the forehead is an example of shielding or hiding away from the situation, perhaps its getting to personal or embarrassing, its a common sign of insecurity.

All in the eyes?
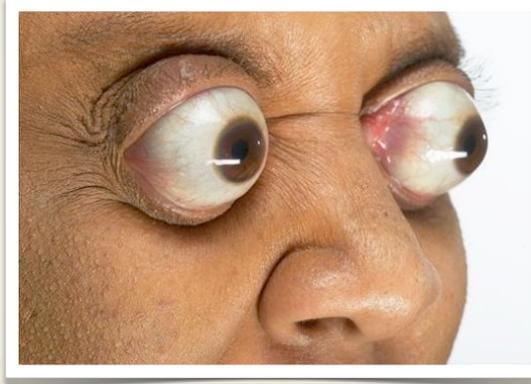
– Its also worth mentioning eyebrows as we are in the eye section. Narrowing of the eyebrows, or when things go abit monobrow is a very common signal to showing dislike or concern for the current situation. This is something we see in the micro expressions, but this is something I have seen people telegraph very obviously.

Some say the eyes are the windows to the soul.

– They do have something to tell us, and these NLP eye accessing cues can be very accurate as its a subconscious reaction. However remember there you need a baseline. So ask questions you know to be fact / fiction. In some people the responses can be reversed.

The eyes are also a good checkpoint, when reviewing other body language check in with the eyes to see if it all adds up. * Eye cues are a primary interview technique.

Your looking for relaxed eyes to signify normality, anything else you need to pay more attention here, looking for squinting, increased blinking etc, and remember the eyes respond very quickly, so you could quite literally blink and miss it.

– Pupil dilation and constriction are excellent cues to look for. When we are happy and content our pupils dilate, when we observe something we dont like they constrict to focus on what it is we dont like. Obviously we need to be aware of changes in light when we look at the pupils.

Squinting is one of the over common ways we show we are not happy or are concerned with the situation we find ourselves in.

– Eye blocking is another example of worry and dislike. This might be covering / shielding our eyes with our hands, or simply closing the eyes for a prolonged period of time.

Fluttering of the eye lids, like REM sleep but awake :D THis is a really strong sign of someone having an internal struggle with whats happening. Perhaps they are searching or constructing for the right response.

Finally staring is another example where a bad situation is being experienced, they have shut down and focused on something else to remove them from the situation. It is often associated with silence and that oh crap moment, the penny has dropped.

– I should also mention eye contact. Many people think if people wont look at you they are lying, in fact is often the opposite, a liar will establish alot of eye contact as they think this demonstrates they are not lying.

Who Nose?
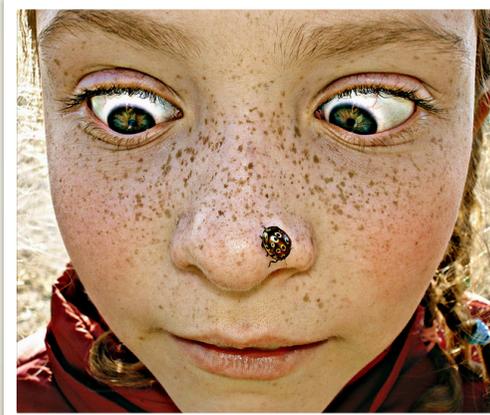
– Nose crinkling is often a clear sign of displeasure. People will often see this if you interact with someone and they don't like you. People also touch, massage or play with their nose. All of these are signs of pacification suggesting a situation of stress or they find themselves in a dilemma.
– If people tug or manipulate the nose or surrounding area it is often a sign of high stress.
Similar to eye blocking when someone covers their nose this is often a sign of surprise, fear or apprehension. It can sometimes be a sign or realisation that the craps about to hit the fan.
– High and snooty noses is a common sign that someone is super confident and feels they are better than those they are around.Its a sign they believe they have the upper hand.
Slightly off topic in magic the nose can help you sniff out what someone is thinking about. Is that in your left or right hand, check where the nose is pointing, it might be only slight.

The Mouth

- Lips may be compressed (purse lips) this is a supporting sign of stress and concern.
- Like the blocking we have mentioned already, covering of the mouth is a sign of doubt or insecurity, trying to stop the information from escaping.
- Nibbling of the lips is a form of pacification and a clear sign of stress and concern. It can also be a sign someone is about to spill all their truths. Lip licking is similar, but be sure they dont just have dry lips :)
Its important to note that our lips change size based on the emotions we are experiencing. We have big full lips when we are happy and comfortable, and reduce when we are in a stressful situation.
We also quiver our lips when in a difficult situation, showing signs of distress and fear.
Small tongue poke is a sign that someone thinks they got away with something, or are about to get caught read handed. This is a good one to notice when someone tells you someone isnt in the building.
- Of course the mouth wouldnt be complete without talking about the smile. A tense straightened smile is a sign of stress and concern, and an attempt to make people think they are relaxed.
Coughing and noise making isnt body language, but its a common pre-noise before a lie. Like they need to clear their throat ready to talk trash.

Ears
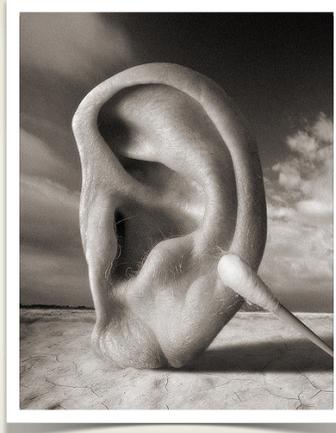
The ears can help us identify when someone is struggling with a situation. Rubbing or tugging of the ear can act to relieve pressure, giving us a sign they are stressed or at conflict with something. Perhaps they are doubting the situation, or considering best options.
* This is one of my common tells when I am in situation of discomfort, I will rub the pressure point behind my ear.
I will also mention that this same action can often be associated with the head, people rub their head when stressed or searching for information, its a very similar cue.

Neck

- Neck touching is something we see very often and is a clear indicator of concern and stress, this can often be matched with a sudden blotching of the skin.
- This can sometimes be masked or accompanied with pulling of the skin of the neck and chin area. This is another sign of stress, and this action can act as a slightly calming action.
- Stretching and rotating of the neck is another sign of attempting to release stress, and can demonstrate that hot under the collar feeling if the situation is getting difficult.
- Neck tilting is a good sign that someone is engaged and receptive to what is occurring. When this changes to a more rigid form its a good indicator the current discussion is cause for concern and threatening, like a rabbit caught in the headlights.

Legs

Legs are lovely, and they have something equally lovely to tell us.
– Grabbing and supporting yourself at the knees is often a sign of self restraint.
– Also having our legs closed shows we are concerned or lacking in confidence.
The opposite having your legs akimbo shows great confidence.
– Crossing of the legs is often done to put up a physical barrier, this shows concern, fear and a lacking of comfort.
– Leg splaying is a territorial play, taking up as much room as possible to show physical dominance, confidence and assertiveness.
If you see leg splaying rapidly from a cross legged position, this is a sign of fear, readying the body for a quick get away.

Feet Talk

The feet are often an underrated area of the body for people to read but they have so much to say.
Feet that are active that suddenly stop are like rabbits trapped in the headlights. They are frozen in a state of terror, what ever has just happened as hit on something important.
Feet that are still but become fidgety show signs of apprehension and concern for what is coming as the nerves kick in to pacify.
– When seated you may see feet shuffle back, attempting to hide away. This is a sign of withdrawal and a sign that the current conversation is being found as threatening.
– Linked to this can also be the locking of the feet / ankles around a chair to support in the preparation for increased levels of discomfort.
– The direction of a feet is also a clear indicator of where our mind is at. Feet turned away in the other direction, towards doors and exits really don't want to be there and are not engaged and at some level of discomfort.
– Sometimes the feet may also turn inward in a child like manner when they have done something wrong, this is often a cover up sign and the words may not match reality.

Hands Talk

strangeousity is the key

Palms out exposing our wrists is something we only do when we are comfortable and secure. We do this when communicating, brushing away hair. This shouldn't be confused with a more palm down approach with people who have longer hair as this can often be a sign of being flustered.
– The same can be said when we pull our hair (facial or otherwise), this is probably obvious but its a sign of high stress and anxiety.
– I'm a little tea pot with two handles, this is a clear display of dominance and confidence. Thumbs back and its a a sign they are not happy, thumbs forward and its a sign curiosity or confusion.
– Steepling is a great display of confidence, this is something someone does to demonstrate they are very sure of themselves. This could be done using all the fingers or just the index fingers.
– Hand clasping or wringing is a sign of anxiety and stress. Check out the knuckles to see just how stressed they are.
– Palms up is a sign someone is being open, however it isnt a confidence move so its important to have context of the situation, are they giving accurate information.
– Palms down is a sign of someone being closed down and very affirmative in their mannerisms.
Grabbing at the wrist from across the body is a defensive display and is a sign someone is concerned, and attempting to shield themselves from the situation.
– The spread of our fingers is a sign of dominance and signifies how confident we are, very similar to the leg splay.
– Thumbs on display is a sign of a confident person
Thumbs hidden and we feel threatened and unsure about the situation we find ourselves in.

Fingers

– People may run their fingers through their hair to caress and ventilate (you can see I do this alot). This is a common sign of concern, stress and doubt.
– Messing with your hair in a girly way can be a sign of a good mood, but also pacification if other signals contradict the positive signals.
– Finally we also give off the hidden finger when we are not happy with whats happening, you will see this alot, an itch, support your head, adjust your glasses, its sends that subliminal message.

Arms

– Arms narrowing on a table, like the reverse of a leg splay. Closing up, protecting and blocking the outside.
– Likewise when we are confident we will take up more room by spreading our elbows out in a strong confident posture, when we are feeling negative, fear and concern our elbows are tucked in and close.

Shoulders Shout

– Shoulder tilting is often a sign of insecurity and lack confidence in what they are communicating.
– Raised shoulders signifies they are hiding from something, there is clear doubt in the situation. You see this all the time when people shrug their shoulders "I dunno".
Lowering of the shoulders is a demonstration of lacking confidence, almost like they are slipping away.
– Rubbing, scratching of pushing on the shoulder is a sign of pacification signaling a stressful situation. This is usually done in a cross manner and shows protecting the vulnerable chest.

Torso has something to say
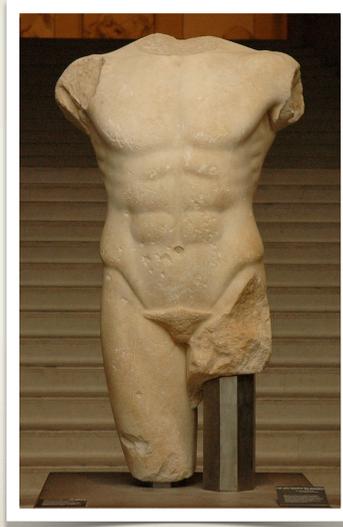
– When we face someone with our entire body we are being open and honest, however we will turn away, or face another direction when we want to distance ourselves from a situation.
– We also protect ourselves by covering the torso with available objects to shield ourself from harm, this is a sign of discomfort.
– The rocking chair manoeuvre is a clear sign of stress, trying to rock and sooth the stress away. This is common when seated, but I have also seen it when standing.
– This is closely tied with leaning in when we are interested and engaged, and leaning away when we feeling discomfort and fear.

Kids are easier to read
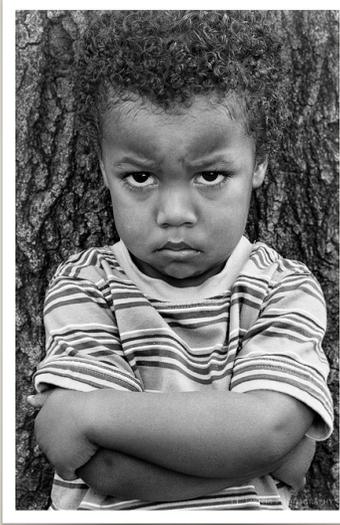
Kids are alot easier to read, the body language is often over exaggerated and animated.
This young chap isnt happy, hes closed down and angry with the situation.

Global Interpretation

Body Language is Global, but the meanings can be different based on the culture.
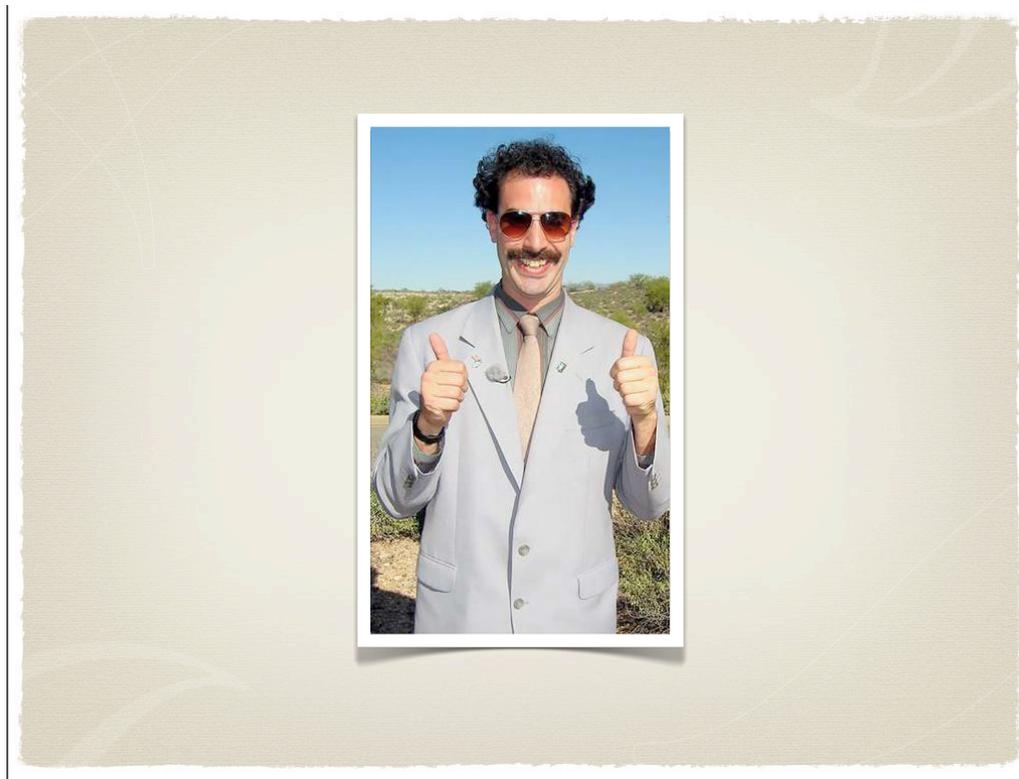
This is good to American and English, number one to Italians, number 5 to Japanese, and up yours if your Greek
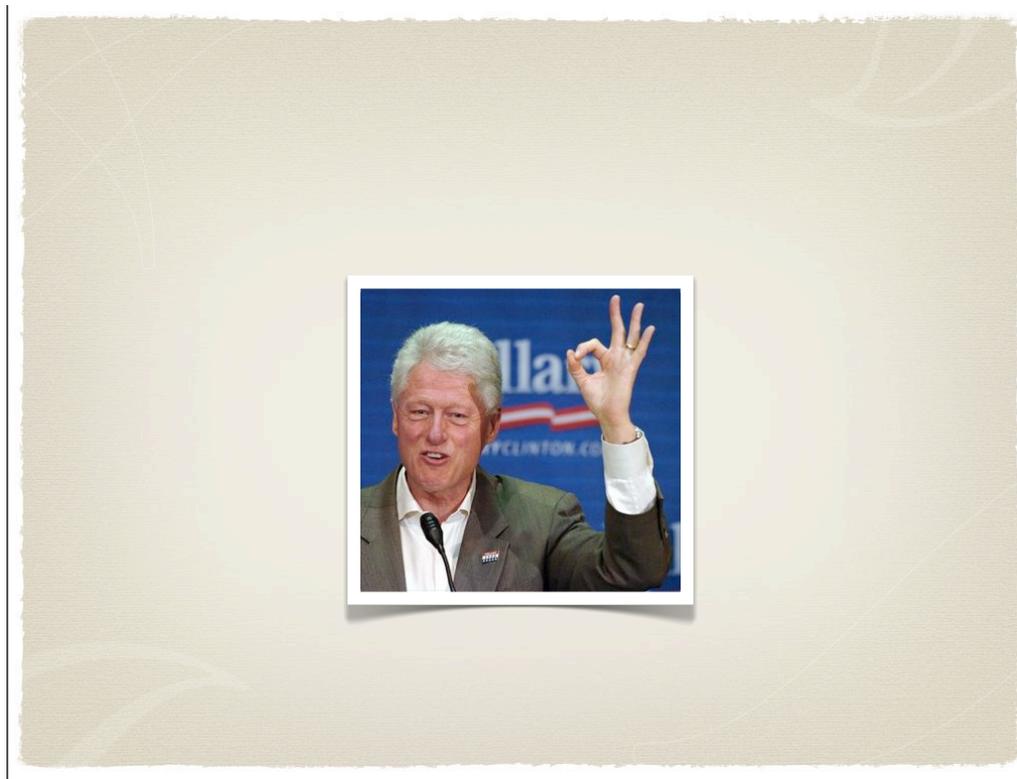
This means ok to me, but it could mean money to someone in Japan, mean zero if your from France, and insulting if your Turkish or Brazilian.

Rocking on is good for us, but apparently this could get you a night in Jail in Italy
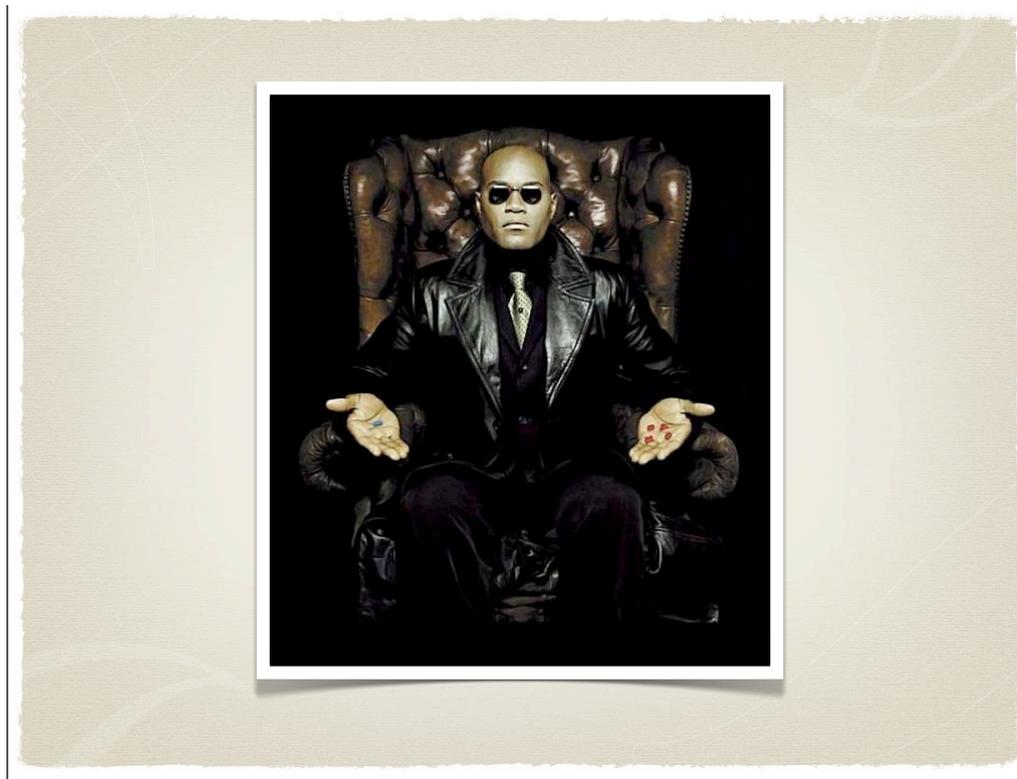
Open palms are an International display of openness and honesty.
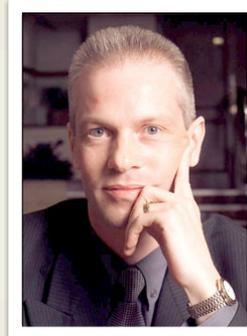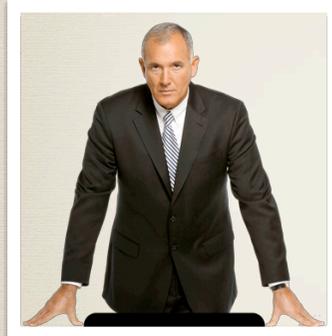Palm up is a non threatening gesture.
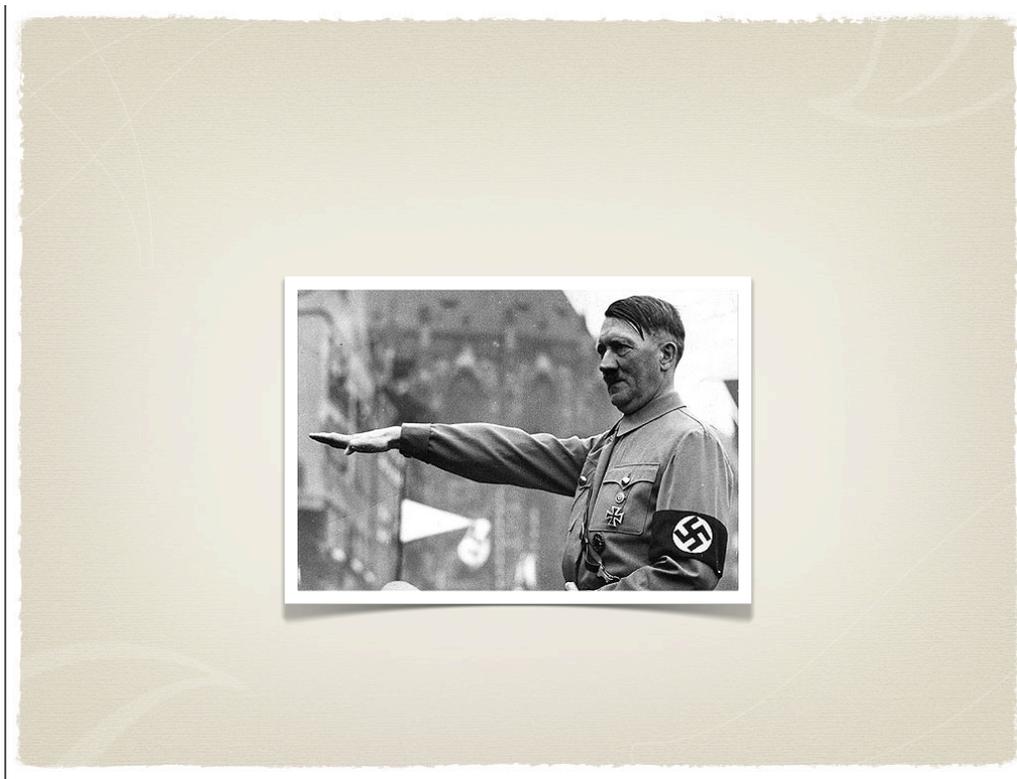
Palm down looks to demonstrate authority.

Finger pointing is an annoying gesture and can invoke negative feelings.
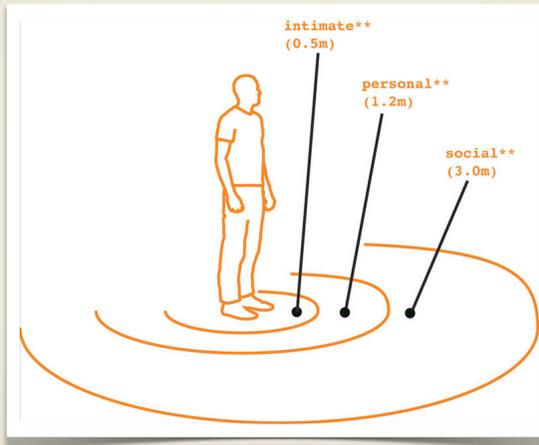This can be a form intimidation.

Resources

http://www.jnforensics.com/ | http://www.robertphipps.com/ | http://truthplane.com/

Joe Navarro – By Far my Favourite :D
Robert Phipps
Mark Bowden

Proxemics

intimate**
(0.5m)

personal**
(1.2m)

social**
(3.0m)

Seeing as we have spoken about the body it would be rude not to mention Proxemics.

Proxemics is about body spacing and posture. There has been alot of study around the acceptable measurable distances between people as they interact. This obviously has an impact on the body language expressed.

This is a somewhat Westernised view once again, and like everything cultural differences need to be considered.

Deception

HELLO BOYS.

THE ONE AND ONLY
Wonderbra
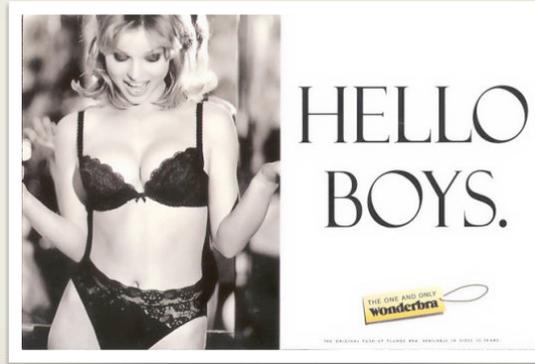
As a social engineer we can use our knowledge of micro expressions and body language to reduce the signals we give off.

Obviously alot of these happens at the subconscious level, but just having the awareness means we can falsely give off signals to make it look like something is there, that really isn't.

So next time your on an engagement pay attention to the body language of the people you are trying to influence, do they give of a signal your pretext is failing and you need to change direction? Are you trying to deceive them but your body language is sending a totally different signal?

Awareness Magic
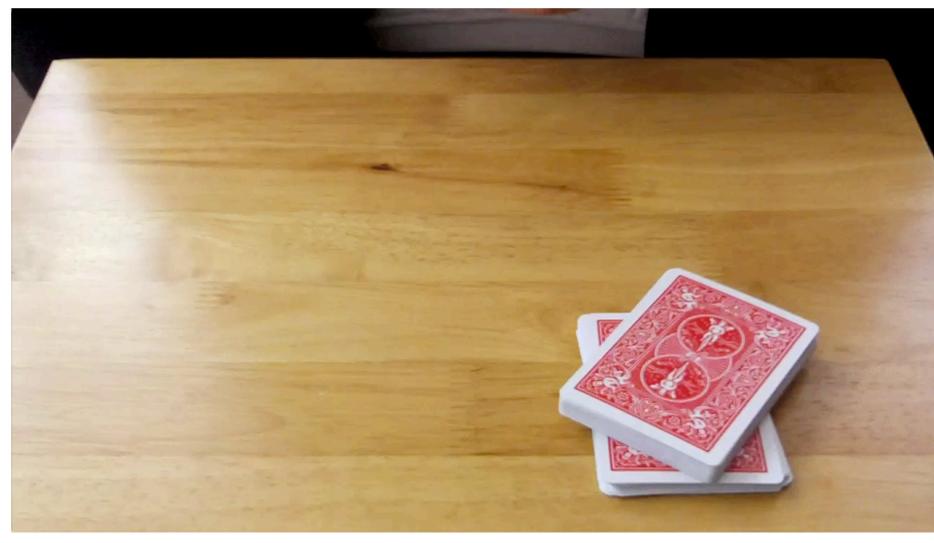
This isn't about body language, but it shows us the importance of being fully aware of what we are really seeing.

Taken from Mentalist promo by Richard Wiseman

Look Closer

So now go out and watch people and research the amazing information that non verbal communication has to tell us.

Questions ?

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Any questions? Talk to the hand. Only kidding :)