6. Veil of Perception

> "What we call hallucination, then, is simply a form of uncontrolled perception, just as normal perception is a controlled form of hallucination." — Anil Seth

There is something about phosphenes and I have been promising people to follow up on the ideas gestured in that piece that followed my first experiment with hallucination for a while now. This effort since the start has been primarily motivated by my dissatisfaction as a hypnotist at the state of the common knowledge on how to both think about and induce "hypnotic" hallucinations. To some degree, this frustration was due both to my ignorance of the existing science and to the fact that the most interesting scientific models of divergent perception just hadn't come around yet when I first started thinking about it. Science, you see, is hard and the science of subjective experience phenomenally so. Subjective experience or as it is sometimes called, consciousness, has a handful of theories that compete and complement each other to describe it and over the years, the sensemaking of how they might relate to phenomena like hallucination has grown more and more sophisticated. And while a deeper exploration into those theories is warranted, here I will focus on a phenomenological account of another experiment with hallucinatory experience that will have to foreshadow that.

A Minimal Background

There are ways to ground the experience that I will describe in this piece in terms of the state of art theories of how divergent perceptions work such as predictive processing and higher order theories, but I will leave it for another time. Here, I will attempt to lay out my personal idiosyncratic model that informed the approach I am about to describe. I started with the premise that perception is largely not a deliberate process but an automatic one that is spontaneously cued by the perceptual sense-data afforded by the external world. In contexts where people see things that aren't physically there, they do not "consciously" or deliberately choose to see the things [1] . Moreover, a recent qualitative analysis of how people respond to hypnotic suggestions indicates that people who respond with spontaneous imagination report stronger responses than those who deliberately try to imagine things [2] . In my own past experience, I had found an attitude of discovery and engagement to be the best way to encourage spontaneous visual precepts in myself. Another set of factors that seem to be important is the process of ritual in order to establish and reinforce the common factors that underly response. Allowing response to build over successive approximations is also a common principle in both hypnosis and every other kind of skill acquistion endeavours. Both the interventions I am about to describe followed the same generic structure based on these ideas — a starting ritual that involved motor suggestion which we both knew would work from past experience, an open label "trick" that might help prime the response whose trick they already knew and understood, and a sequence of recursive suggestions that took the structure of:

- Notice what you are noticing and describe that
- Notice if there are any changes over time, however slight that you can notice and describe that
- Notice if noticing these changes can reinforce them in the direction where we want to go and describe that

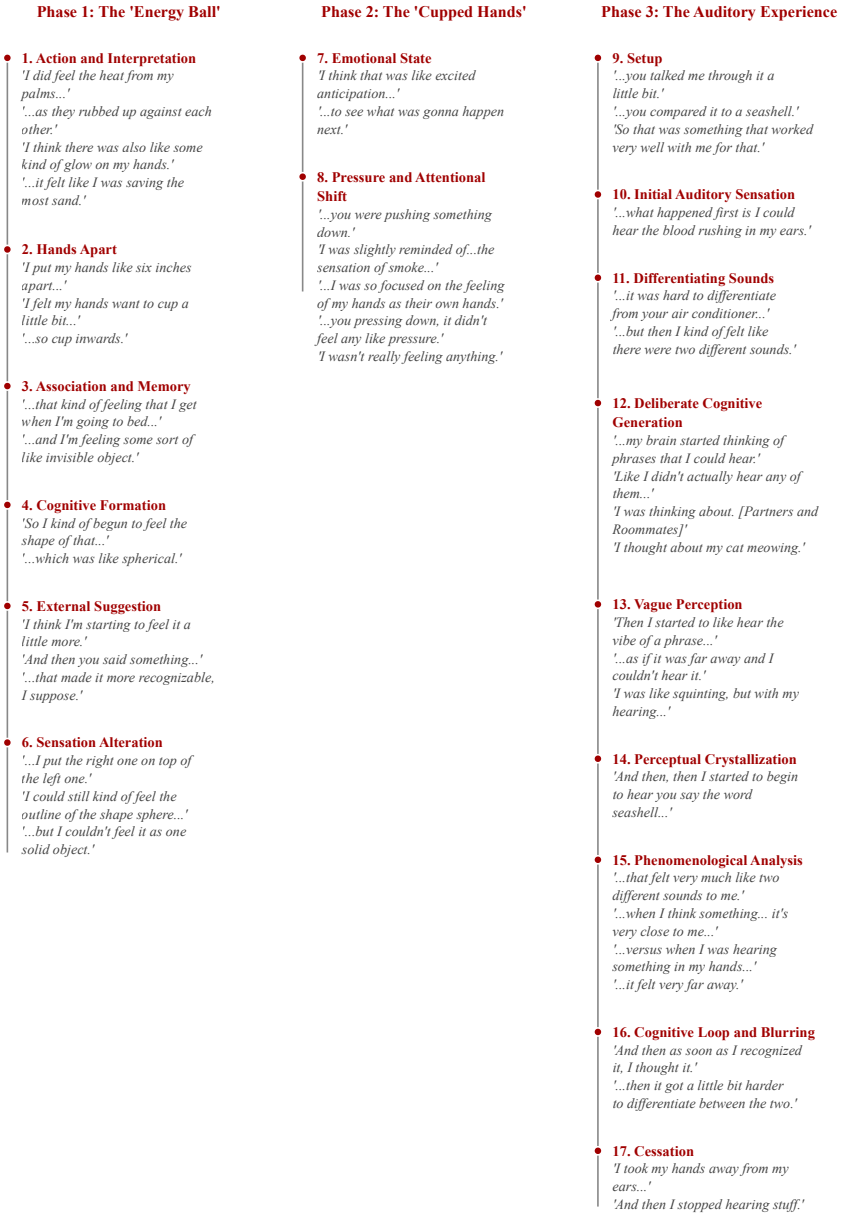
This along with overarching directive to not force anything and engage with the experience however it happens and allow themselves to discover it made up a minimal sequence of cues for the subject to stay engaged with the process in a spontaneous manner. The subject themselves had considerable experience with hypnosis and responding to suggestions with and without the context of trance prior to this and had experienced and understood the principles behind the tricks in the initial ritual before this. They were also, more idiosyncratically, a concept-color synesthete who did not project the synesthetic colors into the field of vision. They had had little to no success in prior attempts without this minimal sequence at either auditory or visual hallucinations in the context of suggestion.

An Auditory Experience

We began the experiment with a motor phenomena we had played around with before, it involved asking them to rub their hands clockwise five times and 3 times anti-clockwise. This leads to the natural heat that comes from friction, next I had them hold their hands 6 inches apart with the palms facing towards each other. I suggested it was as if they were holding a ball of energy and saw their hands cupping naturally in response. After confirmation of this working, I moved their right hand a few inches up vertically and after getting feedback in the change in sensation, I had them have their hands face upwards. This was mostly done non-verbally with verbal checkins about how it felt through the process. I attempted pressing on the empty air above their hand to see if they would register it as pressure, it did not seem to work as intended however, and they reported something akin to feeling the "sensation of smoke" instead. At this point, I had them have them hold their cupped hands over their ears, and I reiterated how kids play with this trick using seashells and imagine hearing the sea in the sound of their own blood rushing. This ritual being done, I went into the minimal sequence of suggestions, asking them to discover what word, phrase or sound they would hear in the ambient noise. The cues I gave where simple after this, notice the smallest changes you can notice and just be curious about what would happen without forcing anything. Eventually after perhaps a minute or so they reported hearing a word, which repeated itself a few times and after this, I had them lower their hand and we recorded an interview immediately after. A rudimentary microphenomenological analysis of the experience was therefore possible that charted the evolution of the multistep experience through time.

1 Aside from conditions such as bistable illusions and prophantasia where agentic control of precepts is reported to be possible.

2 This was a microphenomenological analysis where a person's experience of a suggestion could be charted from the start of the cue to the finish and a qualitative interview transcript is turned into a temporal structure where each moment is described in terms of its qualitative properties. These structures from individuals then afford the opportunity to see common patterns may emerge within groups of similar individuals and if you find a pattern that strikes you as causal, you can test it on another group to see if the same pattern emerges and finally design an intervention around it for a quantitative study. You can find the specific study by Kev Sheldrake here: https://osf.io/preprints/osf/vsdn9_v4 and his general manual for the method here : https://osf.io/preprints/osf/cs63j_v1 . Microphenomenological interviewing as a method can be traced to the Husserlian tradition of phenomenology but also has influences from NLP and Gendlin's focusing method. It has also been adapted as a method for self-inquiry.



Few things stood out in their account of the auditory phase, the first was them deliberately trying to think of things to hear and not hearing them which fits the pattern of spontaneous generation being more likely to "work" than deliberate generation. It is also interesting that it was something that they had just heard, i.e. me saying "seashells", that seemed to be the auditory precept that came up. Then there is the distinction they reported between the their own "thoughts" that felt very close to them but the word they were "hearing" from their hands felt far away. But as they think what they were hearing, the distinction between internally generated and externally percieved versions became less clear. When asked how strong was this response overall on a scale of zero to five, they scored this at a 3.5, any prior attempts were at around 0 [3] .

A Visual Experience

Excited by the success of our auditory experiment, we thought we would give visual hallucinations another attempt. We followed a bit of ritual and trickery we had tried a few months ago to prime hallucinations unsuccessfully. It involves a card that they hold out in a card stick which is a motor suggestion. The card itself has an interesting optical illusion as you stare at it and has an afterimage after they close their eyes that strikes most people experiencing it as quite strange. The first time I did this with the subject, I was perhaps too ambitious and decided to step behind them and claim I was invisible, much like I had in the Ganzfeld Experiment. It did not work and neither did a few different attempts at this in street hypnosis settings where I played it off as a funny gag when they discovered my location eventually. This time, however, I went at the pace of the phenomena as it developed and had much more interesting results. The session was almost an hour long from start to finish and had multiple phases where we were mostly engaged in figuring out what is happening and what might happen next. A proper microphenomenological analysis wasn't possible based on the transcript of the post-session interview (about 30 minutes long in itself) as it was fairly impossible to remember everything that happened even for me. An attempt at the phenomenological phases and their timeline as captured in the interview is presented below.

3 The average score of the most similar item in Phenomenological Control Scale, the Happy Birthday song hallucination suggestion is 0.3 out of 5 and the objective pass rate is 8.2%, however the process of suggestion is markedly different. The participant is told that the exprimenter is going to play the song at the lowest possible volume and gradually ramp up. It's a declarative suggestion that doesn't expect the participant to engage with the experience and shape it actively like in this scenario.

Phase 1: Induction and Afterimage

- **1. Focusing on the Card**
  'I held the card.'
  'I felt very focused on the little question mark.'
- **2. Hand Freezes**
  'I said the hand will now freeze in place. And did it?'
  'It did.'
- **3. Visual Distortion**
  '...the other stuff was more sh-shaky.'
  '...the white of the shape was fading into the gray of the background.'
- **4. Afterimage Formation**
  '...I remember beginning to see the upper and lower lids of the eyeball.'
  '...it took maybe like two seconds and then I could see the black circle...'
  '...that black circle that kind of had a white outline.'
  'It was so small.'

Phase 2: Spontaneous Generation

- **5. Triangle Appears**
  '...then I saw a triangle... kind of like the outline of a triangle.'
  'And I was trying to face it up, pointing up.'
- **6. Flickering and Inverting Triangle**
  'I think it was more like determination... to like keep the...the shape there.'
  '...things were like flickering in and out of... existence...'
  '...very quickly, I saw the triangle pointing down instead.'
  'And then it went back. It didn't like flip...'
- **7. 'Lava Lamp' Colors**
  '...I remember seeing red and pink.'
  '...the colors were kind of doing a lava lamp sort of thing...'
- **8. Guided Morph: Leaf**
  'I was seeing a lot of like kind of curvy lines.'
  'Oh, a leaf... Yes, we turned one of the curvy lines into the side of a leaf.'
  '...and then I think I saw the veins of the leaf.'
- **9. Guided Morph: Ship's Mast**
  'I saw the ship's mast... one long horizontal line and then I saw... ropes...'
  'I did not see the bottom of the ship or the sides of the ship.'
- **10. Guided Morph: Stairs**
  'Um, yes, I saw a zigzag... an acute, acute angles.'
  'You asked me if I could make it into stairs. Which I could.'
  '...it became kind of like thick stairs... I, I found that. Yeah.'

Phase 3: Environmental Changes

- **11. Lights Off**
  'Yes, which was helpful, I think... the background color got darker.'
  'They became a bit more clear... more vivid...'
- **12. Moving Blindly**
  'It was very uncentering... I didn't really know how big my steps were.'
  '...seeing the same things like... the splotches and... the wavy line...'
- **13. Eyes Open in Pillowcase**
  'Yes, it didn't change my vision at all.'
  '...when I opened my eyes... it was the exact same color as my eyes being closed.'
  '...I was kind of forgetting if my eyes were open or not...'
  'I saw... angry human eyes. And I saw this weird little mouse creature.'

Phase 4: Eyes Open - Reality Overlay

- **14. Looking at the Wall**
  '...the wall itself still kind of looked like my closed eyes.'
  'I saw things that were on the way through the wall.'
  '...it felt like things were kind of moving towards or away from me.'
  '...little tiny particles that were moving... which I was describing as snow.'
- **15. Integrated Imagery**
  '...I started to see more teeth... like human looking teeth... not necessarily scary.'
  'The mathematical insects, it felt like I saw... angles that were... wiggling...'

Phase 5: Negative Hallucination

- **16. Mindset: 'Not Essential'**
  '...looking at you was not important or not essential.'
- **17. Eyes Open: Visual Absence**
  'My eyes were... very unfocused... I really just saw the darkness of the closet...'
  'And I could not see you. Right. And that was kind of wild.'
- **18. Shadow Precedes Form**
  '...I saw your shadow before I saw you.'
  'I think I definitely saw as a human form... on the wall itself.'
- **19. Flickering Re-emergence**
  'Um, it was kind of like the, like the flicker I was talking about.'
  '...it was very fast.'
  '...like you weren't there and then it was like, when you came in, you were there.'

Phase 6: Anchored Projection

- **20. Conjured Crescent Moon**
  'I saw a crescent moon shape... like white or yellow like.'
  'You were holding it... upright... the size of a soccer ball.'
  'It was spiky... the shape was a little bit flickering... It felt pretty 3D.'
  '...I almost saw the outline of a nose on the moon...'
- **21. Anchored Red Ball**
  'Yeah, the red ball.'
  'I see a circle and it's right where you touched it.'
  '...the circle felt a little bit bigger than it should have been.'
  '...it was probably like, like a CD.'
- **22. Conclusion**
  'I think that was it...'
  'That was fucking wild.'

After the afterimage illusion ritual I described, instead of having them open their eyes immediately and expecting them to have complex hallucinations, I proceeded with the minimal sequence of suggestions. What do you notice behind your eyelids now? How does it change? Are there slight changes in shapes, color or texture that you can notice starting to happen? As you notice them, what happens next? And so on. At first the afterimage seemed to flicker into an unrelated triangle that momentarily inverted itself. Then, they started seeing parts of their visual field being overlayed with colors that were like a filter overlay. These eventually became lava lamp like splotches. Around here, I had some success in directing the change and location of the color, they initially saw red and I asked if it could become pink over time which worked, trying to move the location however, did not. The change was flipbook like rather than a smooth, gradual one. At this point I asked them if they noticed any shapes and after a moment they reported lines, I asked if these lines could turn into something more organic, maybe something like a leaf but not necessarily a leaf. This led to a curved line transforming into the side of a leaf and eventually the veins of it appeared. They then spontaneously reported seeing a line and it turned out to be a ship's mast with ropes attached to it and then a zigzag shape that I mused migh turn into stairs and it turned into a "thick" outline of stairs. All these precepts were not solid at this point and were percieved as outlines against the eigengray[4] of their closed eyes.

At this point in time, the sun was setting the room was lit by some led lamps and a distant light in the kitchen. I wondered what would happen if I dimmed these lights and asked them about it. The shapes became more vivid as the background became darker. Another spontaneous image presented itself, a mask they thought looked like a gremlin. The difference in experience caused by lighting seemed significant to me and curiously, I cupped my hands over their eyes and had them open their eyes. They reported that they still saw the internally generated splotches they had seen with their eyes closed but noticed some light leaking in from between my fingers. I then had their eyes close again and took my hands away and guided them gently to a different room that was still darker. Here, much to my chagrin, there was still some light leaking into the room from a window so I, in a flash of whimsy, decided to put a pillowcase over their head as we both giggled for a bit. I started with the minimal sequence again with their eyes closed in the pillowcase until they began to similar splotches and wavy lines as before and then eventually had them open their eyes. They reported their vision not changing at all after opening their eyes in the dark and saw the same visual features as they were. Interestingly, here they also mentioned forgetting if their eyes were open or not like they used to when falling asleep in the dark as a kid. More complex precepts presented themselves in this situation, angry eyes and a mouse like animal.

This projection of complex 2D visuals with eyes open was interesting to me so I had them close their eyes and removed the pillowcase, I directed them to face a wall and open their eyes to see if they still could experience projected spontaneous imagery. Here, they reported it to being similar to the experience with their eyes closed but also pointed out the role of depth, they mentioned visual snow, tiny particles moving in the space between them and the wall. This was the first three dimensional feature I had heard them report, in time they started to see three dimensional human looking teeth, and then wriggling angles that struck them like mathematical insects which were in 3D space but made of lines.

Following this, I had them close their eyes and told them to adopt a mindset that it wasn't really important to find me or see me when they open their eyes and they might not be able to see me at all. After this I had them count down from 5 to open their eyes and took the time to place myself unobtrusively in the dark. They opened their eyes and did not seem to be able to see me, so I gently stepped into their field of vision and after a moment or two they said they could see me again. From their point of view, they reported not being able to see me at first but could hear me, then they saw my shadow on the wall from the light leaking through the window first and as that registered, I flickered into existence a moment later. This description of flipbook like, flickering quality of changes in visual experience strikes me as interesting but I don't have a good explanation for it yet.

The final phase of the experiment involved about more direct manipulation of these visual constructs. I held my hands cupped as if holding something and asked them to discover what they might see as I opened my hands. After a moment, as I opened my hands, they reported seeing a crescent moon shape, white or yellow in color. If I am honest, I thought what they were describing was simply the light falling from the window in a particular shape, during the interview however, it turned out that what they saw was a three dimensional crescent moon about the size of a soccer ball, with a spiky texture that flickered slightly and noted that at one point they almost saw the outline of a nose on the moon before it vanished. I asked them if it could move with my hands as I moved them very gradually side to side and having confirmed that it stayed in my hand, I attempted to place it on my head, this interestingly, failed entirely and the precept disappeared during the more sudden movement. Finally, I turned one of the lights in the room on, a red LED lamp, and asked them to look at the wall again and touched it at a spot while asking if they still could see things appear spontaneously in the brighter environment, they reported seeing a red circle bloom at the point I had touched, bigger than they had initially expected, about the size of a CD. On asking for subjective scores on a scale of zero to five, they rated the initial splotches to be a 1, the mouse in the pillowcase to be a 4 and me going invisible to be a 5 out of five and "fucking wild"[5] .

Retrospective

Looking back, this fairly minimal approach was more successful than I would have first ventured to guess. Both the auditory and visual hallucinations relied on an ambiguous substrate that the subject was coached to discover and find things in a self directed spontaneous manner. This is akin to pareidolia, where people see meaningful patterns in ambigous shapes such as a face in the moon, dragons among the clouds or Christ on a toast. And another reason I picked this approach was that it can be very hard to decide that this cloud looks like a bunny when it clearly reminds you of something else. The approach of explicitly encouraging spontaneous meaning making seemed like it might be more fruitful than other more directive approaches when I had decided on how I was going to structure the session. I wanted something that would just fail gracefully if it did (e.g. the experience doesn't evolve after the priming experience and we just get an interesting description of that experience instead) but also have room to ramp up in complexity or vividness as it did. This would also allow the opportunity to make any suggestion giving fairly overt, direct and permissive without resorting to any linguistic skateboard tricks or inductions of "trance" that might muddle the matters between what is imagined, dreamed, or perceived.

4 "Eigengrau (German for "intrinsic gray"), also called Eigenlicht (Dutch and German for "intrinsic light"), dark light, or brain gray, is the uniform dark gray background color that many people report seeing in the absence of visible light. The term Eigenlicht dates back to the nineteenth century, and has rarely been used in recent scientific publications. Common scientific terms for the phenomenon include "visual noise" or "background adaptation". These terms arise due to the perception of an ever-changing field of tiny black and white dots seen in the phenomenon." https://en.wikipedia.org/wiki/Eigengrau

5 The average score of the most similar item in Phenomenological Control Scale, the invisible colored ball hallucination suggestion is 0.4 out of 5 and the objective pass rate is 3.7% of all participants, however the process of suggestion is markedly different. The participant is told they will be shown two colored balls and to note down the number and colors of the balls and then shown three balls instead of two. It must be noted "negative visual hallucinations" were something is suggested to be experienced as invisible are confounded by factors like change blindness and inattentional blindness and may be due to visual awareness rather than perception per se. If we include these phenomena as a positive result, you have been negatively hallucinating your nose up until reading this. Once you notice it, it sticks right out and you can't unnotice it.

In a way, it echoes the same pattern of the ganzfeld experiment but the initial intervention isn't as drastic and can be performed flexibly in various contexts. Phenomenologically, the act of engagement with the ambiguous substrate seems to be important, the "squinting" with ears to hear something in the noise or the searching for changes in the visual snow for example. But its not the same as consciously forcing something in particular, and when that is attempted, it did not seem to work, e.g. trying to hear their cat meowing. The instances of not working are also fairly interesting, for example, with the suggestion of me being invisible, how seeing my shadow broke the illusion, or how the moon when moved from my hands too quickly to my head disappeared. The precepts seem fragile to big or unexpected changes, especially if their internal spatial logic doesn't make sense anymore — a shadow without anything casting it, a crescent object staying on someone's head without someone holding it. There is also something about source monitoring and reality testing here, how the word they hallucinated first sounded far away and when they thought it internally, that blurred the boundary between the hallucinated precept and thought precept. The reverse is interesting too, in the visual case of them seeing the same thing with eyes open and close as long as the environment was dark enough. The role of ambient lighting was also interesting, I had thought they would reduce the level of ambiguous visual noise and so the filter like splotches that were plausibly just a trick of the light might disappear as I darkened the room, them getting clearer against the darker background was interesting and the first hint that this was internally generated. Then there was the variation in complexity at different points of time and contexts. The progression over splotches over certain areas, then lines, and outlines of shapes, followed by depth perception with visual snow with eyes open and then complex 3D constructs might just have been a function of my cautious building up of the phenomena but the counterfactual that I could have them project complex objects from the start seems a bit to outlandish to seriously consider given past failures.

Conclusion

Science is fucking wild [6] .

6 And sometimes vice versa.